

The Free Electrons Utility Partners have identified common topics of interest for their businesses in 2024 and beyond. Please review this in tandem with the Utility Partner Reverse Pitch Decks available on the Free Electrons website for a deeper understanding of partner-specific needs in their respective regions. Please keep into consideration there may be overlaps between categories.

Connectivity & Communications	<ul style="list-style-type: none"> ● Grid edge technologies including smart inverters, telemetry, sensing and control ● Leveraging captive utility customers for new services beyond electricity generation, transmission, and/or distribution ● Distributed energy resource aggregation as a service
Energy Efficiency & Asset Management	<ul style="list-style-type: none"> ● Platforms to manage DERs behind the meter to optimize energy efficiency ● Services or technologies that support energy efficiency as a service across commercial and industrial customers ● Disaggregation of loads for predictive/preventative maintenance ● Software for remote evaluation of assets for energy reduction potential ● HEMS for DC integration
Next Generation Clean Energy	<ul style="list-style-type: none"> ● Cost competitive, non-gas peaking generation solutions ● Distributed generation including micro/modular nuclear, modular CHP, feeder/community level storage and low cost BTM solar + storage (including DIY solutions) ● Long duration energy storage solutions (>8hours) with total installed costs <US\$100/kWh ● Innovative fuel cell technologies (e.g., small SOFC)
Smart Grid & Energy Communities	<ul style="list-style-type: none"> ● Virtual Power Plant/advanced demand side management solutions ● Provision of services, devices and connectivity for energy/peak awareness, automated energy conservation and market participation/monetization ● Modular/mobile storage that can be rapidly deployed based on increasing customer demand and/or emergency response applications ● Novel ways to aggregate distributed flexibility including but not limited to advanced or behavioral demand response ● Community battery business models and specific hardware ● Solutions allowing production based on an inverter or DC line to contribute to the stability of the network ● DC microgrids, embedded network buildings and EV charging
Sustainable Fuels & Carbon Management	<ul style="list-style-type: none"> ● Modular green/blue hydrogen or alternate energy carriers that support seasonal storage and/or adjacent industry feedstock needs ● Scalable carbon accounting, reporting & visualisation tools (scope 1-3) covering the whole supply chain ● Energy offset trading platforms ● Technologies for carbon capture & removal for utility scale generation and/or industrial applications ● Production technologies for low carbon hydrogen ● Hydrogen utilization for transport (land, water, air)

Transport & Industry Electrification	<ul style="list-style-type: none"> • Services or technologies that support the customer lifecycle (awareness, consulting, engineering, procurement, financing/capital, ownership, maintenance) for fleet, commercial or industrial electrification • Service and technology combinations for unique approaches to reducing energy for decarbonization or cost savings • Services and technologies for electrification and fuel switching, beyond fleets that help industry achieve cost or carbon goals • Energy adjacent product or service offerings/models for promotion of electrification/decarbonization and user experience in using/consuming non-carbon generation sources • Enhancing Energy Resiliency Emergency EV Charging as a Grid Asset
Low Carbon Heat Solutions	<ul style="list-style-type: none"> • Services and technologies that enable residential/SME/industrial customers to reduce dependency on natural gas • Services and solutions that enable increased efficiency in heat generation, utilization, and storage e.g. waste heat recovery technologies • Technologies that enable heat (e.g. steam) production for industrial use e.g., biomass, solar and geothermal (including ambient heat from heat pumps & very high heat steam) • Carbon-neutral forms of supplementary heating for CI residences and buildings
Transmission & Distribution Network Resiliency	<ul style="list-style-type: none"> • Advancements in grid hardware or software that can accelerate the adoption of customer electrification and decarbonization solutions • Packaged reliability & resiliency solutions for residential, SMB and commercial customers • Solutions to help forecast grid impacts to extreme weather events • Services & technologies that enable optimized planning, operation and maintenance of electricity, gas and district heating grids • Alternatives for transmission infrastructure including underground lines, lines without sleeves & low visual impact solutions • Multi-parameter, multi-point, universal optical monitoring systems for major energy system assets • De-icing solutions for insulators and pylons • Solutions that minimize electrical losses • Network “autonomous/self design” tools
Energy Networks	<ul style="list-style-type: none"> • Innovative knowledge management solutions for technical workforce and network engineers • Innovative tools to boost operational excellence in the energy networks business and city energy solutions
Other	<ul style="list-style-type: none"> • Innovative solutions for the “renovation challenge” e.g. making renovations faster, cheaper, easier and more efficient • Retrofit solutions for heating and cooling in buildings • Remote lead / potential identification and qualifications tools