



OPSI Annual Meeting 2022

Does PJM Governance Need to Evolve? Or...
Too good to leave, too bad to stay

LS Power Group Overview

LS Power is at the leading edge of the industry's transition to low-carbon energy by commercializing new technologies and developing new markets

- LS Power is a **development, investment and operating company** focused on North American power and energy infrastructure
- Founded in 1990, LS Power has over 300 employees across offices in New York, New Jersey, Missouri, Texas and California
- In total, LS Power has developed, constructed, managed and acquired more than **45,000 MW** of competitive (conventional & renewable) power generation and over **660 miles of high voltage transmission** infrastructure, raising over **\$48 billion** in debt and equity financing to invest in North American infrastructure
- Highlights include **Gateway, the world's largest battery** when energized in Aug 2020, utility-scale solar projects in AZ and CA, **2.6 GW operating portfolio of renewable generation and energy storage**, and flexible, deployable generation resources critical to grid reliability
- LS Power's approach to the energy transition is deliberately **focused on investments that will likely yield long-term reductions in greenhouse gas (GHG) emissions at the system level**

2021 Avoided GHG Emissions

(assets under LS Power control)



Please see [LS Power Sustainability](#) for additional details including GHG emission avoidance calculation methodology.

LS Power Energy Transition Platforms

National Leaders in Distributed Energy, Electric Vehicle Charging, Energy Storage and Renewable Generation/Fuels



- **CPower Energy Management is the leading demand-side energy management solutions provider in the U.S.**, that helps nearly 2,000 commercial, industrial and government organizations save on energy costs, earn revenue through energy curtailment, enhance their sustainability efforts, and support the decarbonization and reliability of the electric grid.



- **REV Renewables is an industry leader in the development, acquisition and operation of renewables and energy storage.** REV's 2.6 GW operating portfolio includes 25 solar projects, 1 wind projects, and several battery projects including Gateway, the world's largest battery when energized in Aug 2020. REV represents one of the nation's largest non-utility portfolios of renewables and energy storage.



- **Primary Renewable Fuels partners with the Landfill Group, a leader in the Landfill Gas to Energy Industry.** With over 30 years of experience, the Landfill Group was created to answer a need expressed by the landfill gas market – the ability to build a project where all vendors come together and seamlessly connect all the parts by providing complete solutions from development, operations, construction, equipment manufacturing, and ownership of landfill gas projects to municipal and private landfill owners across the U.S.



- **BluSail Renewable Fuels represents a JV with BioStar Renewables and ARM Energy to develop, build, own and operate waste to energy projects.** BluSail uses anaerobic digestion (AD) to break down waste, isolating by-products such as ammonia and methane, to be converted into Renewable Natural Gas or Renewable Electricity. Through its AD Waste to Energy solutions, BluSail reduces Greenhouse Gas Emissions, provides Renewable Energy, and diverts waste from landfills to support farming and other government, commercial and industrial users with their waste management needs.



- **Rise Light & Power is a regional manager and developer of energy assets** which provides more than 20% of New York City's generating capacity and is making significant investments to enable the state to reach its clean energy goals. From modernizing facilities to investing in large-scale renewable energy projects, Rise Light & Power is working to light the future.

