CLEAN ENERGY FORUM: FOCUS ON SOLAR

October 28th, 2024 | 9AM - 4PM

COLLEGE OF SCIENCE
George Mason University

Metropolitan Washington
Council of Governments

Goals for Today

- Provide an overview of the relevant policy and regulatory landscape and key statistics on regional solar goals and deployment to date.
- Hear from industry leaders about what works and has worked and what more is needed to accelerate regional solar deployment.
- Identify opportunities and challenges for more widespread and rapid market deployment.
- Identify and build on solutions to capitalize on opportunities and overcome challenges.
- Highlight local and regional examples of successful projects and share specific step-by-step information about how those projects succeeded.
- Identify key players and stakeholders.

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AGENDA

9:00 AM – 10:00 AM	Arrivals, Networking, Coffee, Bagels, Donuts
10:00 AM – 10:15 AM	Welcome and Introductions
10:15 AM – 10:45 AM	Context Setting
10:45 AM - 11:00 AM	BREAK
11:00 AM – 12:10 PM	Learning from Regional Successes Panel Discussion
12:15 PM – 1:00 PM	Lunch and Learn: Value of Solar with Storage
1:10 PM– 1:15 PM	Working Session Introduction
1:15 PM – 2 :00 PM	Working Session 1: Project economics and funding challenges
2:00 PM– 2:45 PM	Working Session 2: Interconnection and permitting challenges
2:45 PM – 3:00 PM	BREAK
3:00 PM – 3:45 PM	Working Session 3: Charting a Path Forward: DMV Solar “Roofmap” Plan
3:45 PM – 4:00 PM	Closing Remarks

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We want to hear from you!

https://www.menti.com/alkozyjcowbz

Code 7702 2675

Use the Q&A section of the Mentimeter to add comments & questions throughout the day.

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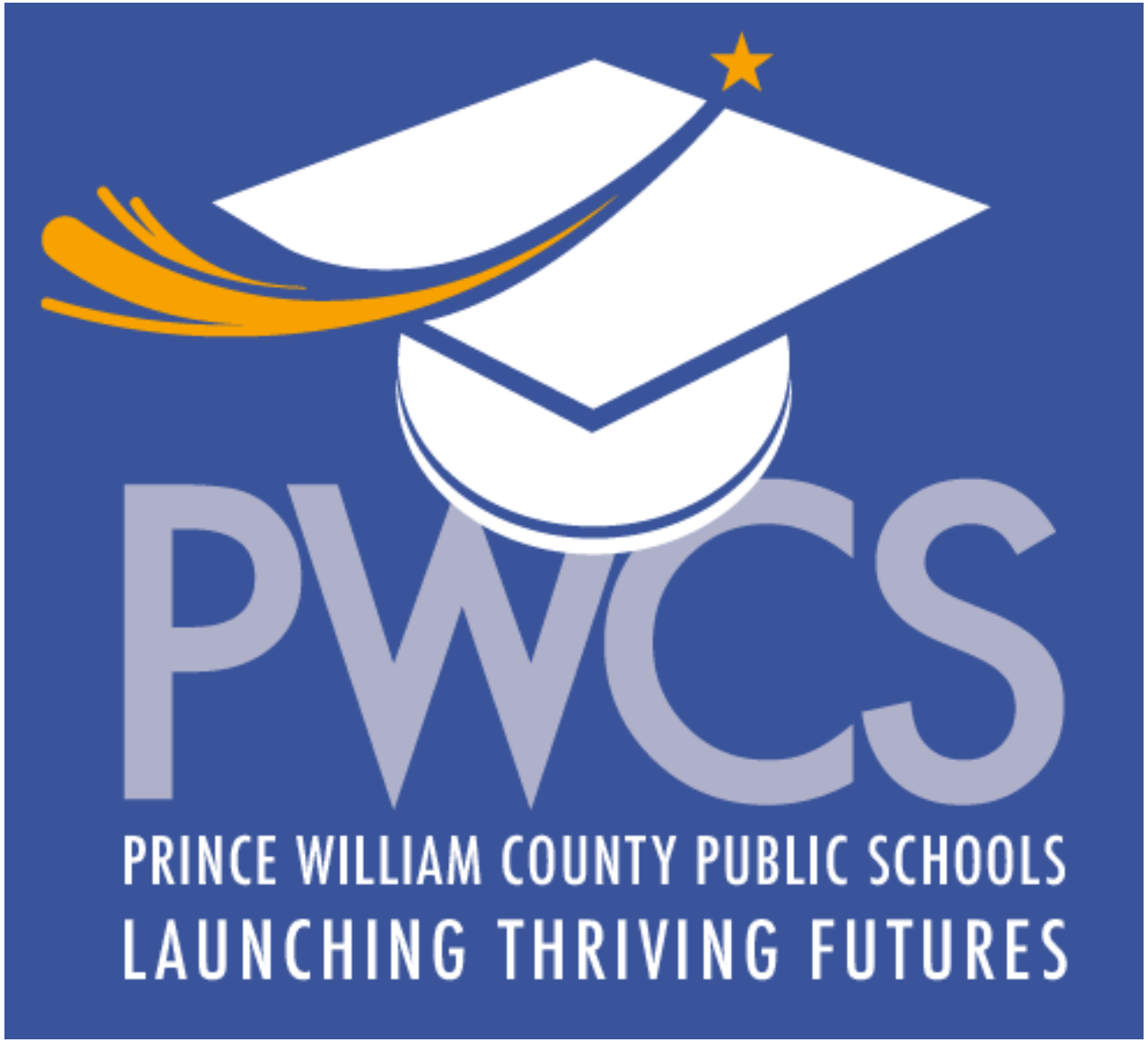
Learning from Regional Successes

- Rev. Jon Strand, Church of the Holy Comforter
- Jennifer Rokasky, Prince William County Schools
- Robert Lazaro, Northern Virginia Regional Commission
- Joshua Schimpf, Stafford County Schools
- John Morrill, Fairfax County

Church of the Holy Comforter


PWCS
PRINCE WILLIAM COUNTY PUBLIC SCHOOLS
LAUNCHING THRIVING FUTURES

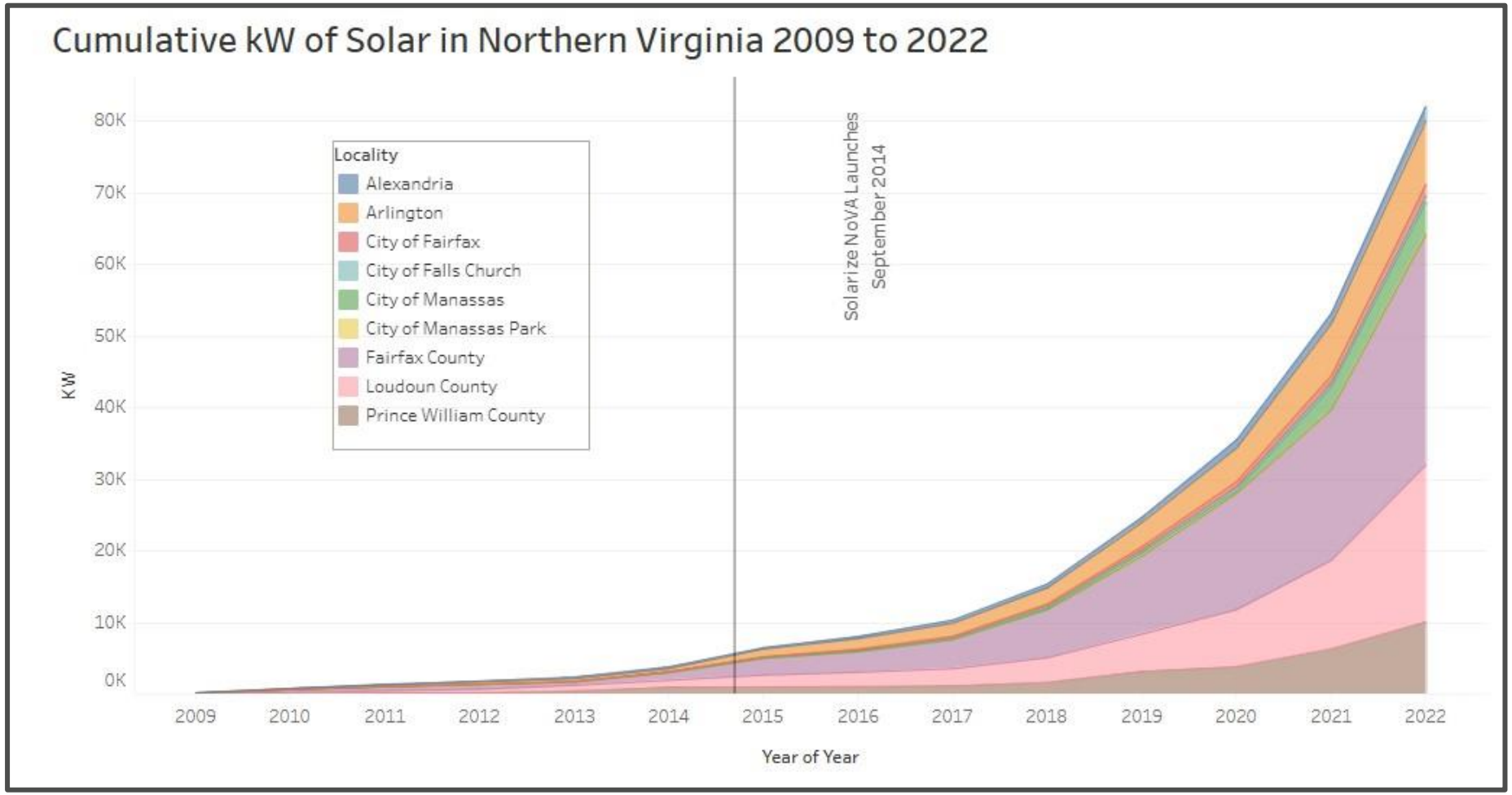
Solar in Northern Virginia

2009

- 51 Arrays
- 208 kW

2022

- 8171 Arrays
- 82 MW



nvrc
Northern Virginia Regional Commission

novaregion.org / @novaregion

Solarize NoVA

Success of Working Together

- Launched in Northern Virginia in 2014
- 1006 Contracts
- $28 million in private sector investment
- 9.2 MW of new solar
- This year's campaign prices per watt were 6.4% less as compared to statewide cost

