



# Solar + Storage and it's Potential Impact on GESPC

## Our panel

### Moderator

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# Solar plus storage overview



## Solar Photovoltaic (PV) power

- Typically procured via PPA, not ESC
- Some ESCOs offer PPA along with ESC
- Challenge: including savings in guarantee

## Battery Energy Storage Systems (BESS)

- Many types and chemistries
- Applications Spectrum: power  $\leftrightarrow$  energy
- EUL varies with operating profile
- *Might* help PV savings guarantee challenge

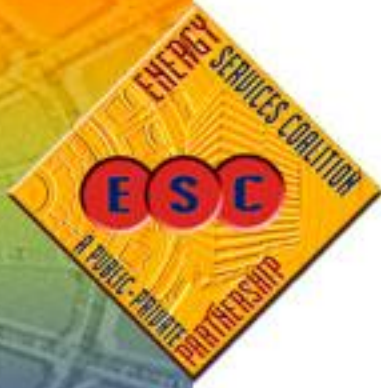
# Applications and business cases



- **For most customers, few applications are cost effective—yet (but soon?!)**
  - BESS costs falling fast, watch this space!
  - Run the numbers case by case
- 30% FITC if BESS charged 75% by PV
- Small, growing policy & funding support
  - CA, MA, MD
- ISO/RTO grid support ancillary services
  - FERC enables ES for ISO/RTO markets (PJM)
  - Small market for big BESS installations
- ESPC: “storage ready” PV option
- ESPC: Small BESS enables PV microgrid

# Hannah Solar

- One of the Southeast's largest solar integrators
- Over 75 Megawatts (MW) of installed solar capacity
- Developed, designed and constructed over 480 projects.
- Full service, certified solar integrator and licensed contractor
- Provide the best engineering, installation and service of
- solar arrays, battery storage systems, and EV charging equipment











T H E

Let's drive the future.



# Ray C. Anderson (1934-2011)

Interface, Inc.

- Pioneered business case for corporate sustainability
- Brought industrial ecology to the mainstream
- “America’s Green Industrialist”



# "The Ray" Goals, Mission



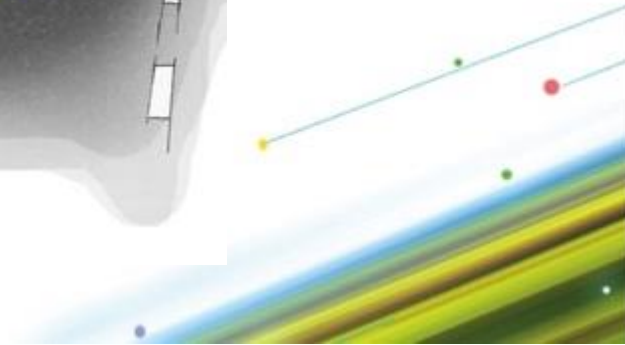
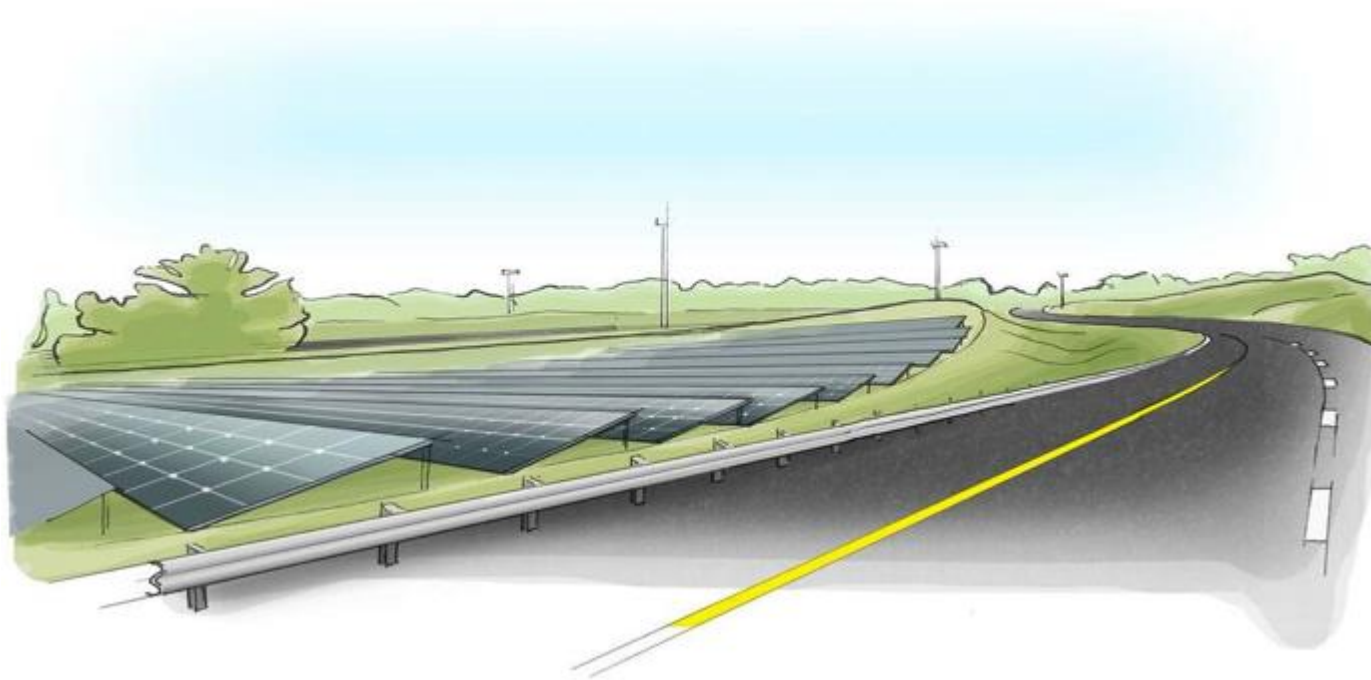
**Better outcomes for communities,  
the economy & the environment.**

