



2021 CLEANTECH PRIORITIES

LOS ANGELES CLEAN TECH INCUBATOR
525 S. HEWITT STREET LOS ANGELES, CA 90013



WELCOME



We are pleased to publicly share the high-level findings from our 2021 Cleantech Market Landscape report which analyzes investor, corporate, political, and emerging technology activities over the past year in Zero Emissions Transportation, Clean Energy, and Sustainable Cities. LACI's Market Transformation team produces this report annually in order to identify our top priorities in accelerating the commercialization of cleantech and in reducing real and perceived barriers to adoption.

Although our Market Landscape report principally guides our own internal efforts as well as those of our closest public, industry, and corporate partners, we publish these high-level findings to contribute to the work of many others as well -- because the transformation to a clean economy is so comprehensive and far-reaching, and requires so many of us to work in highly complementary ways.

We welcome the opportunity to collaborate with you as we all work to create the inclusive green economy of our future.

CLEAN ENERGY



IDENTIFIED PRIORITIES	THE WHAT	THE WHY
Diverse & Sustainable Energy Storage Systems	Non lithium-ion (li-ion) batteries, reduced mineral usage, increased efficiency li-ion batteries, long-duration storage.	LA County voted unanimously earlier this year to phase out oil & gas drilling, ban new drill sites and address environmental issues created by the wells. As more governments take action to transition off oil and gas drilling and their pivot to clean energy generation it is critical that diverse forms of energy storage systems are developed, adopted, and deployed to ensure adequate energy capacity is available to meet forecasted elevated energy demands.
Flexible Load Technologies	Demand response, bundling distributed energy resources (DERs), energy efficiency, acceleration of smart grid.	Grid reliability risks during the evening continue to be of concern in California. Flexible technologies play a critical role to offset peak demand and ensure reliability as we transition to a zero-carbon grid.
Wildfire Resilience	Microgrids, situational awareness technologies, backup generators, battery paired solar systems.	2021 continued to set records in California and around the world in terms of wildfires. Western U.S heat waves and extreme droughts magnify grid vulnerabilities to wildfires and demonstrate the need for grid resilience.
Building Decarbonization	Electrification of appliances, energy efficiency, shifting of energy usage with smart technology.	Buildings account for roughly 40% of GHG emissions in the U.S. The electrification and development of smart buildings are necessary to enhance the grid's flexibility and to meet our 100% zero-carbon grid goals. In California, the Energy Commission adopted building codes to strongly incentivize building electrification - including adding solar and battery storage to buildings and establishing "electric-ready" requirements for homes.
Vehicle-to-Grid (V2G) & Vehicle-to-Building (V2B)	Increased electrification levels, smart/electrified buildings, bidirectional charging capabilities.	Better integration of DERs is necessary for grid flexibility as we reach greater electrification levels and seek to provide various forms of storage. The California Public Utilities Commission approved a resolution to allow load-only vehicle-to-grid projects to enable bidirectional mode and implement a temporary pathway to interconnection for V2G pilots.

ZERO EMISSIONS TRANSPORTATION



IDENTIFIED PRIORITIES	THE WHAT	THE WHY
Curb, Congestion & Pollution Pricing Solutions	Introducing policies to price access to curbs and streets and prioritize zero emission vehicle use to reduce congestion and reduce pollution	Congestion increases pollution in urban cores. Dynamic digital approaches for curb reservations, street access, and fee exemptions for zero emission vehicles will usher in a new means of reducing this congestion.
Charging Infrastructure for Residents of Multi-Unit Dwellings	Increased access and availability of EV charging stations for populations living in multi-unit residential developments.	50% of the US population lives in multi-unit dwellings with or without existing parking infrastructure and inadequate charging solutions. Residential and public infrastructure access is needed to encourage adoption and ensure increased energy demand is available.
Electrification of Last-mile Goods Delivery	Form factors and business models for reduced pollution, emissions, congestion and noise associated with urban goods delivery.	Cities are clamping down on emissions and curb abuses while last mile continues to boom. There is a growing demand for micro-mobility fleets and curb management software as major postal companies work to optimize last-mile delivery.
Electrification of Bus Fleets	Form factors & business models that support decarbonizing bus fleets, adoption incentives, charging access & backup power capabilities	Electric buses promote significant fuel and maintenance cost savings that will result in reduced pollution in vulnerable communities & grid reliability opportunities via V2G technology. Both the state and federal governments have made commitments to electrifying thousands of school and transit buses across the country.
Business Models for Electric Heavy-Duty Truck Infrastructure	Widespread charging infrastructure is needed with battery electric drayage trucks soon to be commercialized.	Today's charging business models aren't feasible with the 1MW+ charging standards proposed by trucking OEMs, especially with utility challenges such as interconnection and demand charges. More policy support and charging infrastructure are needed to position heavy-duty vehicles to meet several climate targets.
Battery Lifecycle of Lithium-Ion Batteries	Second life battery utilization & recycling models, developing models for sustainably sourced battery supply chains	Reducing upfront cost and scaling battery capacity is needed for heavy-duty truck electrification to cut the 25% of transportation emissions that heavy-duty trucks contribute that largely impact low-income & disadvantaged communities.

SUSTAINABLE CITIES



IDENTIFIED PRIORITIES	THE WHAT	THE WHY
Digital Tools to Create an Equitable and Circular Value Chain	Data analysis for smart water meters, tracking and analyzing food waste, “digital twin” modeling and lifecycle tracking tools, supply chain modeling and carbon accounting.	Unstandardized and limited tracking for reusable waste materials has resulted in poor connectivity between vendors and buyers in the recycled waste streams supply chain. Inaccurate measurement of water consumption and associated energy use can lead to water loss and scarcity, delayed infrastructure maintenance and high costs for utilities and customers. Consumer demand for environmental and social impact transparency will guide the way retailers think about their products and bolster opportunities for the circular models to gain traction in commercial retail spaces.
Next Generation Products and Materials to Reduce Textile Waste	New sustainable textiles and fibers, sustainable housing materials, consumer products made from post consumer waste, and high performance competitive plastic alternatives.	The opportunities for a second life cycle of textiles, fibers, and other materials containing reusable elements are regularly not maximized as those viable materials often make their way into landfills. Many corporations are working to meet their climate and waste reduction goals by investing and partnering with clean and climate tech startups to mitigate environmental impacts from industrial manufacturing.
Zero Waste Goals & Waste Diversion	Diverting waste from landfills via recycling, source reduction, composting, and circular design principles. Creating a circular supply chain for organic waste streams.	55% of potentially compostable or recyclable materials make their way into landfills annually, exhausting landfills, creating toxic and GHG pollution, creating the need to source new raw materials. Waste to resource, reuse and internet of waste are positioned to lead emerging circular economy technologies areas in 2022 - driving circular economy business models adoption to tackle textile waste.



GET INVOLVED



LACI's mission is to create an inclusive green economy by unlocking innovation, transforming markets, and enhancing communities. LACI aims to build a regional innovation ecosystem that supports the discovery and commercialization of clean technologies by creating new companies, derisking the go-to-market process, and helping companies successfully deliver market-ready cleantech solutions along with accompanying jobs in Southern California and beyond. To do this, the organization utilizes a unique and integrated approach to spur the green economy to reduce statewide greenhouse gas emissions, improve air quality, create jobs, and generate local economic impact.



[FOLLOW LACI
ON SOCIAL MEDIA](#)



[JOIN LACI'S
MAILING LIST](#)



[BECOME A
PARTNER](#)