Local Partners

- 6 of 9 permitting localities are SolSmart Designated; 7th working on it.

nvrc
Northern Virginia Regional Commission

North Stafford High School

Stafford County Public Schools

Inspire | Empower | Excel

NSHS

Project Highlights and Overview

- Developed with Sun Tribe Solar in 2022
- EPC and ongoing PPA with Madison Energy Infrastructure
- All electric facility with a 5 year old roof at signing
- Expected to cover roughly 85% of building consumption
- Completed with no upfront or additional costs to the district
- Utility provider is Dominion Energy
- 2 meters with 2 arrays combined to achieve approximately 1.7 MW
- Treated as 2 systems for production credit value
- Treated as 1 system for interconnect purposes
- Required substantial upgrades by Dominion

Fairfax County's Approach to Getting Solar Electricity for Government Facilities

John Morrill, Director
Office of Environmental and Energy Coordination

October 28, 2024

Three Approaches in our Toolbox

1. Power purchase agreement(s), for existing buildings or new construction,

2. County pays general contractor to design & install solar with new construction projects,

3. County pays energy services company to design & install solar on existing buildings, often bundling efficiency + solar project

Woodlawn Fire Station

Highlighting Approach # 3 – Award-Winning Pender Office Building Project

- Energy performance contract at Housing HQ completed in December 2023
- ~$44,000/yr avoided utility costs
- 2/3 savings from efficiency upgrades, 1/3 savings from solar
- Virginia Energy Efficiency Council's 2024 Leadership Award winner

Fairfax County Redevelopment and Housing Authority (Pender bldg.)

Learning from Regional Successes

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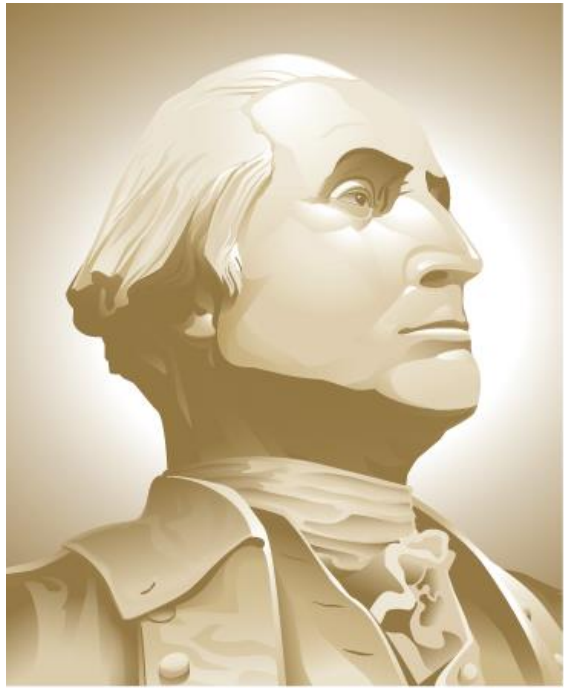
The Stella Group, Ltd.

The Stella Group, Ltd.. is a strategic technology optimization and policy firm for clean distributed energy users and companies which include advanced batteries and controls, energy efficiency, fuel cells, geoexchange, heat engines, microhydropower (including tidal and wave), modular biomass, photovoltaics, small wind, and solar thermal (including CSP, daylighting, water heating, industrial preheat, building air-conditioning, and electric power generation). The Stella Group, Ltd. blends distributed energy technologies, aggregates financing with a focus on system standardization. Scott Sklar sits on the national Board of Directors of the non-profit Business Council for Sustainable Energy and, teaches three unique interdisciplinary sustainable energy courses at The George Washington University. Sklar is the Sustainable Energy Director at GWU's Environment and Energy Management Institute (EEMI). He gives weekly tours of his two self-powered buildings in Arlington, Virginia.

Scott Sklar, President, The Stella Group, Ltd.

706 North Ivy Street, Arlington, VA 22201

703-522-1195 www.TheStellaGroupLtd.com solarsklar@aol.com



THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC

Adj Prof Scott Sklar
Energy Director
Environment & Energy Management Institute (EEMI)
and Acting Director, GWU Solar Institute
The George Washington University (GWU)
https://eemi.seas.gwu.edu/ sklar@gwu.edu
Personal email: solarsklar@aol.com Ph 703-522-3049

RESILIENT BUILDINGS ENERGY STORAGE

Scott Sklar

USDOE

October, 2024

OVERVIEW

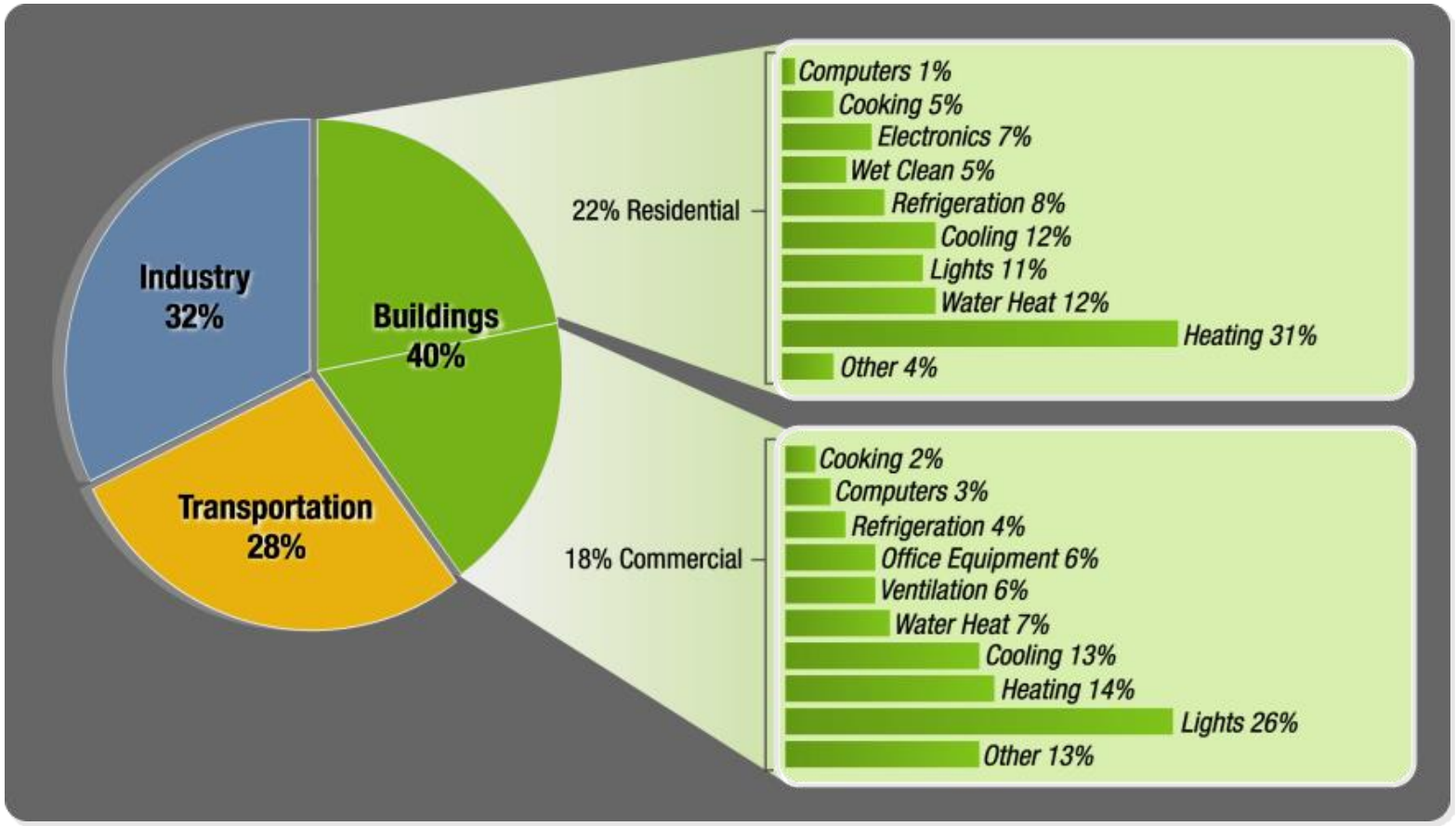
Net-Zero Building Commitments Are Adding Up:
GreenBiz.com, by Jesse Klein, July 9, 2020

