

La Kretz
Innovation Campus



A Path to the Future



UCI Earth Day Remarks by LADWP

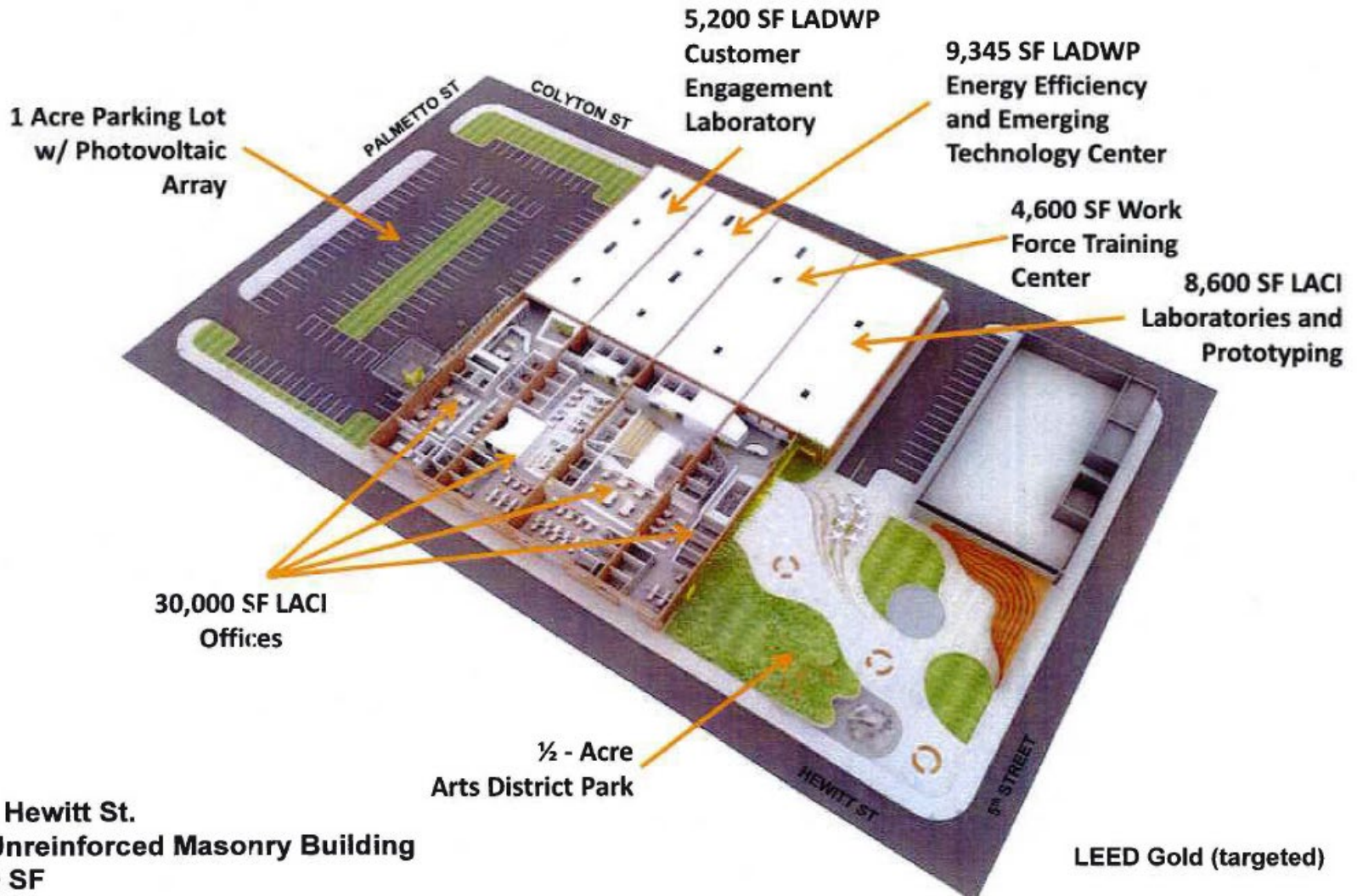
1. Utility Perspectives on Earth Day and Beyond
2. Plug Load increases due to COVID-19 on LA City, California & US

