

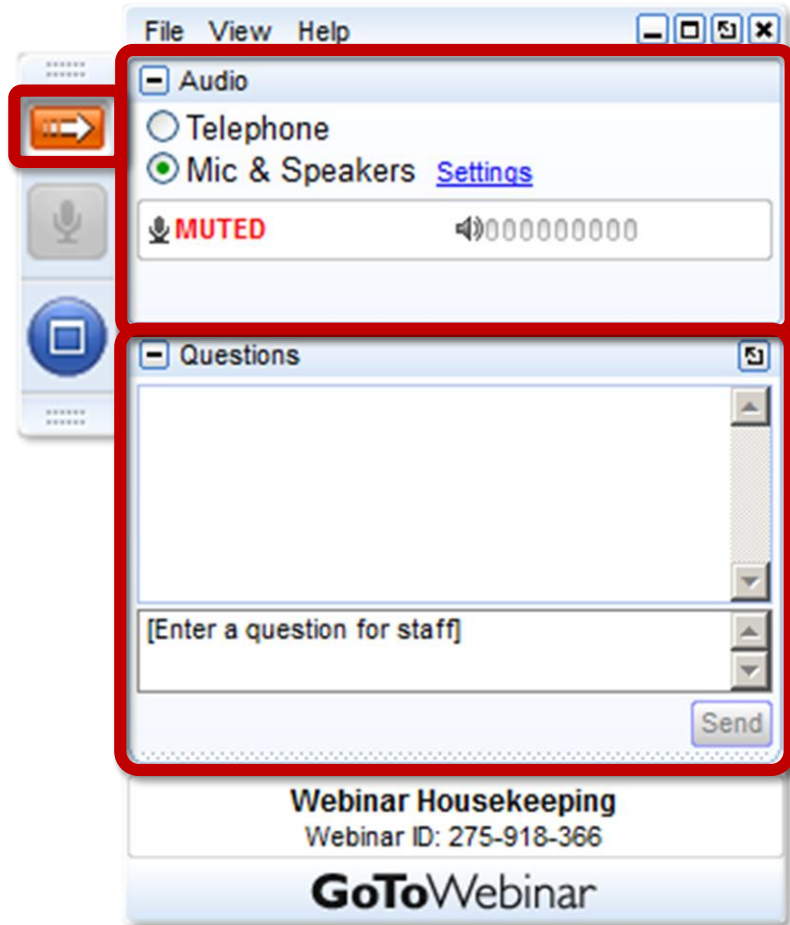
# RESILIENTPOWER

A project of CleanEnergyGroup



## Soleil Lofts: The Largest Solar+Storage Virtual Power Plant in the Country

# HOUSEKEEPING



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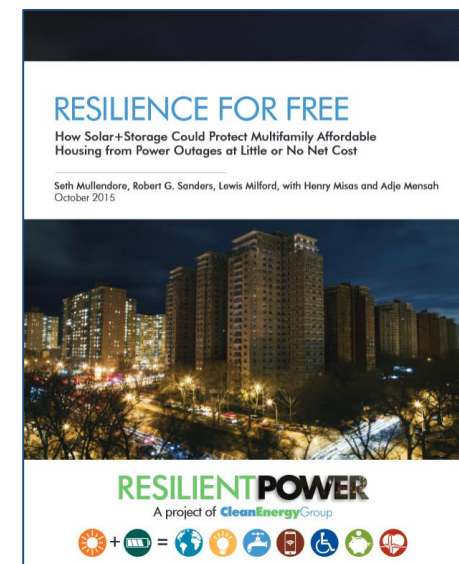
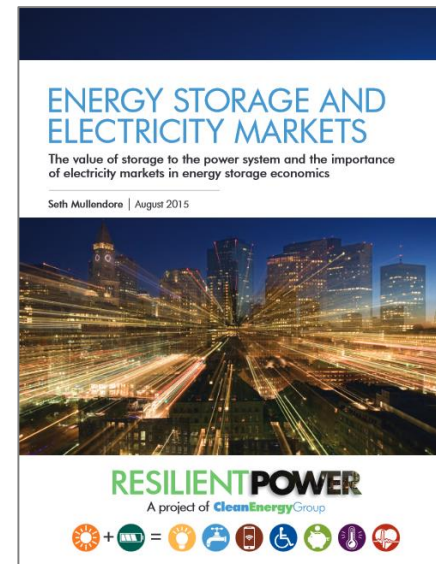
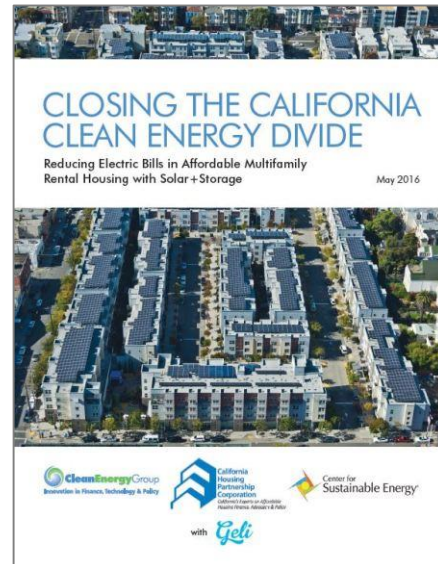
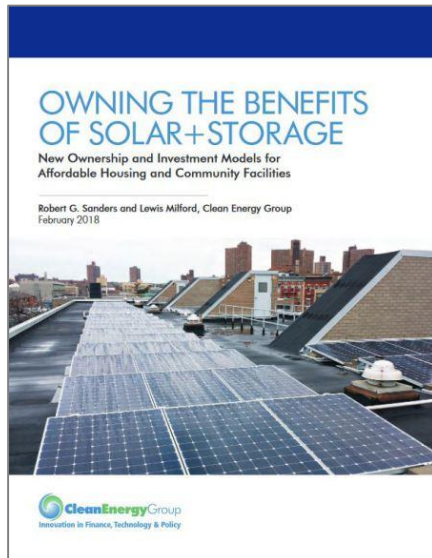
Submit questions and comments via the Questions panel