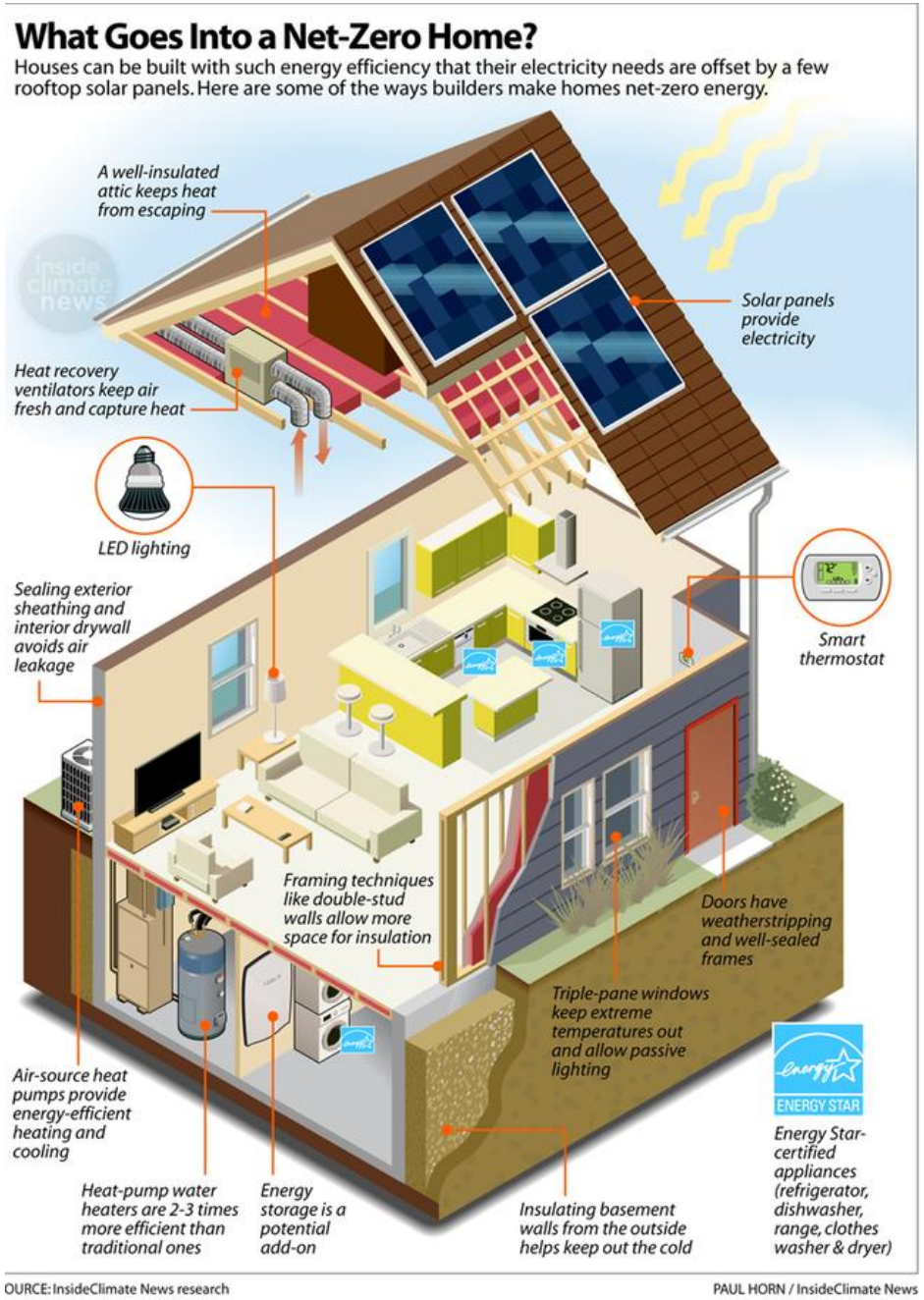
https://www.greenbiz.com/article/those-net-zero-building-commitments-are-adding

There are 1 billion buildings in the world, and that footprint will double by 2060. It is difficult to know how many buildings are operating at net-zero because some buildings are operating at net-zero because of the renewable energy supplied by the grid. But officially, ninety-five businesses, 28 cities and six states have signed on to a World Green Building Council initiative by committing to make all their buildings net-zero carbon-emitting by 2030 or sooner. California has signed onto the commitment with 16 million buildings, along with businesses such as design firm Atelier Ten, healthcare real estate investment trust Assura and retail center developer Wereldhave. Each organization pledging to support the WGBC initiative must commit to a net-zero building goal, disclose annual energy demand and carbon emissions for its portfolio, create a concrete action plan and have a third party perform a verification of the data and the strategy.

Why Net Zero is Important

- Buildings are the Largest Energy Consumer in the U.S.
  - 40% of primary energy, 72% of electricity, 55% of natural gas





https://insideclimatenews.org/news/10122018/net-zero-energy-efficiency-home-infographic-solar-pay-off-years-midwest-detroit-chicago-columbus?utm_source=InsideClimate+News&utm_campaign=f32d6f74ec-&utm_medium=email&utm_term=0_29c928ffb5-f32d6f74ec-327493849

RISK – State of Play 2022. - Professor Sklar

We have had three recent mega-grid failures:

- Puerto Rico (hurricanes, 3) 2017
- California (forest fires) 2020
- Texas (extreme cold) 2021

The basic approach for continuity of operations are diesel engines:

- during these events, cannot deliver diesel fuel
- during these events, cannot repair diesel engines
- during these events, cannot handle start-up surges
- natural gas pipelines can freeze (TX)

On-site battery banks, which have dropped 61%, and will decrease another 21% over the coming three years. They are active every day - saving energy in good times and powering electric loads in bad times. They can be charged by multiple sources: waste heat, solar, wind, biogas, propane, legacy diesels, free flow hydro …….

September 26 , 2024 WTOP news!!

https://wtop.com/arlington/2024/09/this-arlington-house-never-loses-power/

This Arlington house never loses power.

Ciara Wells | ciara.wells@wtop.com. September 26, 2024, 5:35 AM

Solar panels on the outside of energy technology expert Scott Sklar's office building. Both his home and office building never lose power. (Courtesy Scott Sklar)

Self-powered The Stella Group, Ltd. Office Building behind Sklar self-powered home

Four decades ago, energy technology expert Scott Sklar decided to install solar-powered sump pumps in his Arlington, Virginia, home to keep his basement from flooding. Since then, he's added solar panels and a wind turbine, turning his home into a clean, green, energy machine. During rough storms that knock out power, Sklar's neighbors know they can rely on him if they need to charge their phones or sit somewhere warm.

"I didn't realize when I bought it that we had a lot of outages, because we had a lot of tree canopy, and we have an old electric grid," Sklar said of his 39-year-old Sears kit home. "I get some solar panels from one of my companies and some batteries, and I installed more than one sump pump. I now have three and they worked 100%. I never had my basement flooding." Sklar is the founder and president of The Stella Group, which helps commercial businesses, industrial producers and local governments around the world to install affordable combinations of different renewable energy sources and efficient energy storage. Before that, he ran the Solar Energy Industries Association for 15 years.

His house has it all: thermal barrier paint in the attic, all LED lights, solar water heating, a huge hydrogen fuel cell-powered battery bank, a ductless geothermal heat pump and insulating windows. These all power his home and save him a few bucks on his electricity bill. "As climate change is getting worse and grids are getting older, we're getting more outages, so the commercial, industrial and residential sector buildings are starting to add battery banks; as well as utilities are fighting because they don't want the electricity, because they don't own it, so I'm trying to convince people (to) just use the power yourself, like I'm doing," he said.

NET ZERO BUILDING #126
WASHINTON NAVY YARD (NAVFAC)

Mitigated 63,000kWh of electricity

Building Electrification: Programs and Best Practices Report
February 3, 2022
American Council for an Energy Efficient Economy (ACEEE)

Building electrification—reducing greenhouse gas emissions from direct fossil fuel use in buildings—is vital to mitigating climate change. Across the United States, utilities, cities, states, and non-profit groups are offering programs and incentives to electrify space heating, water heating, and other end uses. This report assesses the state of building electrification today by profiling 42 building electrification programs across the country. We summarize current approaches and program characteristics, including the strategies program administrators use to reach customers; program budgets and participation levels; and the extent to which these programs integrate weatherization, energy efficiency, solar, battery storage, and demand response.

REPORT: https://www.aceee.org/research-report/b2201

TRENDS

Buildings are huge sources of load flexibility, but what's that worth to utilities? DOE investigates
by Robert Walton **Published** May 5, 2020

Buildings account for 75% of U.S. electricity consumption and up to 80% of peak demand, according to new research from Lawrence Berkeley National Laboratory (LBNL), supported by the U.S. Department of Energy's Grid-interactive Efficient Buildings (GEB) Initiative.

Their electricity demand means buildings also represent the largest source of load flexibility on the electric grid, though researchers say utilities need to properly value that flexibility in order to fully engage them as energy resources. The first step is to account for all electric utility system economic impacts resulting from demand flexibility, according to report lead author Tom Eckman, a consultant to LBNL. That includes the value of energy efficiency, demand response, and distributed energy resources' (DERs) abilities to generate power, shed and shift load, and modulate their electricity demand.