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Engineering & LADWP La Kretz Labs

LOS ANGELES DEPARTMENT OF WATER & POWER LA KRETZ INNOVATION CAMPUS



Plug Load with UCI's Calit2

Calit2 divisions at UCI and UC San Diego leverage academic expertise with industry experience to benefit society and ignite economic development in the region and state.

Though LADWP's close partnership with Calit2, our team spreads awareness of wasteful vampire loads and aims to reduce unnecessary plug load, the energy consumption that occurs from appliances plugged into wall outlets. We utilize their research to promote energy efficiency and sustainability by changing appliance controls and consumers' behavior.

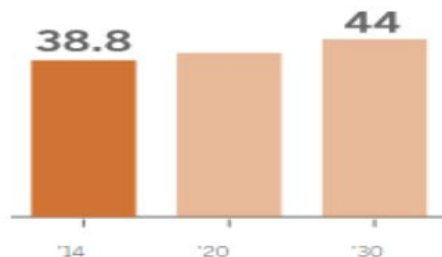




California Will Continue to Grow 2014 to 2030 Projections

**California's
population may
grow more than
13% by 2030...**

In millions



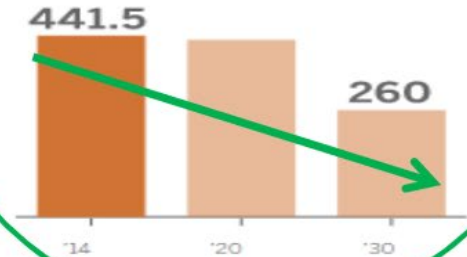
**...and economic
output could rise
more than 50%...**

