

Jason.Quinn@colostate.edu



#### The Economics of Electrifying America





#### Jason C. Quinn

Noah Horesh, David Trinko, Evan Sproul, Shijie Tong, Michael Ferry, Manasa Muralidharan, Hongjie Wang, Regan Zane, Konstantina Gkritza



Colorado

# The presentation focuses on the economic viability of Wireless Power Transfer









Infrastructure requirements for wireless power transfer will require electrification of high-speed roadways



# Wireless power transfer deployment requires a reasonable capital investment

United States Roadways



#### Wireless power transfer will increase baseload power demands



# Technology adoption directly impacts the economic viability of wireless power transfer



# The presentation focuses on the economic viability of Wireless Power Transfer







COLORADO STATE UNIVERSITY

Jason.Quinn@colostate.edu

#### Opportunities for batteries include energy storage



Battery reconditioning with grid energy services



#### Revenues from real time market support the economic viability of battery reconditioning



125.0° W122.5° W120.0° W117.5° W115.0° W

# The presentation focuses on the economic viability of Wireless Power Transfer









#### Economic viability of WPT based long-haul trucking shows a payback can be15 years



In summary, systems level economic evaluation of electrified transportation systems is critical to advancing the technology

Deployment of a WPT system can see paybacks that are within the lifetime of the system



Systems Level Economics

Return on Investment



EV batteries can be reconditioned and provide grid energy services