While buildings have the potential to act as flexible grid resources, LBNL's report highlights the complexity of the value proposition because "there is no single economic value of demand flexibility for utility systems." "Because they have so many adjustable loads, buildings represent the largest source of demand flexibility, so they can be part of the solution to peak demand issues and offer a broader range of grid services to help meet other electricity system requirements," according to Lisa Schwartz, LBNL's deputy leader of the electricity markets and policy group.

The Brattle Group last year estimated that in 2030 cost-effective load flexibility potential in the United States could reach 198 GW, much of it coming from buildings, and capable of delivering more than $16 billion in annual savings.

SOURCE: https://www.utilitydive.com/news/buildings-are-huge-sources-of-load-flexibility-but-whats-that-worth-to-ut/577348/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202020-05-06%20Load%20Management%20Weekly%20%5Bissue:27170%5D&utm_term=Utility%20Dive:%20Load%20Management

Newly Released FEMA Study Shows Value of Adopting Modern Building Codes
Thu, Dec 17, 2020 3:20 PM

In November, FEMA published Building Codes Save: A Nationwide Study of Loss Prevention, which highlights and reveals the high value of adopting and enforcing International Codes for hazard mitigation as a return on investment.

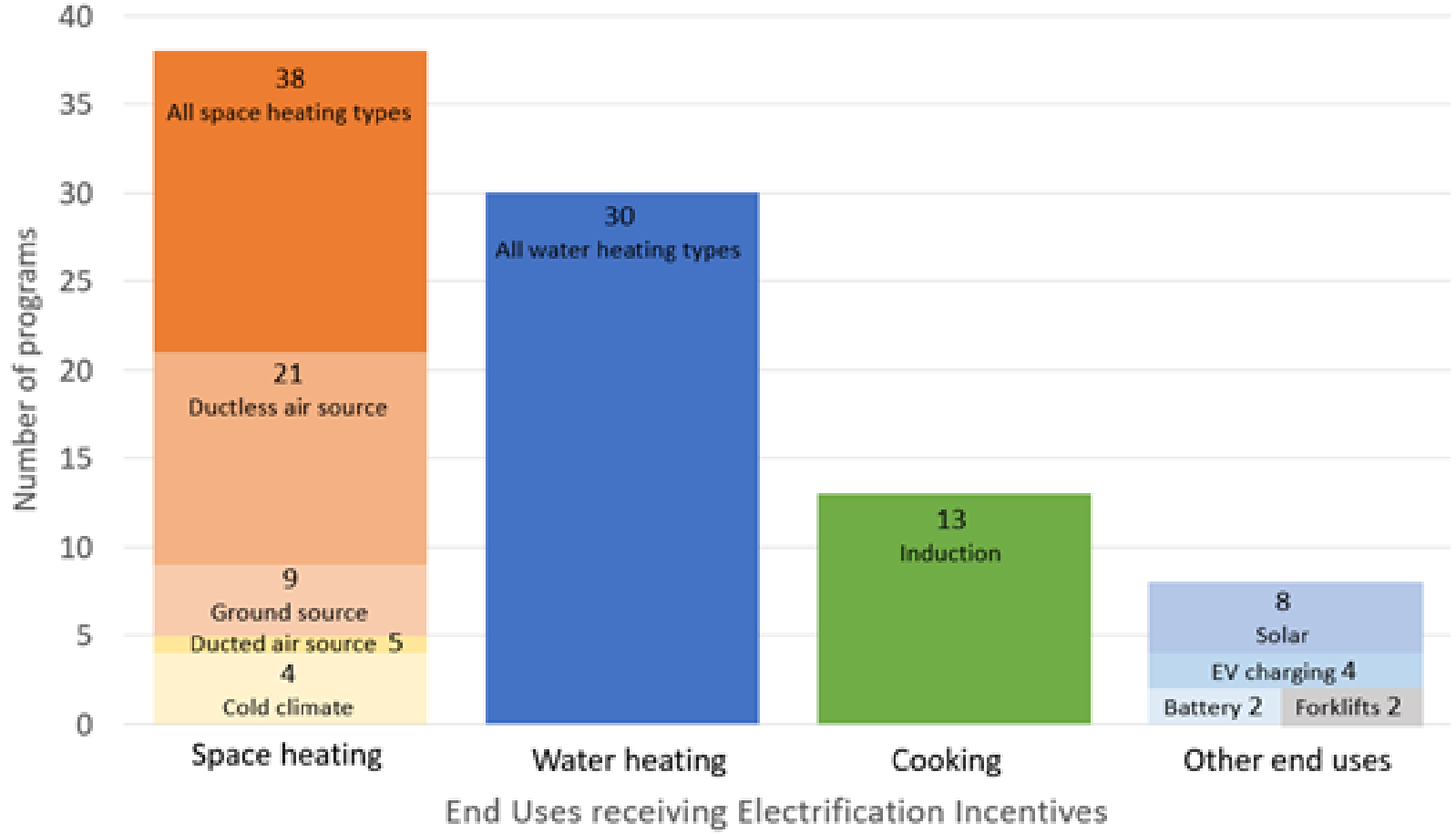
Since the first edition of the International Codes in 2000, communities adopting higher building code standards saved the nation approximately $1.6 billion in average annualized losses from flooding, hurricanes and earthquakes. Additionally, the study shows that over a 20-year period, communities with modern building codes would avoid at least $132 billion in losses from natural disasters. These figures do not account for the cascading effects of damaged homes and businesses, which can further increase losses significantly.

A 12-page summary, Protecting Communities and Saving Money – The Case for Adopting Building Codes, as well as the full-study detailing this project—its methodology, results and conclusions—are available on FEMA's website.

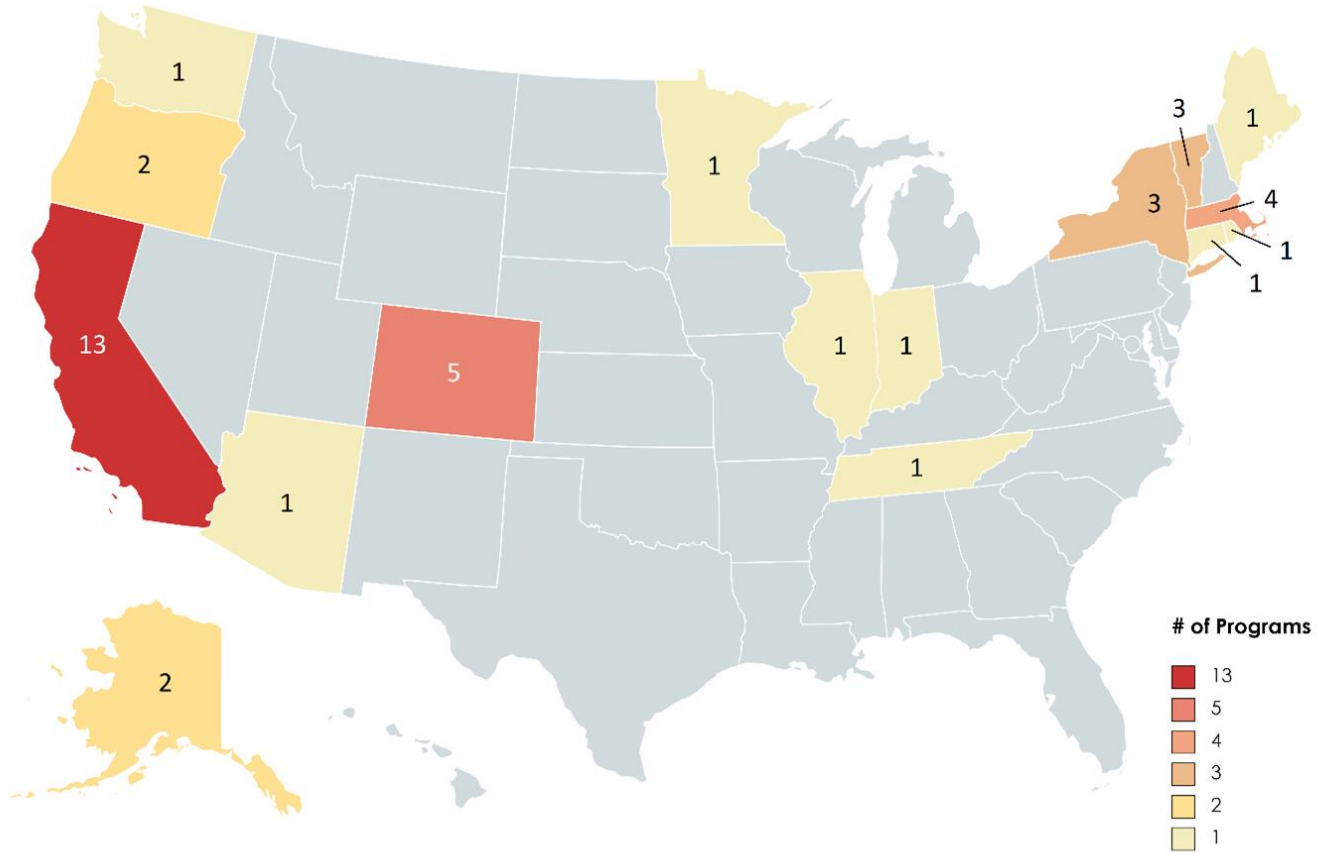
https://www.fema.gov/sites/default/files/2020-11/fema_building-codes-save_brochure.pdf

Our report finds that most electrification efforts focus primarily on space heating and hot water, which together represent the two largest direct uses of fossil fuels and corresponding sources of GHG emissions in buildings in the United States.