In trillions



**...while climate goals
require a smaller
carbon footprint.**

In metric tons

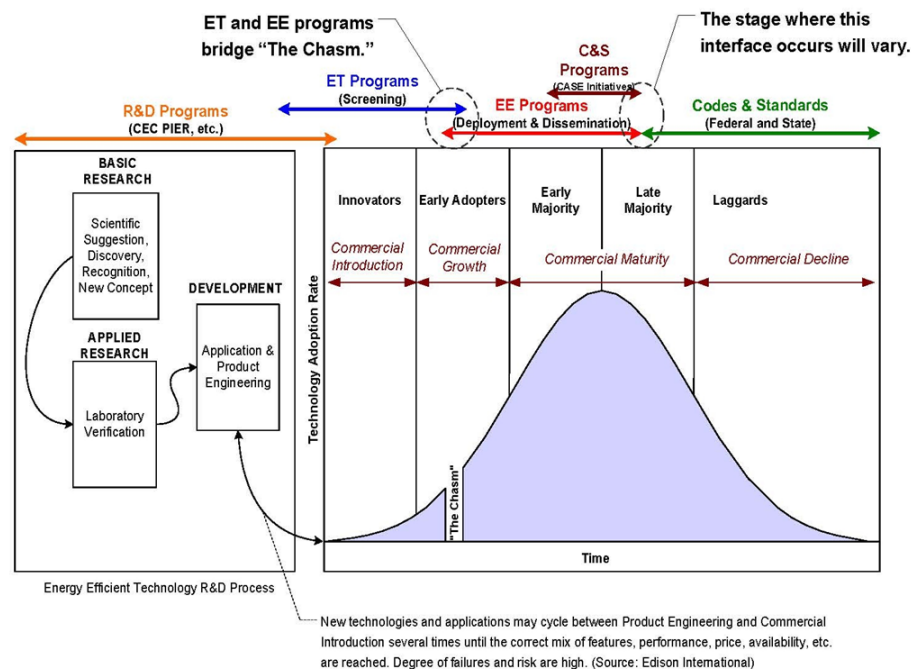
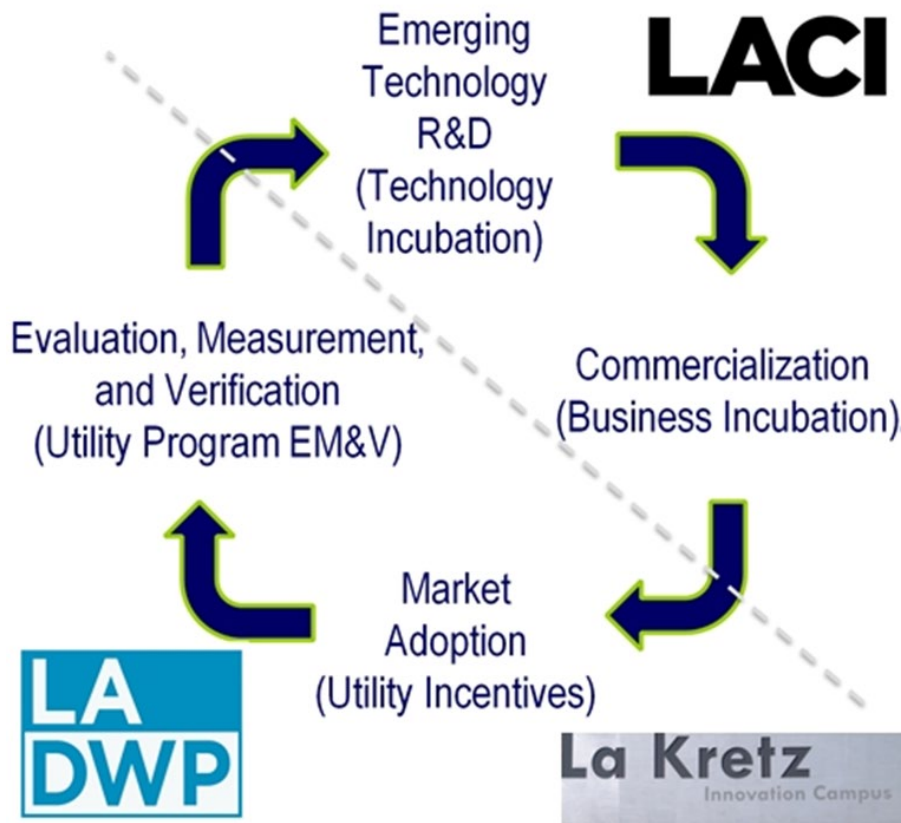


Note: 2020 and 2030 figures are estimates

Sources: Legislative Analyst's Office, California Air Resources Board, Public Policy Institute of California and the Center for Continuing Study of the California Economy.

