EVs IN SEATTLE

• Tremendous EV growth in Seattle
  ○ 3rd largest market of U.S. cities
  ○ However, this is with comparatively little utility or government push

• Large opportunity
  ○ City’s Light’s low carbon resource
  ○ Inexpensive energy rates
  ○ Motivated customers

PROJECT CHARTER

• Problem Definition
  o City Light has not given clear direction on how and to what extent we can and should be enabling/encouraging the adoption of electric vehicles within our service territory.

• Developed Project Charter
  o Applied SCL’s project management framework
  o Executive sponsors: Sephir Hamilton (lead), Kelly Enright, Craig Smith, Paula Lashchober
  o Assembled cross function team
GOALS

• Written strategy recommendation and presentation to E-Team at Nov 11th meeting
  o Financial, Grid, and Environmental Assessment
  o Market Assessment

• Clear recommendation of:
  o If City Light should encourage EV market
  o Vehicle adoption goal
  o Prefer SCL program approach
FINDINGS

• There is a net benefit for vehicle charging
  o Cars, buses and forklifts

• Encouraging adoption creates value for the utility
  o Accelerating EV adoption 25% by 2030 will add an additional $58 million of ratepayer value.

• The distribution system can largely handle the increase in transportation load
  o 80% of feeders can add at 550+ EVs without additional capacity

• Strong customer demand, particularly electrification of our transportation sector in socially responsible ways.
TECHNICAL ANALYSIS METHODOLOGY

• Multiple transportation modes
  o Battery Electric Vehicles (BEVs)
  o Plug in Hybrid Electric Vehicles (PHEVs)
  o Heavy Duty Vehicles (Buses & Forklifts)

• Six scenarios to reflect market uncertainty

• Base case assumed Washington State EV Plan Target
  o 14,000 Vehicles by 2020
NET BENEFITS – PER VEHICLE

- EVs: $1,250 Net Benefit
- Buses: $120,505 Net Benefit
- Forklifts: $12,668 Net Benefit
TOTAL BENEFIT

Million $2015

- Benefits Base Case
  - Costs High Adoption
  - Benefits High Charger Costs
  - Benefits High Gas and Carbon

$83
$141
$83
$72
DISTRIBUTION IMPACTS

SCL Available Capacity (2030)

50% of feeders can take on at least 1763 LDV chargers or 24 bus chargers

80% of feeders can take on at least 552 LDV chargers OR 8 bus chargers

The graph shows the number of LDV chargers needed to trigger an upgrade versus the number of bus chargers. The x-axis represents the number of LDV chargers and the y-axis represents the number of bus chargers.
MARKET RESEARCH

• Broad support for EV programs:
  o Customer perception of ownership by white, higher income residents
  o However, survey showed high interest in City EV program, regardless of race and income

• Transit and carsharing seen as an important part of the picture

• Vehicle price and education about the total cost of ownership are large opportunities
PROGRAM ROADMAP

• Mass Market
• Residential
• Non-residential
PROGRAM ROADMAP–MASS MARKET

• Robust advertising and education campaign

• Integrated with Nation’s Greenest Campaign
  o Bill Stuffers
  o Website
  o Billboards
  o Bus Ads
PROGRAM ROADMAP–RESIDENTIAL

• Neighborhood hubs in partnership with a charging network provider
• Contest for a free year of charging
PROGRAM ROADMAP–NON-RES

• Incentives and technical assistance
  o Carsharing
  o Transit
  o Fleets
  o Industrial
NEXT STEPS

1. Develop Resource Plan
   - Staffing, budgets, measurement and verification

2. Detailed Program Plan
   - Program design and equity outreach

3. Establish Legislative Authority
   - Define transportation electrification as conservation
OUR VISION
To set the standard—to deliver the best customer service experience of any utility in the nation.

OUR MISSION
Seattle City Light is dedicated to exceeding our customers’ expectations in producing and delivering environmentally responsible, safe, low-cost and reliable power.

OUR VALUES
Excellence, Accountability, Trust and Stewardship.