Other measures are less common in the programs we surveyed. Replacing gas-fired stoves with electric induction ranges, for example, features in about a third of programs. Finally, more than half of the programs combine electrification with conventional energy efficiency and weatherization measures, a tried-and-true approach that can make electric heat even more cost-effective and achieve higher carbon reductions from reduced energy waste.



Our report analyzes 42 such programs in the residential, multifamily, and commercial sectors and identifies trends, common approaches, and best practices. Though these programs are mainly found in states with ambitious climate targets, such as California and New York, there are examples of electrification efforts in many states across multiple climates, regions, and political environments, as shown in the map below.



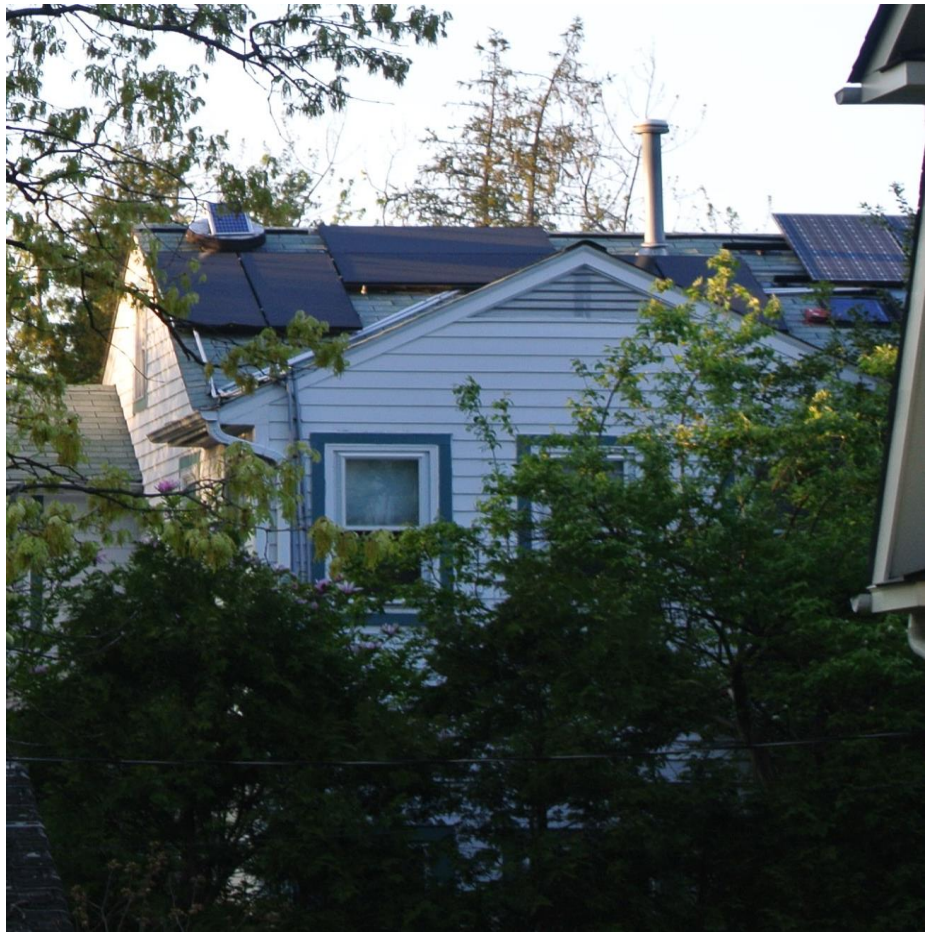
https://www.aceee.org/blog-post/2022/02/programs-electrify-buildings-are-heating-nationwide-report-shows

SKLAR EXAMPLES, ARLINGTON, VA

Eagle View: Sklar's two zero energy buildings, Arlington, Virginia

StellaGp office building: R-50 insulation, super-insulating windows, solar daylighting, PV Driven ceiling fans, PV shingles, small wind turbine, hydrogen fuel cell all tied to a web-enabled battery bank

SKLAR ARLINGTON 1921 SEARS KIT HOME: R-38 insulation, low-e double-paned windows, thermal barrier paint under the attic roof, LEDs, Energy Star appliances, solar water heating, geothermal heating & cooling, PV with battery bank, electrochromic glass, LEDs, etc.



SKLAR HOUSE – SOUTH FACE (WEST SIDE OF ROOF)

YALE CLIMATE. YCC TEAM

Meet Scott Sklar, a renewable energy enthusiast in Arlington, Virginia
When there's a power outage, people gather at Sklar's place. During good weather, they take tours and check out what kids call his 'Back to the Future' van. September 23, 2024

LINK: https://yaleclimateconnections.org/2024/09/meet-scott-sklar-a-renewable-energy-enthusiast-in-arlington-virginia/

Scott Sklar gives a speech in Arlington, Virginia (Photo credit: Elvert Barnes / CC BY 2.0).

When the power goes out in Arlington, Virginia, people often gather at Scott Sklar's house. Sklar: "I've had pictures of, you know, 30 cellphones being charged on my dining room table a That's because Sklar's home and detached office never lose power.

He generates clean energy using a mix of several technologies – solar panels, solar roof shingles, a wind turbine, and a hydrogen fuel cell. And he stores excess power in a bank of batteries. Sklar's been a renewable energy enthusiast since the '70s and loves sharing his knowledge. He gives tours of his home and office. And he visits colleges in a van he outfitted with solar, wind, and batteries. Sklar: "The kids in the neighborhood call it the 'Back to the Future van.'"

Sklar also works as a consultant, helping businesses transition to clean, resilient energy technologies. Sklar: "Now that we're in a climate change revved world, where we're seeing more outages for longer durations … that energy resiliency is going to be a must."

So he hopes to show people the many benefits of clean energy.

Reporting credit: Sarah Kennedy / ChavoBart Digital Media

Perspective on multi-scale assets for clean energy technologies in buildings

Scott Sklar

Environment Systems and Decisions
Formerly The Environmentalist

ISSN 2194-5403

Environ Syst Decis
DOI 10.1007/s10669-013-9475-0

Springer

SOLUTIONS & STRATEGIC DECISIONS

FEDERAL, STATE & LOCAL GOVERNMENTS: USA

1) Federal Tax Credits
   2020-22 : Owners of new residential and commercial solar can deduct **26 percent** of the installed cost of the photovoltaics and solar water heating systems from their taxes (including a battery bank if installed as an integral part of the PV system).

2) State Renewable Portfolio Standards
   Energy Efficiency Standards

3) State Net Metering (credit for excess electricity generation)
   Note: some states allow electric utilities to charge “Stand-by Charges”

4) State Energy Tax Credits or Tax Waivers

5) Building Codes & Stretch Codes (ie State of CA, Cities of Chicago, New York City, Washington, DC etc.

6) C-PACE/R-PACE (Commercial/Residential Property Assessed Clean Energy)

FOR RESILIENCY, WHAT SHOULD I POWER (PV-BATTERY) ??

In buildings – (focus: continuity of operations)

- WIFI and phone, security
- operating rooms in hospitals
- data centers within buildings
- sump pumps to prevent flooding
- at least one elevator shaft
- in certain climates - the HVAC systems to insure minimally-acceptable comfort is essential.

In communities –

- powering selected strip malls that are geographically dispersed that have
  - ATM machines
  - refrigeration for food
  - health care (eye, health, dental) to keep only the most critical care at to hospitals and non-critical away from hospitals
  - gasoline pump islands
  - schools as convergence points from displaced people of for first responders.

Note: For schools, we only powered the office, computer lab, kitchen and gymnasium (about a third of the overall energy) to make the facility usable

DECSION SLIDE #1: by SCOTT SKLAR

1) ENERGY EFFICIENCY

It is always is less expensive to save energy than generate it from any source of energy – whether that be coal, nuclear, natural gas or renewable energy

a. Insulation – the higher the R-Value, the better. R-18 to R-50 (roofs)
b. Lighting – LEDs and solar daylighting
c. Energy Efficient Appliances: Refrigerator, Washer/Dryer, HVAC system
d. Water Heater – super-insulated tank, solar water heater, heat pump water heater, waste heat water heater
e. HVAC – radiant and ductless systems are by far the most efficient, meaning they utilize less energy, and in most cases far healthier

2) RENEWABLE ENERGY as EFFICIENCY

a. Solar water heating
b. Solar daylighting
c. Geothermal heat pumps – either water or refrigerant (ductless)

DECSION SLIDE #2 by SCOTT SKLAR (2021)

ENERGY STORAGE

1. Do you want to own and take the tax credits ?
2. For now, need to pair with solar (see below)
   And if so, you want financing ?

2. Or do you want to just pay less per month for electricity thus using a lease, power purchase agreement PPA) , or energy performance service contract (EPSC) ?

3. Does your area experience frequent outages or weather ? Do you need continuity of operations for “ALL” or part of your building electric loads? If so, do you want energy storage ?

4. Do you have high electricity sub-rates – demand charges, peak & seasonal power rates, spot market or ratchet rates ?

Note: Dedicate to critical functions during an outage – such as WIFI, phone, security, sump pumps, refrigerator, some lighting, one-elevator Shaft, duct pumps, computers, a few electric outlets.

MONEY MAKES THE WORLD GO ROUND .....

ENERGY SYSTEMS NEED TO BE FINANCED – MOST DO NOT JUST GET PURCHASED, EXCEPT IN SOME RESIDENTIAL and COMMERCIAL PROJECTS – USUALLY BY WEALTHIER CUSTOMERS

SO WHAT ARE THE WAYS ???