@latimesgraphics

Virtuous Cycle of Emerging Technologies

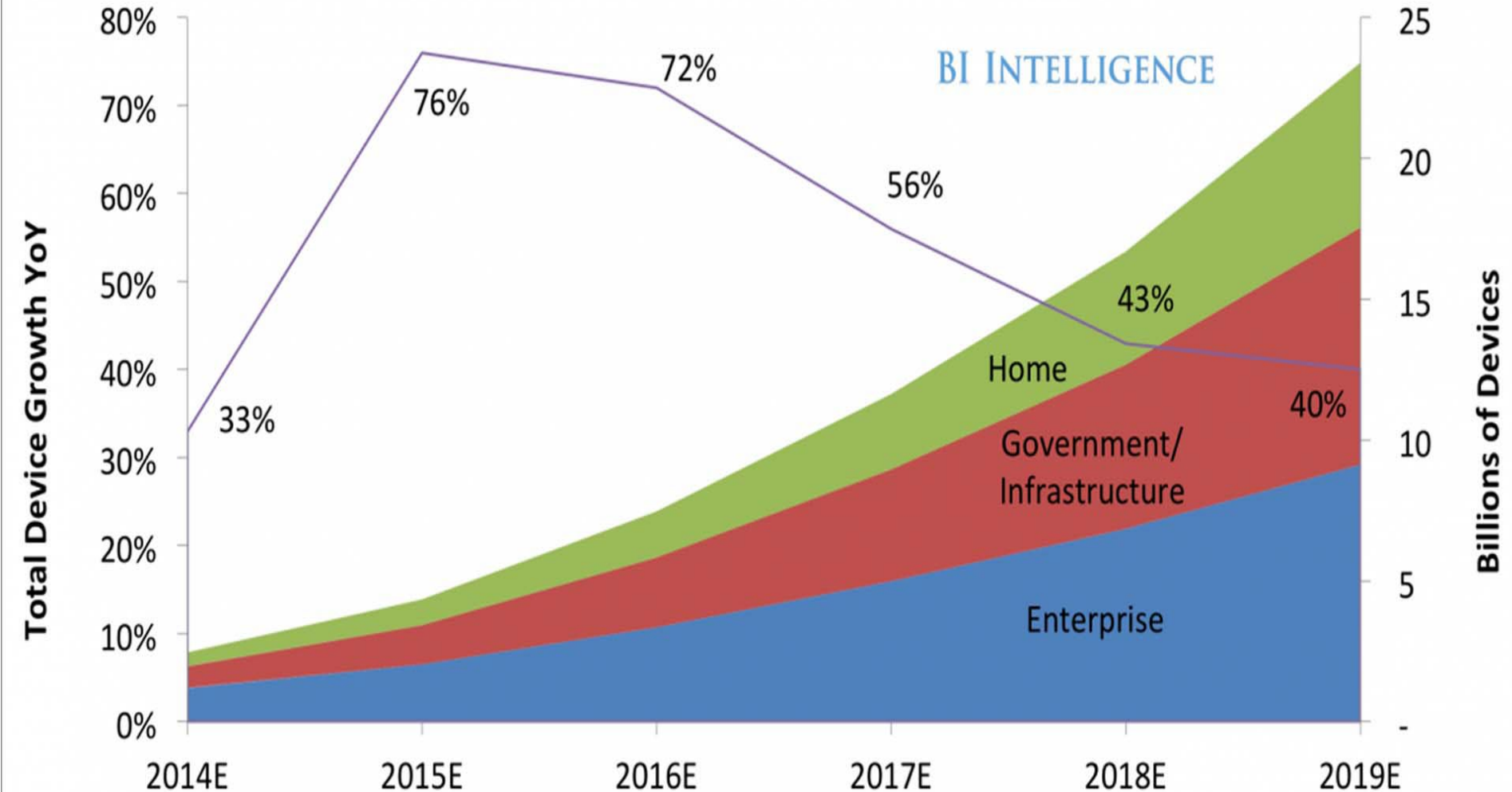


Plug Load Vision and Mission

Vision: Provide energy efficient solutions for plug load devices to improve control and reduce energy consumption and cost for customers and increase grid capacity for LADWP. To insure that manufacturers of plug load devices incorporate energy and demand reducing technology in all their devices.

Mission: To support efforts to ensure that electronic equipment and appliances will have reduced plug load demand and less wasted energy in accordance with LADWP's Green City goal by evaluating and promoting plug load energy management devices and control algorithms.

