Tier 2 Advanced Power Strip Follow Up



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California Technical Forum (CALTF)



- A collaborative of experts who use independent professional judgment and a transparent, technically robust process to review and issue technical information related to California's integrated demand side management portfolio.
- A 29 member body supporting the development and approval of utility workpapers (wp) that support energy savings claims reported to the CPUC.

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Historical Tier 2 APS Timeline

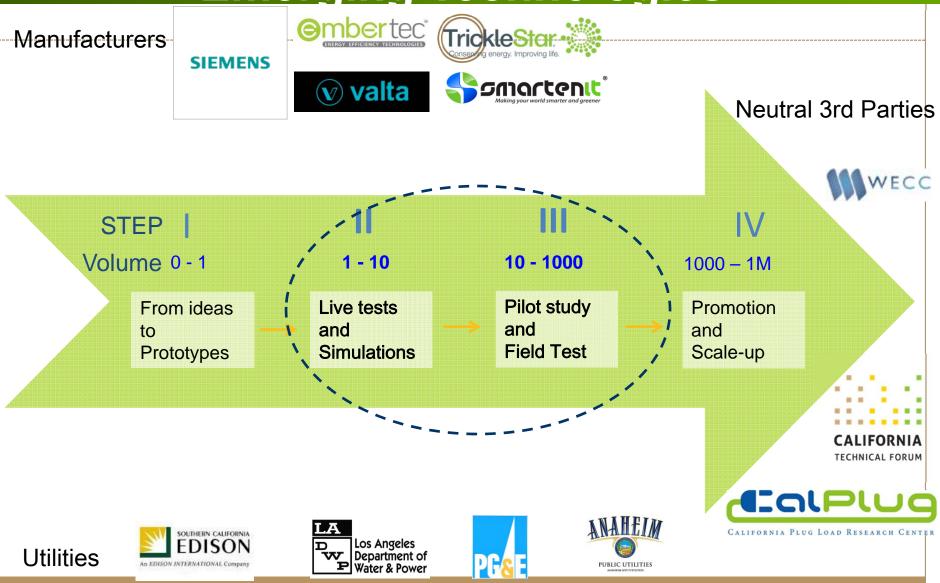




- May 2014 CalTF approved Tier 2 APS abstract
- Fall of 2014 phase 1 field trial conducted
- November 2014 Phase 1 field trial complete ~ 42 homes
- February 2015 CalTF conditionally approves Phase 1 wp values ~ 246 kWh based on CalPlug SVS approach
- April 2015 SDG&E ET Report finalized and statewide wp submitted to CPUC
- September 2015 Phase 1 field trial values approved at 212 kWh annually/unit for direct install implementation delivery channels only

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Go-to-market Roadmap for Emerging Technologies



CalPlug's Draft Definition for Tier 2 APS

- Tier 2 Advanced Power Strips are recommended to have the following features:
 - 1. <u>Usage Sensing to provide</u> at least one method to sense and determine consumer utilization and usage pattern;
 - 2. <u>Advanced Power Analysis</u> to perform advanced power analysis in addition to voltage and current sensing. These power measurement and analysis may include, true RMS power, power factor analysis and other load signature detection.
 - 3. <u>Control Algorithms</u> to perform automated power management of connected devices based on data and information acquired;

CALTF's February Approval of Tier 2





- Approved CALPLUG's Go-2-Market Roadmap
- Approved a more narrower Tier 2 APS definition until future field trials are complete
- Approved workpaper based on Santa Cruz and SDG&E field trials
 - Annual Average Energy Savings: 246 kWh/AV environment
 - DEER Average Peak Demand Reduction: 0.0252 kW
- Factored in a 28% Consumer Persistence In-Service Rate
- Will evaluate a revised wp 1 year from the approval date

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Historical Tier 2 APS Timeline Cont...





- April 2015 SDG&E ET Report finalized and statewide wp submitted to CPUC
- September 2015 Phase 1 field trial values approved at 212 kWh annually/unit for direct install implementation delivery channels only
- Q3 2015 Field trial commences
 - October 2015 Field data collection on ~54 homes complete
 - November 2015 Data analysis complete
 - December 2015 Results will be presented to CalTF
 - Seeking Approval from CalTF to consider Phase 2 results
 - Seeking CPUC input on ongoing M&V during program deployment to support different delivery channels and commercial applications

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