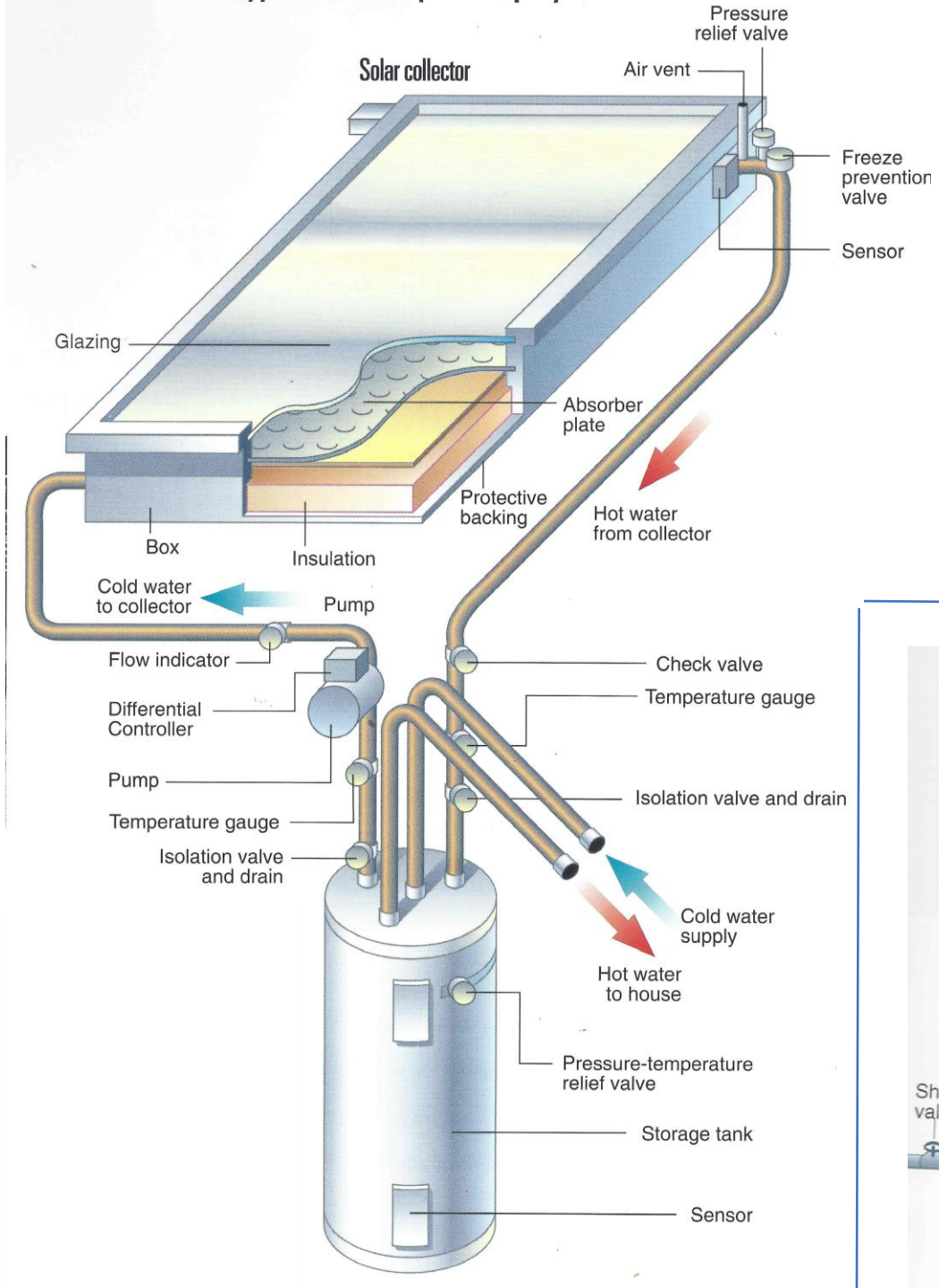
1. POWER PURCHASE AGREEMENTS – MEANING THE CUSTOMER SIGNS A LONG TERM CONTRACT FOR THE ELECTRICITY OR HEAT AND THE SELLER BORROWS MONEY OR ACCEPTS INVESTMENT TO BUILD, INSTALL & SERVICE THE PROJECT

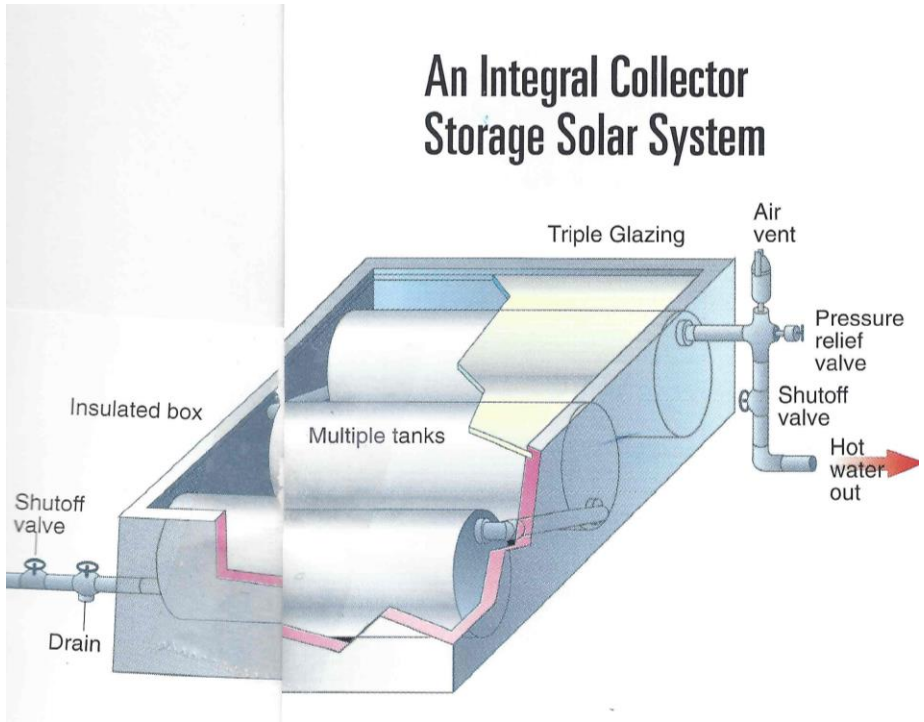
2. LEASING – BUYER LEASES AN ENERGY SYSTEM FROM 5 – 10 YEARS AND OWNER THEN TAKES THE SYSTEM, OR LESSOR CAN PURCHASE IT FOR IT'S "RESIDUAL VALUE"

3. SHARED SAVINGS – WHERE A PROVIDER SELLS & INSTALLS ENERGY EFFICIENCY OR RENEWABLE ENERGY AT THEIR COST, AND CHARGES THE CUSTOMER FOR HALF THE ENERGY SAVINGS, AND THEY USE THE OTHER HALF PAYMENT TO PAY LOAN AND OBTAIN THEIR PROFIT

TECHNOLOGY CHOICES

A Typical Active Closed-Loop System





How will this solar water collector perform?

SOLAR COLLECTOR CERTIFICATION AND RATING

SRCC OG-100

CERTIFIED SOLAR COLLECTOR

SUPPLIER:	**Heliodyne, Inc.** 4910 Seaport Avenue Richmond, CA 94804 USA
MODEL:	336 013
COLLECTOR TYPE:	Gobi Glazed Flat-Plate
CERTIFICATION#:	2007026A

COLLECTOR THERMAL PERFORMANCE RATING

Megajoules Per Panel Per Day				Thousands of BTU Per Panel Per Day			
CATEGORY (Ti-Ta)	CLEAR DAY	MILDLY CLOUDY	CLOUDY DAY	CATEGORY (Ti-Ta)	CLEAR DAY	MILDLY CLOUDY	CLOUDY DAY
A (-5 °C)	36.8	27.8	18.9	A (-9 °F)	34.9	26.4	17.9
B (5 °C)	33.1	24.1	15.2	B (9 °F)	31.4	22.9	14.4
C (20 °C)	27.6	18.8	10.1	C (36 °F)	26.2	17.8	9.6
D (50 °C)	17.3	9.3	2.1	D (90 °F)	16.4	8.8	2.0
E (80 °C)	7.8	1.7	0.0	E (144 °F)	7.4	1.6	0.0