Estimated Number of Installed IoT Devices by Sector



Source: BI Intelligence Estimates

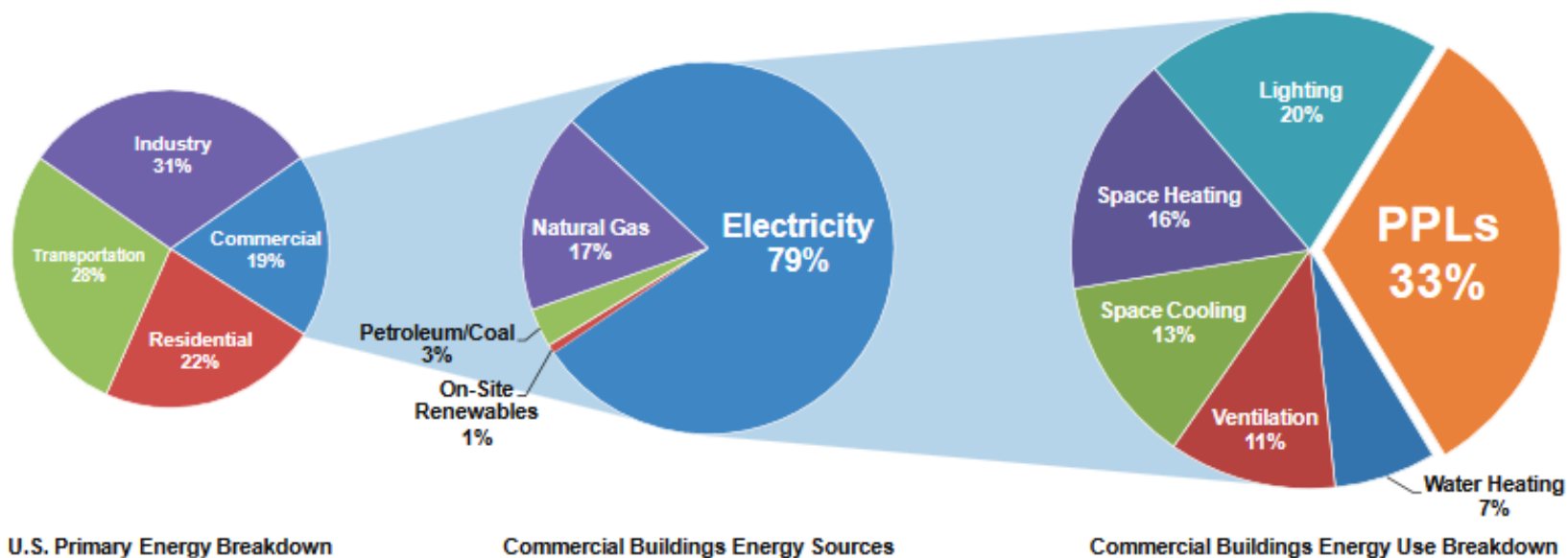
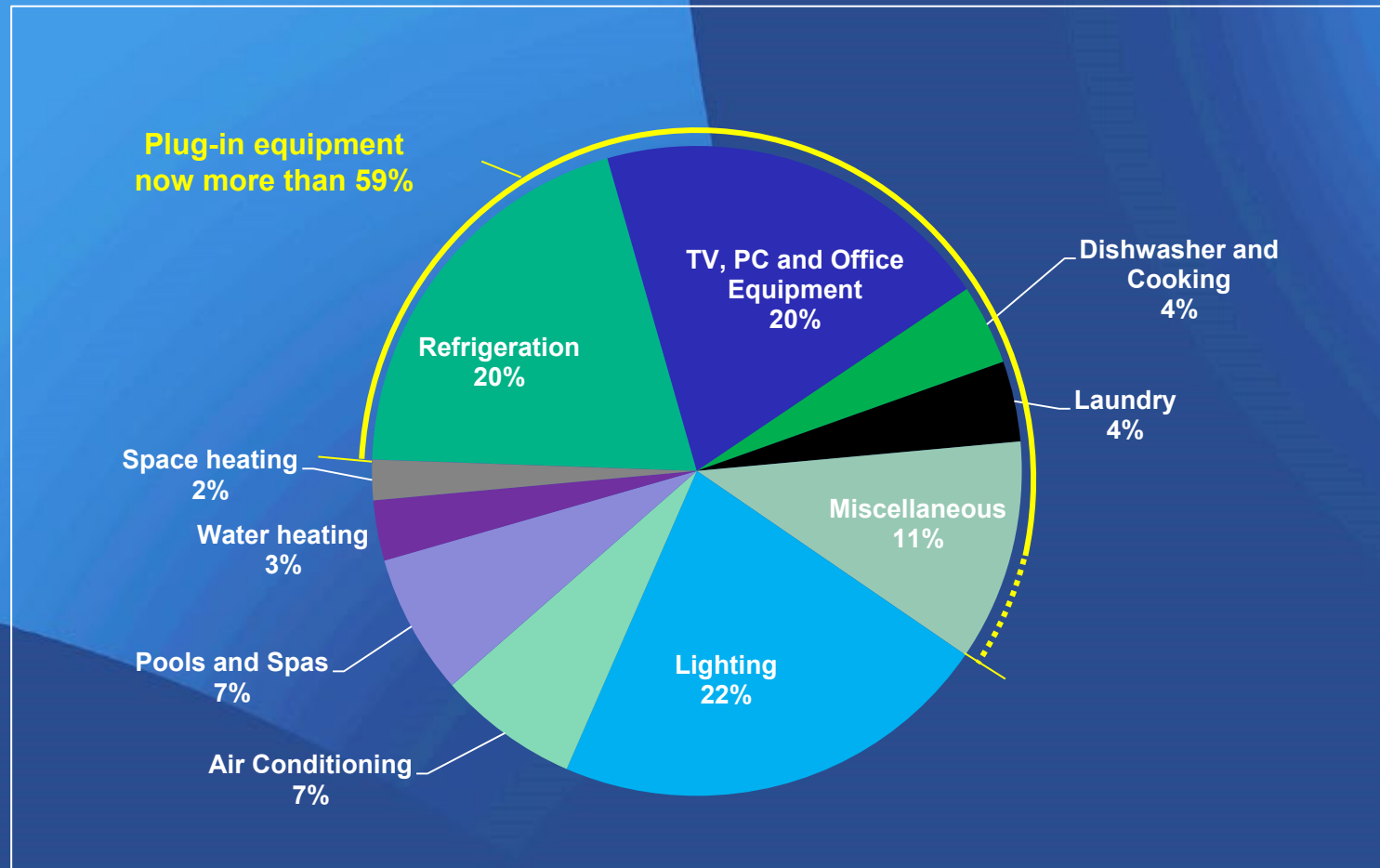