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# THE RESILIENT POWER PROJECT

- Increase public/private investment in clean, resilient power systems (solar+storage)
- Protect low-income and vulnerable communities, with a focus on affordable housing and critical public facilities
- Engage city, state and federal policy makers to develop supportive policies and programs
- Visit [www.resilient-power.org](http://www.resilient-power.org) for more information and resources





# SUPPORTING 150+ PROJECTS ACROSS THE COUNTRY



# Webinar Speakers

- **Olaf Lohr**, Manager of Utility Relations, sonnen
- **Ani Backa**, US Director of Regulatory Strategy and Utility Initiatives, sonnen
- **Jason Grimes**, Director of Product Development & Special Projects, Auric Energy
- **Seth Mullendore**, Vice President and Project Director, Clean Energy Group (moderator)



# Wasatch VPP I - Soleil Lofts: A VPP Case Study



**Ani Backa, Olaf Lohr**

Utility Team USA

sonnen Global eServices



# 10 Facts about sonnen ...and the utility team

1. Founded in 2008 (Germany)
2. World leader in residential energy storage
3. Most number of installed systems worldwide – 55,000+
4. Engineered and manufactured in the US (Georgia)
5. Depth of product line – eco and ecoLinx
6. First energy storage system to build a companion home automation platform including controllable breakers for smart configurable backup power (eliminating the need for a PLP), predictive weather analytics and effectively eliminating the key design restriction on PV array size - when working in concert with an AC coupled ESS
7. Virtual Power Plant (VPP) cluster software – utility access via API or VPP
8. Acquired by Shell New Energies in 2019
9. Ani is a Renewable Energy Attorney: former assistant General Counsel and government affairs manager for Xcel Energy. Currently, I lead sonnen's US regulatory, legislative and utility initiatives at the state and federal level. I live in Minneapolis with my husband, and love the outdoors (inclusive of ice fishing). I can be reached at [a.backa@sonnen-batterie.com](mailto:a.backa@sonnen-batterie.com).
10. Olaf Lohr: Clean Energy Business development professional, with sonnen for over 6 years. Implemented first Net Zero Mobile Home Community & VPP with GMP and the Clean Energy Group in 2016.





# the transition to renewable, reliable and resilient energy requires virtual power plants.



[https://youtu.be/tnzgkZ\\_P7Yc](https://youtu.be/tnzgkZ_P7Yc)

- The challenge is to balance consumption and the increasing, fluctuating generation while weather events grow more unpredictable and catastrophic.
- Aggregation and control of small-scale assets (PV coupled with residential storage, or other local resources) via virtual power plants is indispensable.
- Battery storage and microgrids provide the backbone of a more decentralized, digitalized and decarbonized future.
- Virtual Power Plants know no socio-economic barriers and they are scalable solutions in growing communities.