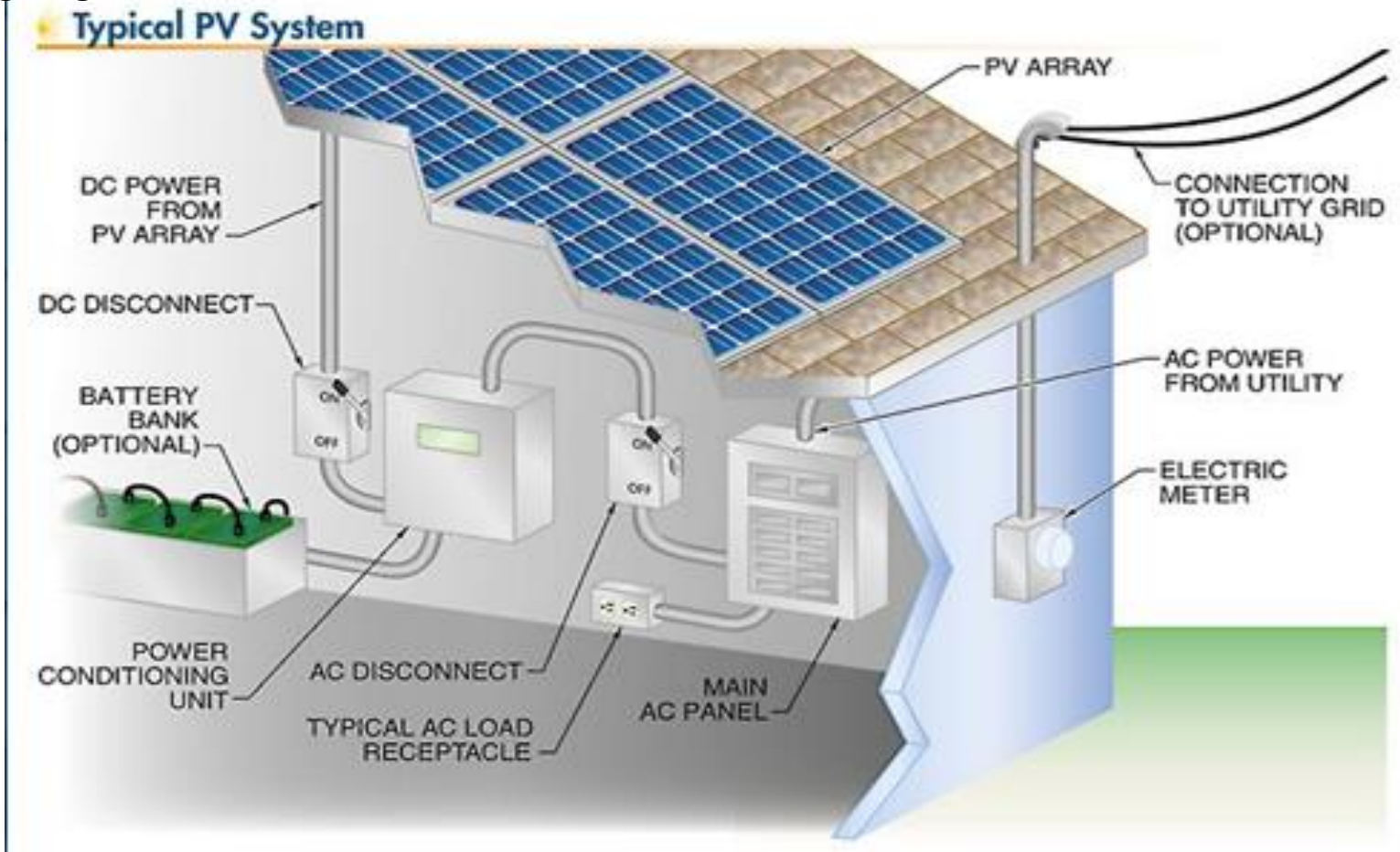
For solar water heating in Chicago, in the summer, one might expect this collector to convert about 17,800 BTU/day.

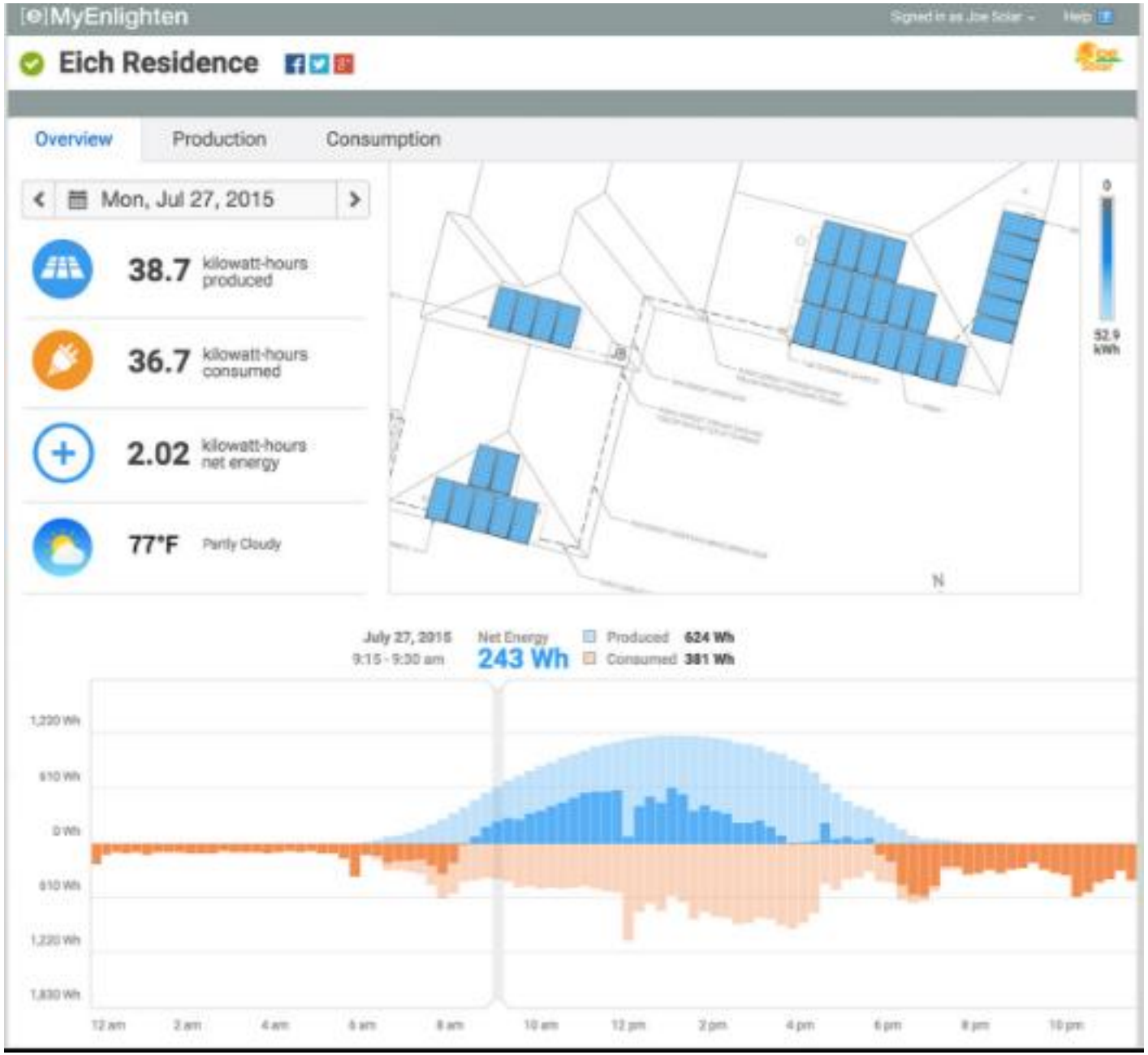
Source: http://www.solar-rating.org/

Introduction To PV Systems

Utility Connected or Grid-tied systems are the most commonly found systems in the market.

Let's see the following diagram:




MyEnlighten
Signed in as Joe Solar
Help
Eich Residence
Overview
Production
Consumption
Mon, Jul 27, 2015
38.7 kilowatt-hours produced
36.7 kilowatt-hours consumed
2.02 kilowatt-hours net energy
77°F Partly Cloudy
0
52.9 kWh
N
July 27, 2015
9:15 - 9:30 am
Net Energy
243 Wh
Produced 624 Wh
Consumed 381 Wh
1,220 Wh
610 Wh
0 Wh
610 Wh
1,220 Wh
1,830 Wh
12 am
2 am
4 am
6 am
8 am
10 am
12 pm
2 pm
4 pm
6 pm
8 pm
10 pm

Tesla Powerwall, Powerpack deployment grows 81% to 415 MWh in Q2

The amount marks a high point for quarterly deployment of the company's energy storage systems and shows that it remains focused on growing that part of its business alongside its electric vehicles.

https://www.utilitydive.com/news/tesla-powerwall-powerpack-deployment-grows-81-to-415-mwh-in-q2/559790/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202019-07-31%20Utility%20Dive%20Load%20Management%20%5Bissue:22198%5D&utm_term=Utility%20Dive:%20Load%20Management

sonnen

Sonnen's mission is to provide clean and affordable energy for all. As the first mainstream grid tied residential energy storage company in the world and with 24,000 sonnenBatterie systems installed worldwide, sonnen is a proven global leader in intelligent energy management solutions. The all-in-one sonnenBatterie smart energy storage solution easily integrates with new and existing solar installations to help homes manage their energy throughout the day-saving money, providing backup power, and maximizing the effective use of solar power day and night. Sonnen has won several awards for its energy innovations, including the 2017 Zayed Future Energy Prize, MIT's Technology Review's 50 Smartest Companies in 2016, Global Cleantech 100 for 2015-2017

LG rolled out new battery products at the 2018 Solar Power International Conference this week in California: a 5 kW AC-coupled system for homes where solar panels are already installed and a 7.6 kW DC-coupled system for new installations. (9/26/2018)

https://www.utilitydive.com/news/as-residential-energy-storage-booms-lg-enters-market-with-expandable-batte/533123/

INSTALLER ACCREDITATION: COMPANIES & INDIVIDUALS
PHOTOVOTAICS, SOLAR THERMAL, SMALL WIND

http://www.nabcep.org/company-accreditation


Good planets are hard to find.

