

## DOCKETED

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<b>Filer:</b>	Raquel Kravitz
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# SMUD Plug-in Electric Vehicles Light Duty Integrated Resource Plan SB350 Input

April 2016

Powering forward. Together.

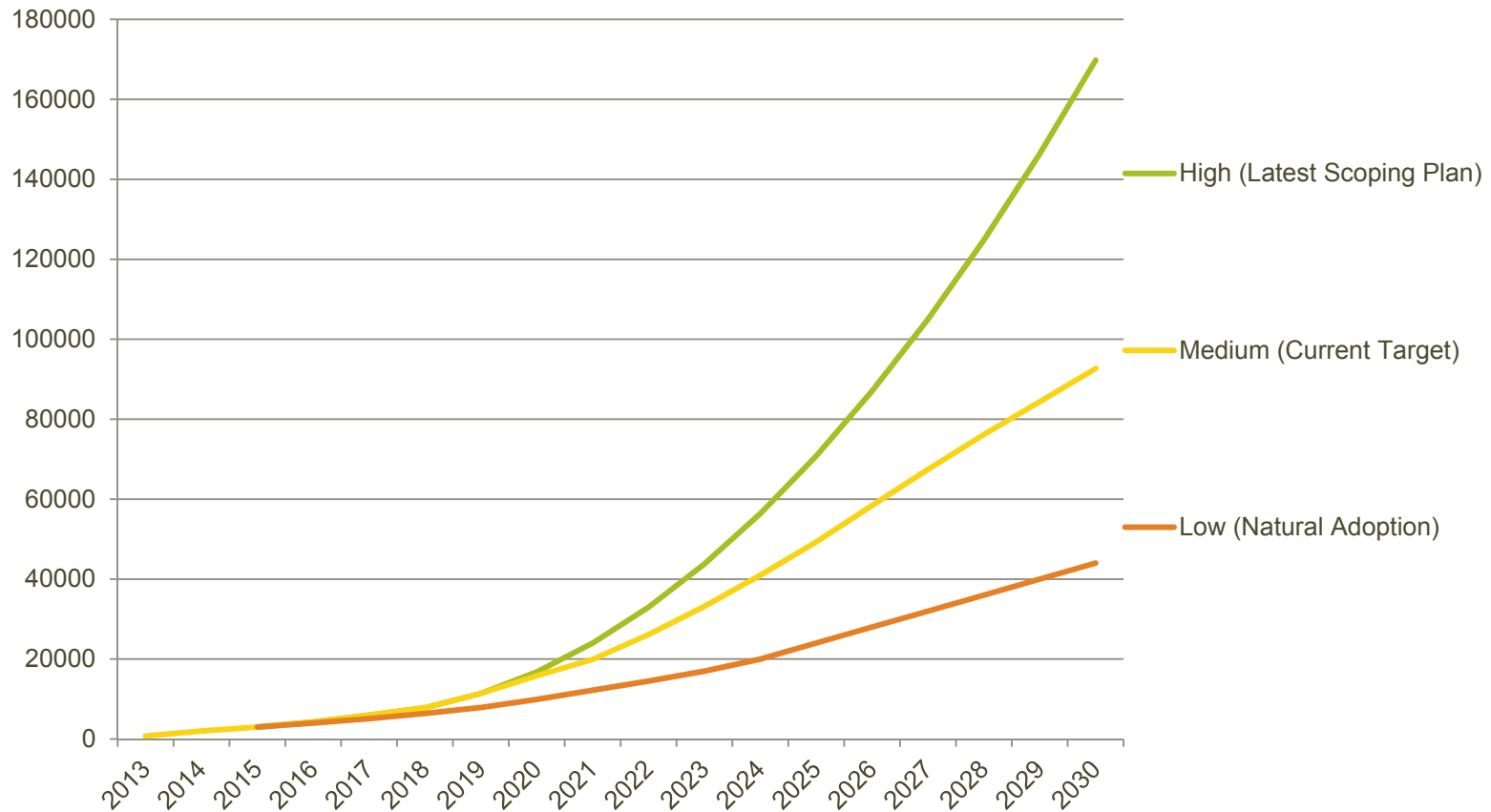


# SMUD Transportation Planning Maturity

- SMUD Light Duty EV plans progressing well
  - Market projections / Load information estimates are all in place
  - New customer programs launched to increase EV adoption
  - SMUD EV Strategies established in 2016 will address market adoption barriers and maximize grid value
  - New elements now being evaluated
    - New CARB Scoping Plan preliminary targets (4.2M vehicles by 2030)
    - SMUD EV Program adoption effectiveness
    - Impact projections for new Ultra fast charging stations.
- IRP Scenario Planning Ongoing

# SMUD Market Adoption / Load Planning

Cumulative Vehicle Adoption



# Transportation Electrification IRP Guideline Feedback for Light Duty Vehicles

- **Concurrence with Guidelines**
  - TE Related Market Growth and expected load profiles and associated emission estimates are all consistent with current SMUD practices
  - TE Program Investment reporting to spur EV market adoption is also consistent with ongoing SMUD activities
  - Identification of activities targeted at different customer segments is also consistent with existing practices
- **Suggestions for inclusion**
  - Transportation electrification-related grid impact cost data
    - What system upgrade costs can be attributed to TE impacts?
    - Anchors utility cost / benefit analyses
    - Provides insight on the charge management strategies

# New 2017 Initiatives will try to drive adoption

- Enhanced residential program (≈\$599/year incentive)
- Doubling advertising and outreach awareness campaign
- Full Workplace/Multi-family dwelling EVSE incentive program
  - 200 incentive per year for L2 Charging, \$1500 / each
- DC Fast Charger Incentive Pilot Program
  - 6 DC Fast Chargers per year
- Community Partners School Bus electrification support
- Fleet/Workplace Charging Research Project to increase EV Adoption
- Managed charging research
- Medium and Heavy Duty Fuel Switching research