# Wasatch VPP I – Soleil Lofts:

The first all-electric apartment community in the world  
that is a utility controlled Virtual Power Plant













# The Soleil Project Structure

It all started with the “vision” of Dell Loy Hansen, CEO and Founder of the Wasatch Group

- Strong personal relationships and a unified sense of mission amongst “key players”
  - The Wasatch Group
  - Rocky Mountain Power
  - Auric Energy
  - sonnen Inc
  - Sonepar Codale
- The tremendous and enduring *will* displayed by the “key players” in the project to make the project work
- Rocky Mountain Power decided to take a major step forward, fully embracing the “idea” of a true residential VPP battery cluster as a dynamic grid asset



# Overview of Soleil Lofts

- First all-electric, carbon neutral residential apartment community in the world
- First large scale, utility-controlled residential VPP community in the US
- Largest residential-battery-based Demand Response Program in the US
- First all-electric, energy efficient apartment community in Herriman, Utah
- 5MW of solar + 12.6MWh of sonnen ecoLinx energy storage
- Battery powered Virtual Power Plant (12.6 MWh total), managed by the local utility
- 22 Buildings, including 600 apartments + club house + 150 EV chargers
- Unique partnership model with value for all
- Provides back-up power for residents + demand response control for the local utility



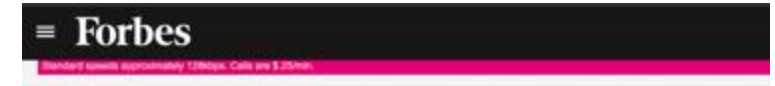
# Project Overview

- Location: Herriman Utah (suburb of Salt Lake City)
- <https://www.isyourhome.com/properties/soleil-lofts-herriman-ut>
- “STEP fund mandate” provides RMP with full control of the Soleil fleet for a specific set and quantity of grid supportive dispatch functions.
- Tenants to receive an average 5% - 10% lower total cost of energy when combining RMP bill with payment to Wasatch’s “Soleil Solar LLC.”
- 630 ecoLinx20 ESS: Total fleet capacity of 5MW, boasting 12.6MWH of stored energy reservoir, accompanied by 5.2MW of PV
- 8%+ overall project IRR for Wasatch Group, over 25-years



# Press - over 60 global articles + *Project of the Year Award*

- [Utility Dive “Project of the Year” Award 2019](#)
- [Forbes - A Cutting Edge Virtual Power Plant in Utah made up of sonnen batteries - controlled by the utility](#)
- [Bloomberg - Warren Buffet Utility to use Shells sonnen to help build huge carbon free apartment community](#)
- [Greentech Media - sonnen Delivers Long Promised Goal with Transformative VPP Project and Utility Contract](#)
- [The Verge - Shells sonnen Seeks to Conquer the US Market](#)
- [Utility Dive - Rocky Mountain Power to Operate Largest Residential Battery Demand Response Program in the USA with sonnen ecoLinx](#)
- [Fast Company - Groundbreaking 600 Unit Battery Virtual Power Plant](#)



3,286 views | Aug 27, 2019, 09:06am

## A Cutting Edge Virtual Power Project In Utah, With Batteries Managed By The Utility



**Peter Kelly-Detwiler** Contributor @  
Energy  
I cover the energy industry.

f Today, energy storage company sonnen, Inc. (a subsidiary of Shell), real estate developer **Wasatch Group**, and utility **Rocky Mountain Power** (a subsidiary of PacifiCorp) announced a unique and ground-breaking virtual power plant (VPP) in Herriman, Utah, just outside of Salt Lake City. The project, **Soleil Lofts**, is an apartment community that will feature solar arrays as well as 600 sonnen lithium iron phosphate ecoLinx batteries, totaling 5 megawatts (MW) of capacity and 12.6 megawatt-hours (MWh) of energy. Residents will begin moving into the apartments in September 2019 and the final building

**Forbes**

**Bloomberg**



**gtm:**

**FAST  
COMPANY**





Our Vision

“Our goal is clean and affordable  
energy for everyone.”

Christoph Ostermann, CEO sonnen GmbH



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# Auric

SOLAR // ENGINEERING // ENERGY // EV CHARGING // BATTERY STORAGE

## Soleil Lofts Overview

WINTER 2020



# “The first of its kind in the world.”

**Blake Richetta**

CHAIRMAN AND CEO OF SONNEN, INC.





# Soleil Lofts

- 600 apartments
- 5.3MW or 12,317 Solaria 430-watt panels (\$16.3M of revenue)
- 13MW of batteries (\$12.7M of revenue)
- 18MW+ of Auric Energy (\$29M of revenue)
- 118 EV chargers throughout community
- Under construction until early 2021
- Ability to run off-grid
- 80% offset of total energy needs
- 73 solar carport structures throughout



An aerial photograph of a large, modern apartment complex. The complex consists of several interconnected buildings with flat roofs, each covered with a dense array of solar panels. The buildings are multi-storied, with balconies and large windows. The complex is surrounded by landscaped areas with trees and grass, and there are parking lots with several cars. The overall scene is a high-angle, wide shot of the entire development.