Any questions ???

Need reports, contacts ???

Contact:

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CLEAN ENERGY FORUM: FOCUS ON SOLAR

October 28th, 2024 | 9AM - 4PM

COLLEGE OF SCIENCE
George Mason University

Metropolitan Washington
Council of Governments

Afternoon Working Sessions

Key Deliverables

- Memo that captures the challenges and what works and what does not work, including an overview of case studies with key relevant information
- Start of an Action Plan Framework ("*Solar Roofmap*") that will map out workstreams and actions to address key challenges that need to be overcome to accelerate solar deployment in the region. This will be layered into the Comprehensive Climate Action Plan as a key GHG reduction measure.

Session1: Project Economics and Funding	Session 2: Permitting and Interconnection	Session 3: Action Framework Planning
• Vote on which project type(s) to focus on • Rank key challenges for discussion (based on pre-event survey) • Identify solutions	• Vote on which project type(s) to focus on • Rank key challenges for discussion (based on pre-event survey) • Identify solutions	• For key solutions, identify supporting short term actions • Confirm the who, the what and the when • Commit to action and continued discussion

- Add action framework with highlighted/grayed out sections for 1 and 2 and then indicate

Project Types and Challenges

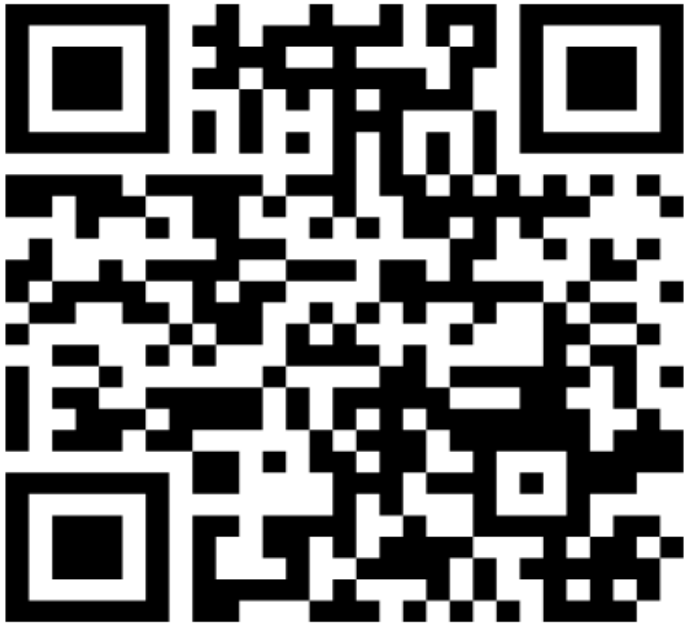
Project Types	Challenges (from pre-event survey)		
	Project Economics and Funding	*Permitting*	*Interconnection*
• Single Family Residential • Multifamily Residential • Municipal • Commercial • Nonprofits	• Reducing total project costs and improving returns including tariffs and ongoing expenses • Understanding and capturing the best financing terms and products • Understanding what incentives are available and addressing changing values over time • Understanding of how to take full advantage of tax credits and/or direct pay • Consolidation of solar vendors reducing competition for projects	• Need for improved zoning regulations and requirements • Lack of familiarity with permitting requirements • Need for educating code officials • Permitting time delays/lack of streamlined processes	• Supply chain shortages for interconnection equipment • Slow pace of net metering installation • Lack of visibility into interconnection queue, requirements, and costs • Requirements for ‘dark fiber’ at installations • Unexpected or high interconnection costs

Contribute to the Conversation!

We are here today to actively work together.

- ✓ Raise you hand to provide in room comments and questions
- ✓ Response to live polling for audience input to guide the conversation
- ✓ Use the Q&A section to provide comments

https://www.menti.com/alkozyjcowbz
Code 7702 2675



TEST IT! What type of organization are you with? Local government, state government, developer, financer, nonprofit, or other (please specify)?

Session 1: Project Economics and Financing

Which project type(s) would be most useful to focus on? *Vote on which project type(s) to focus on*

What challenges do you most want to identify solutions for today for that project type? *Rank key topics for discussion*

What solutions exist or would you like to see to address the selected challenges for the selected project types? *Share your ideas! Raise your hand, use the Menti Q&A section.*

Respond on the live app!
https://www.menti.com/alkozyjcowbz
Code 7702 2675

Use the Q&A section of the Mentimeter to add comments & questions throughout the day.

Session 2: Permitting and Interconnection

Which project type(s) would be most useful to focus on? *Vote on which project type(s) to focus on*

What challenges do you most want to identify solutions for today for that project type? *Rank key topics for discussion*

What solutions exist or would you like to see to address the selected challenges for the selected project types? *Share your ideas! Raise your hand, use the Menti Q&A section.*

Respond on the live app!
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Code 7702 2675

Use the Q&A section of the Mentimeter to add comments & questions throughout the day.

Session 3: Solar "Roofmap" Action Framework

Key Deliverable: Start of a Solar Roofmap that will map out workstreams and actions to address key challenges that need to be overcome to accelerate solar deployment in the region.

Example Solutioning:

Challenge: Project Economics for a rooftop system for a municipal entity

Solution: Assess rooftop conditions in advance of beginning procurement process

- **Short-term action 1:** Leverage available toolsets and lessons learned from peers on what a "good" rooftop condition is, and assess existing buildings to conduct an initial screen (e.g., rooftop age, slope, shading)
  - **Who:**
    - Energy/facilities manager
    - COG – coordinate information sharing on lessons learned and creation of model materials
- **Short-term action 2:** Update design guidelines for new facilities to be solar-ready
  - **Who:**
    - Energy/facilities manager
    - COG – coordinate development and sharing of model language

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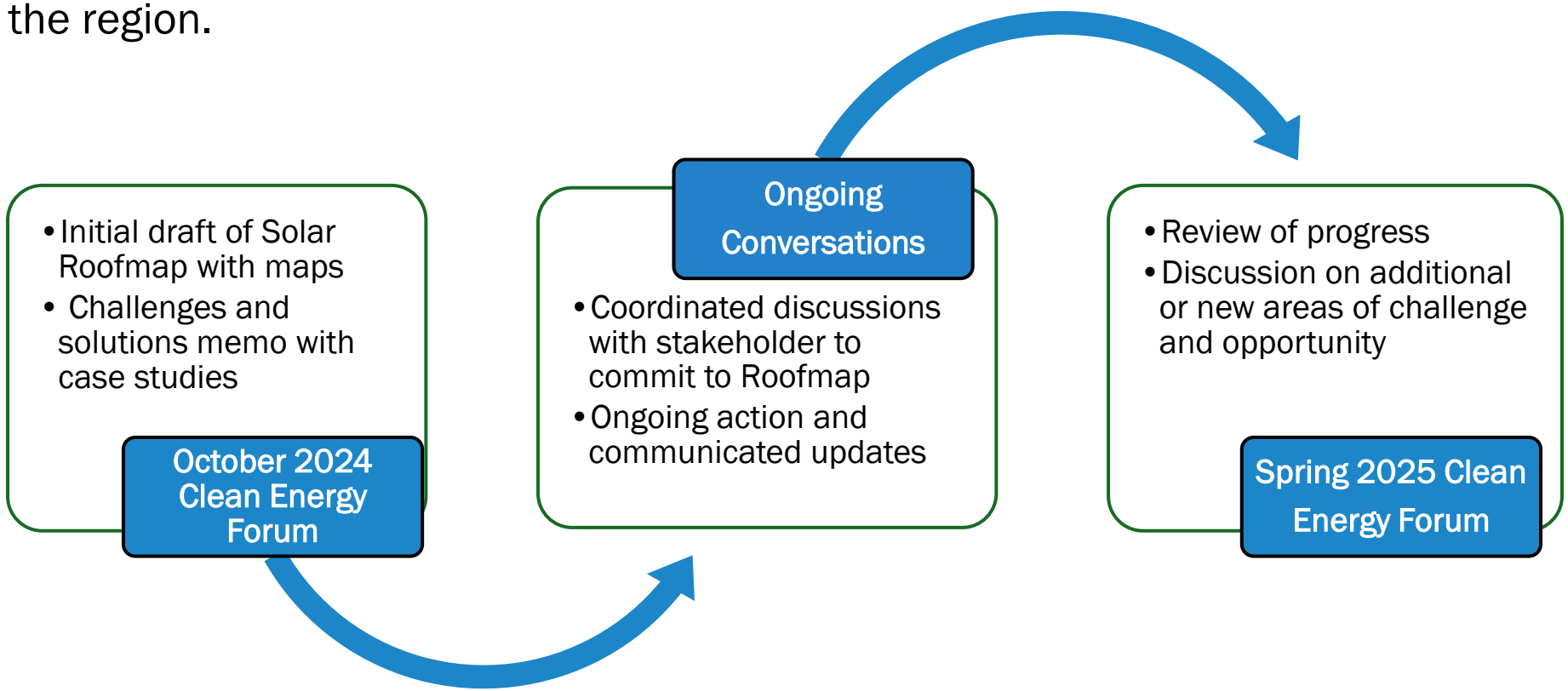
Next Steps

Key Deliverables

- Memo that captures the challenges and what works and what does not work, including an overview of case studies with key relevant information
- Start of an Action Plan Framework ("*Solar Roofmap*") that will map out workstreams and actions to address key challenges that need to be overcome to accelerate solar deployment in the region.



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