# SMUD EV Support in Disadvantaged Communities

- SMAQMD / SHRA Share Car Project Support
  - SMUD is installing an additional DC Fast Charger to support the effort and providing cost overmatch to allow additional grant activities;
  - CARB Grant Supported
- SMAQMD / Twin Rivers/Elk Grove/Sacramento Unified School Districts
  - SMUD supporting charging infrastructure scope
  - CARB Grant Supported
- SMUD Fleet Expansion is located in a disadvantaged community
- Multi-family dwelling EVSE incentive program

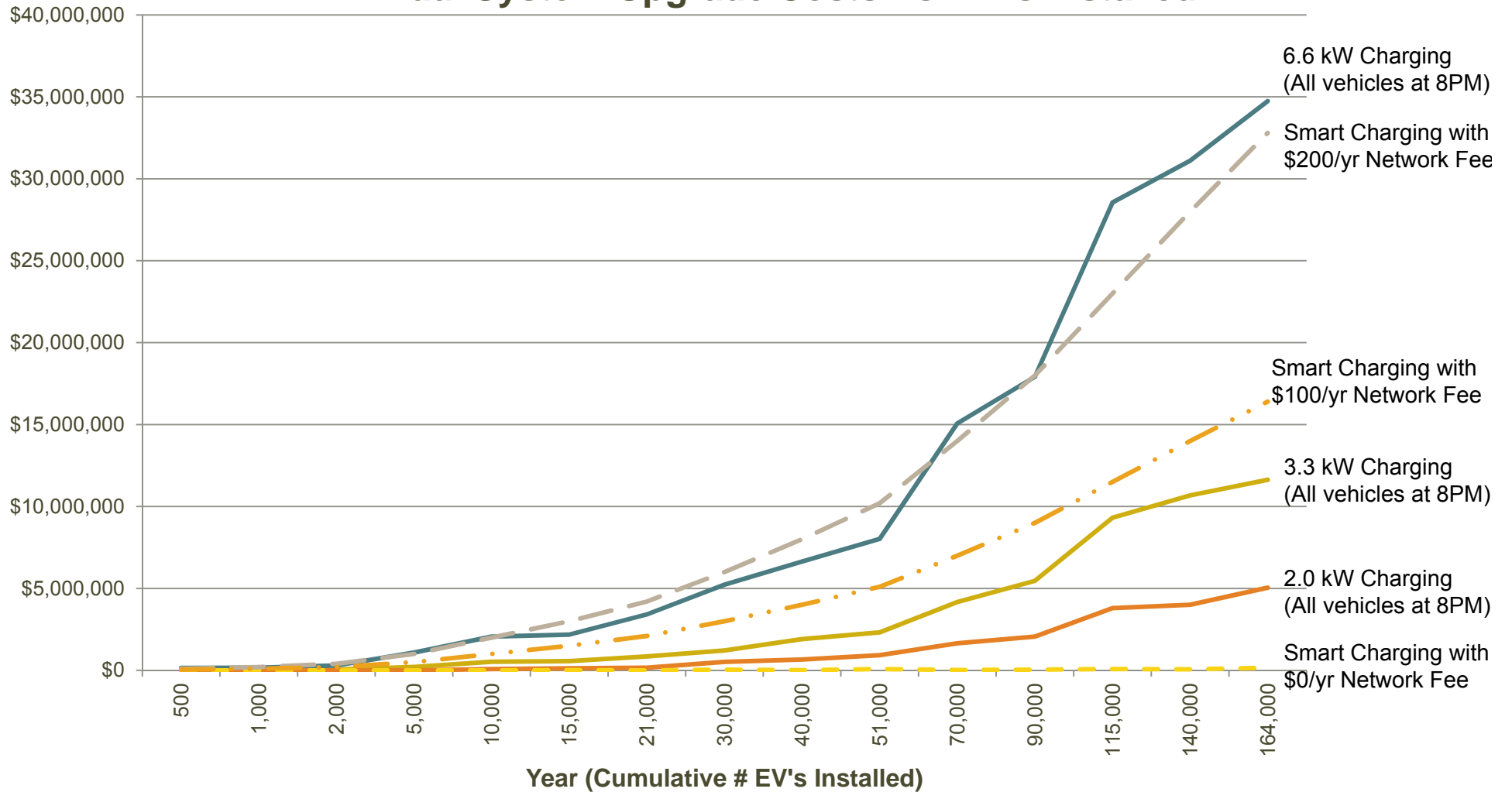
## SMUD Support for Electric Vehicle Service Providers

- Sale for Resale policy allows outside entities to resell electricity for electric vehicle applications
- Commercial EV Pilot Rate reduces demand charge exposure for low utilization rates
- Incentive programs support private investment
  - Workplace Charging
  - DCFC



# Residential Grid Upgrades versus Smart Charging Costs

## Annual System Upgrade Costs Vs. EV's Installed



# Summary

- Transportation Electrification Load in SMUD resource planning since 2012
- SMUD is focused on increasing market adoption
  - Developed new EV rates for residential and commercial customers
  - Launched new incentives and awareness program in 2017
  - Deployment of DCFC to address range anxiety
    - 6 SMUD Stations now operations
    - New incentive model in 2017
- Significantly more funding for infrastructure will be needed to meet state policy goals
- SMUD is investing to support the market (beyond Federal or State Gov't grants)
- LCFS funding is vital for supporting future infrastructure investment
- Accounting for carbon reduction shifts between the utility and the transportation sectors will be important for meeting long term goals