**“ It’s the first master-planned apartment community in the world that is a virtual power plant with solar and storage.”**

— FORBES

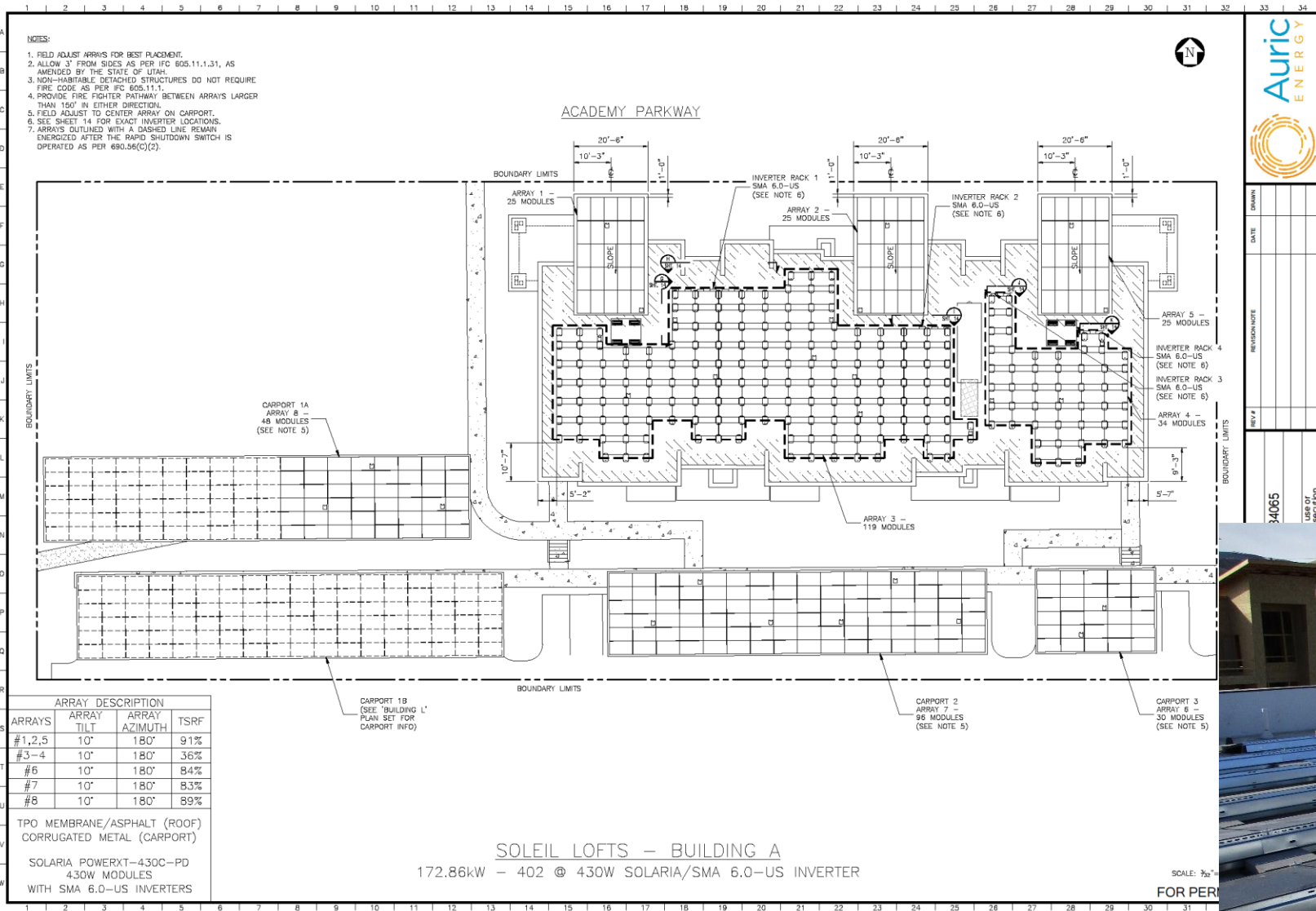
**“ The nation’s biggest all-electric, carbon-free, solar-powered apartment complex.”**

— BLOOMBERG





































# Thank you for attending our webinar

**Seth Mullendore**

Vice President and Project Director

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**Find us online:**

[www.resilient-power.org](http://www.resilient-power.org)

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