Figure 1. PPLs account for 33% of the total energy consumed by commercial buildings. *Graph by Chad Lobato, NREL; Data source: DOE (2010)*

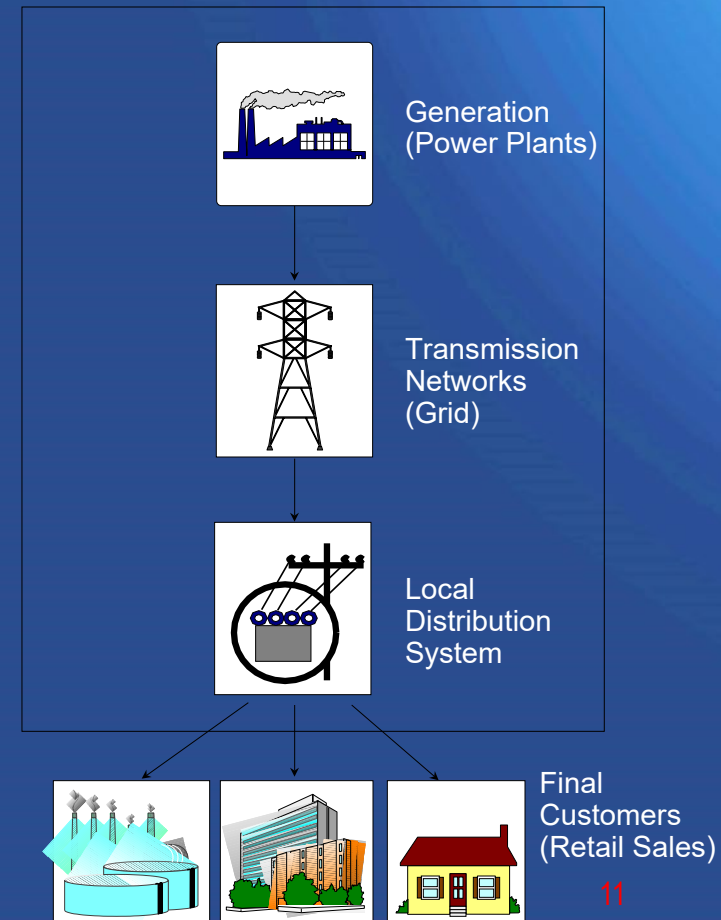
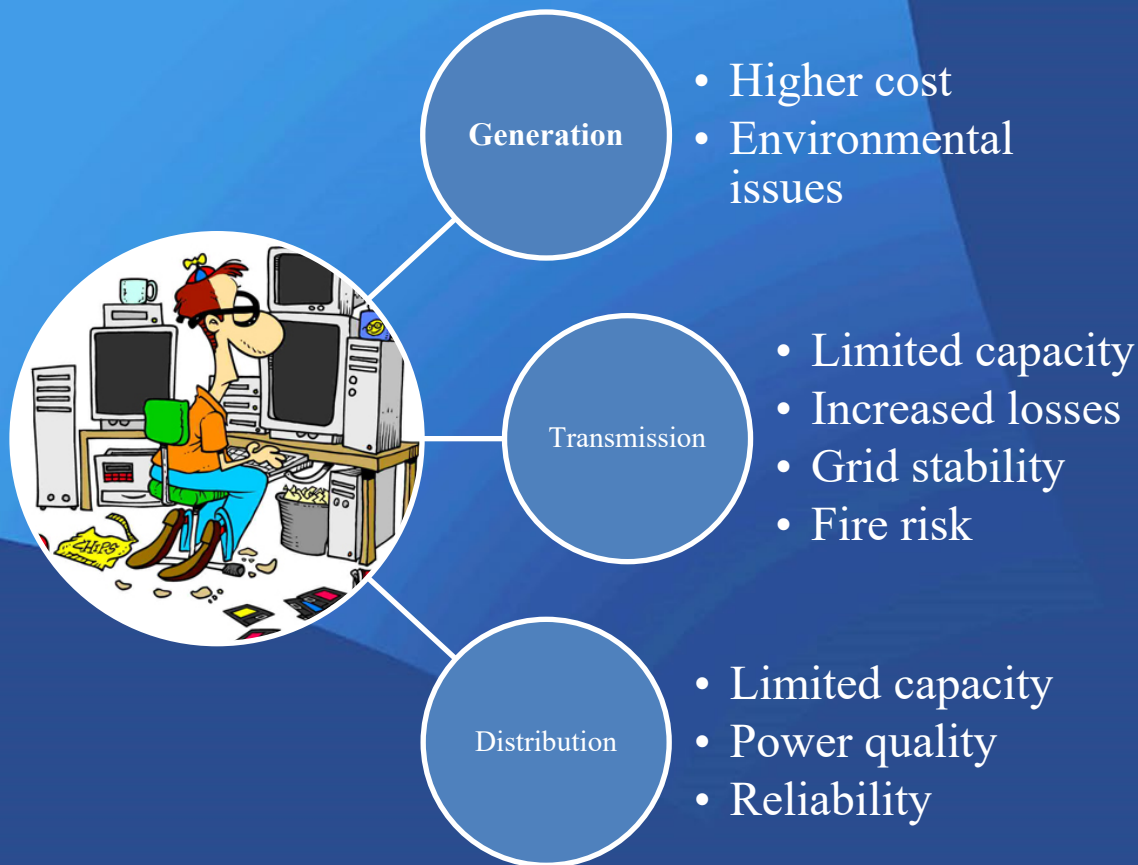
CA Residential Plug Load Consumption