- Zero deaths
- Zero carbon
- Zero waste
- Liabilities → Assets
- Leverage more value



# Transportation + Renewable Energy

Generating energy



# Wattway on the RAY

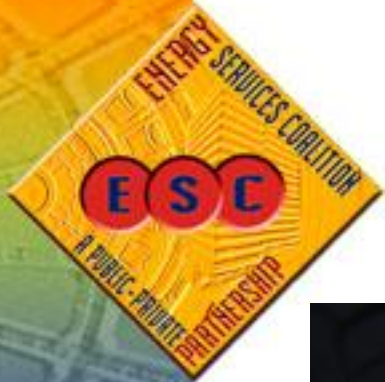


- World's first **DRIVABLE** solar road surface
- Pilot on The Ray 1<sup>st</sup> outside of France
- Minimum 10 yr. durability, all-weather
- Exceeds state average for road surface safety (.98 friction number = 70 skid number)
- Over 8.25 MWh generated so far

# Wattway on the RAY



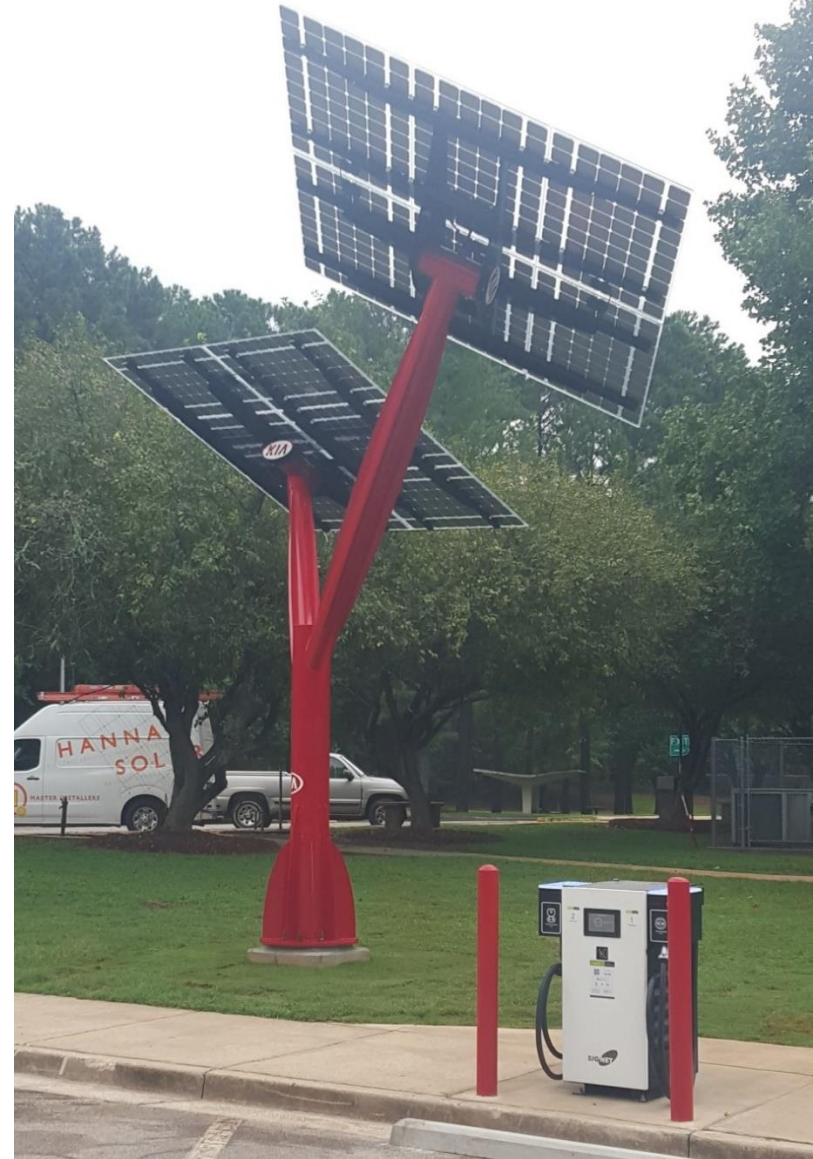
# Wattway on the RAY



# EV Charging on the RAY



- First public PV4EV in the Southeast
- EV charging infrastructure – connects Atlanta & Montgomery
- Over 23 MWh generated & over 18 tons CO2 avoided



# PV From Field to Freeway

Georgia, USA



Oregon, USA



Europe





# Highway Solar: Design capacity 0.946 MW DC



GA Power RoW Solar Project

- 1<sup>st</sup> pollinator-friendly ROW solar in U.S.
- GA follows OR & MA; expect TX & MD RFPs soon

# Highway Solar: Artist Rendering





# Concepts for Future Consideration

- Highway wind energy project
- Expansion of Wattway on The Ray
- Dynamic + wireless EV charging, in-lane
- Graphene battery storage
- Solar road dot deployment
- Smart lighting & under-bridge lighting

# Solar PV Transforms Transportation of the Future





# Thank You

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# PV+ES planning considerations



- What are your mission critical loads?
- How long do you want to operate off grid?
- Location and capacity of onsite systems?
- What role for backup generation (if any)?
- What procurement “business model”?