514,814

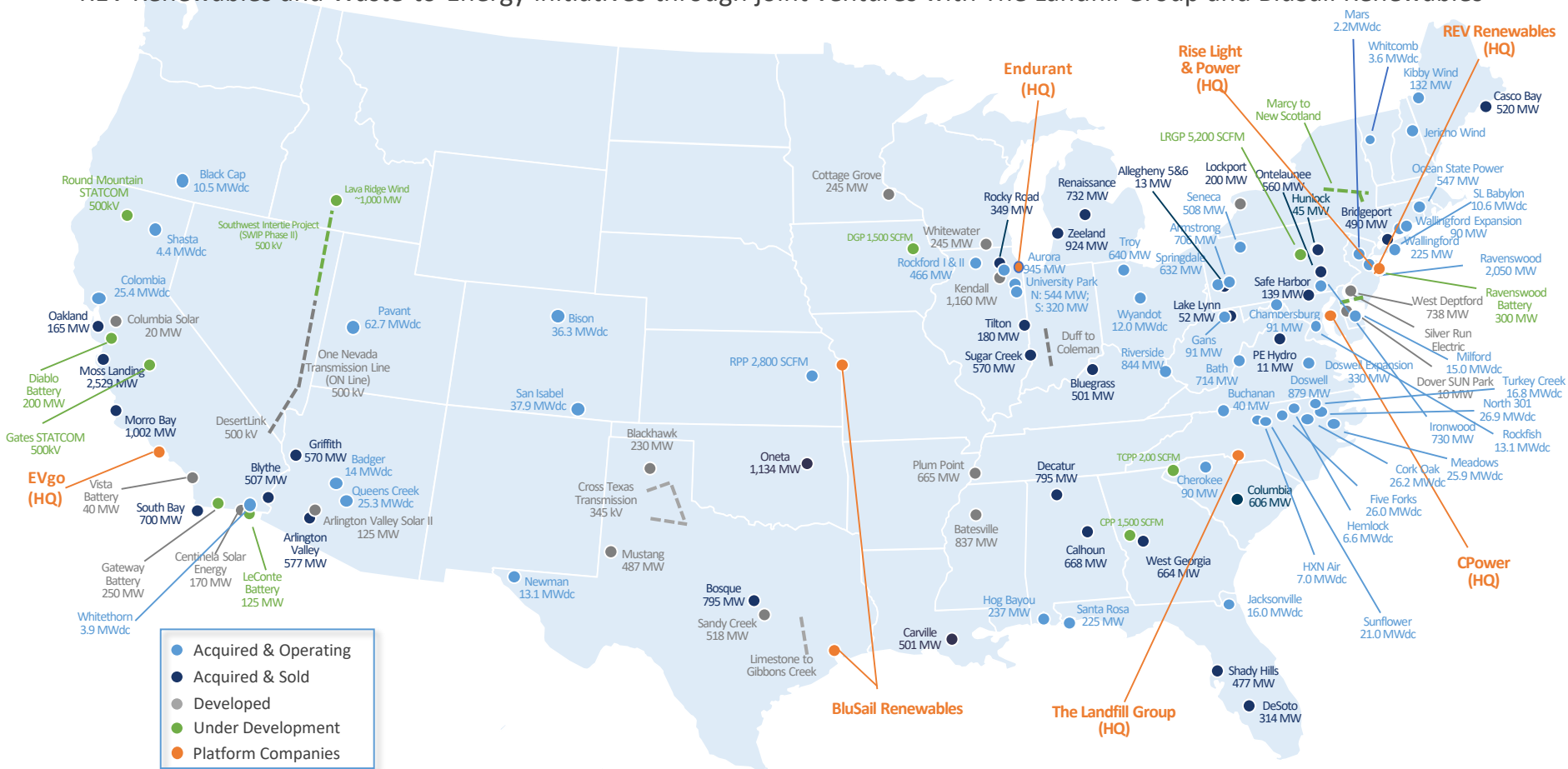
metric tons of CO₂e collectively avoided
across LS Power's Energy Transition Platforms in 2021

Please see [LS Power Sustainability](#) for additional details including GHG emission avoidance calculation methodology.

LS Power Project Portfolio

Extensive development/operating experience across multiple markets and technologies

- With over **\$48 billion** in equity and debt raised, LS Power has developed and acquired **over 100 Power Generation projects** (renewable and conventional), 7 Transmission projects, and 7 Battery Energy Storage projects
- LS Power's **Energy Transition Platforms** include CPower Energy Management, Endurant Energy, EVgo, Rise Light & Power, REV Renewables and Waste-to-Energy initiatives through joint ventures with The Landfill Group and BluSail Renewables



How did we ever get here?

- PJM governance: a remnant from the dark ages when:
 - Relying on faxes for information when developed
 - 8 TOs were still vertically integrated primarily concerned with the best economic design to assure reliability
 - 4 States and the District of Columbia
 - Consumers (states, public advocates, industrial interests) believed markets would drive to a reliable system at the least cost
 - States did not want to be Members (saw it as impediment to direct communications with PJM and conflict with requirement to hear rate cases)
 - At formation of OPSI, this was reconsidered

- Nature of the Stakeholder Process Changed:
 - Now have hundreds of PJM Members
 - Now have 13 states and the District of Columbia
 - Senior executives, with decisional authority, would attend and vote at the Members Committee
 - Issues could be easily understood in materials circulated before meetings
 - Stakeholders were able to be more engaged because the exigency of following emails was less important
 - Issues addressed were more around market principles there was more principled approach to cost allocation

- Nature of the Issues Changed:
 - Easier to get unity around market principles
 - Technology enabled a more granular understanding of winners and losers, significantly impacted the process
 - Changing grid infrastructure challenging traditional reliability metrics
 - States have more varied policy goals and choosing in-state resources

It's not pretty, it's frustrating, but it seems to work most of the time

- Do not support giving PJM 205 rights
 - PJM appears to be re-writing its mission to de-carbonize its markets instead of running efficient markets to assure reliability
 - PJM feels it needs to play the politics and the political winds are not favorable for competitive, fuel neutral markets
 - NEPOOL option is not likely to change outcomes

- Do not support giving states voting rights
 - Unlike in MISO, have retail competition and divested transmission and generation and States continue to exercise jurisdiction and rate making
 - Support current arrangements where PJM and IMM meet with OPSI and take their input

- Suggest that both PJM and stakeholders could do a better job:
 - issues are far more technical than in the past, would be helpful if stakeholders prepared for meetings and targeted the right people/consultants for specific topics

- Support structured, focused stakeholder education sessions
- Support PJM being responsive to stakeholder information needs (ELCC/CIRs an example of worst case interaction)
- Support IMM as an advisory, not advocacy role in the stakeholder process (not architect, builder, and inspector)
- PJM needs to be more transparent about its positions: it can be apparent that an analysis is actually being presented as advocacy and stakeholders should know what is driving PJM role/position on an issue and other times PJM is outright advocating for a position