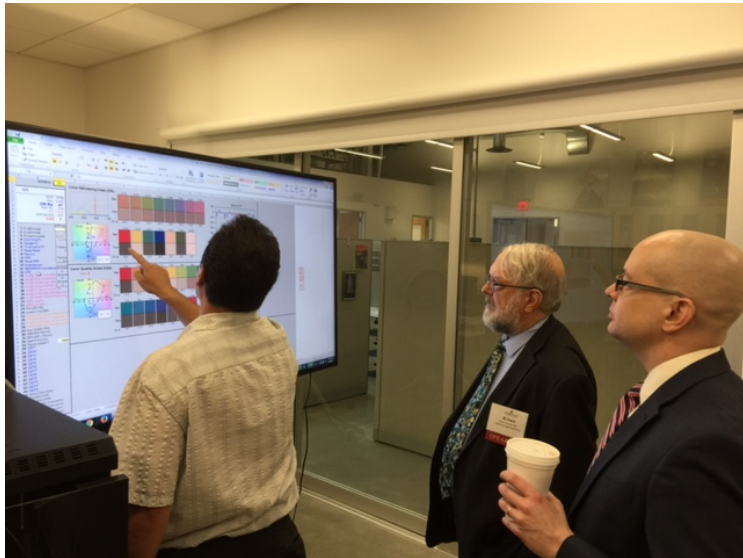
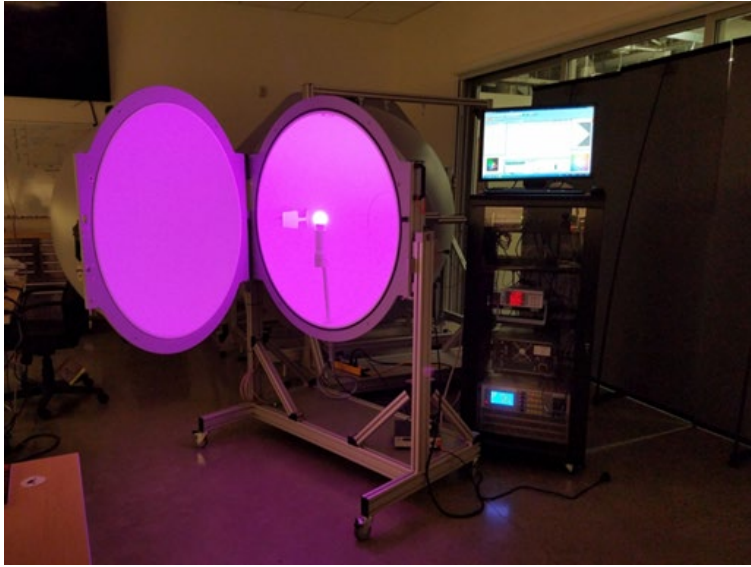
Source: CA Residential Appliance Saturation Survey (RASS) 2010

*LADWP has been collaborating with UCI CalPlug since 2011 on plug loads.

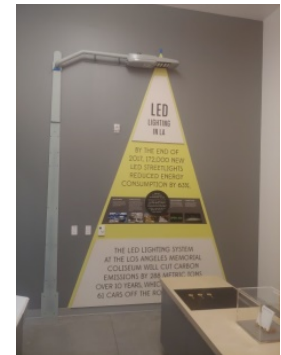
Increasing Plug Load impact on Grid:



Lighting Lab



Customer Engagement Lab (CEL) + Sustainable Living Lab (SLL) Demonstration Space



Case Study (Smart) Home

Smart Electric Washer and Dryer

Dual Purpose Air to Water Heat Pump for both space conditioning and Water Heating controlled by Smart Thermostat

Smart Inverter Duty Refrigerator

Smart Induction Range



Covid-19 Impacts to Plug Loads

David Jacot, P.E.

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