Residential Sector

Energy Efficiency Strategic Plan

January 2011 Version

February 22, 2016 Residential Subcommittee

EESP Residential Sector: Goal 1

Goal 1: New construction will reach "zero net energy" (ZNE) performance (including clean, onsite distributed generation) for all new single and multi-family homes by 2020.

Expected Results: By 2020, all new homes are ZNE.

Strategies Overview	Status Updates
• Drive continual advances in technologies in the building envelope.	All projects that participated in CAHP meet a minimum threshold of 36% better than 2005 code (15% better than 2008 code). This is based off of CEC Impact Study. Continual advancements in building envelope has been a priority of the building code advocacy team leading towards high performing walls and attics being included in the 2016 update.
• Increase Title 24 building standards and Title 20 appliance standards.	On track. The building and appliance code advocacy programs have supported and will continue to support cost effective code enhancements to support ZNE targets and plug-load reduction.
• Coordinate and Support "Reach" Building Standards.	Programs, including Local Government Partnerships, together with support from the CEC continue to support "Reach" building standards through education, financial and technical assistance. However, compliance with the 2013 code update has limited resources available to pursue "Reach" codes.
• Develop innovative financing programs for the construction of energy efficient homes.	PPP-funded financing programs are not available for new construction homes. Current programs are available for retrofit/renovation of homes.

EESP Residential Sector: Goal 2

Goal 2: Home buyers, owners and renovators will implement a whole house approach to energy consumption that will guide their purchase and use of existing and new homes, home equipment

Expected Result: Energy consumption in existing homes will be reduced through universal demand for highly efficient homes and products.

Strategies Overview	Status Updates
• Deploy full-scale whole house programs.	Implementing CA Home Upgrade (Whole Home Program).
• Promote effective decision making to create widespread demand for energy efficiency measures	Customers have access to their AMI data to better manage their energy usage and receive personalized recommendations (Through HEA and Behavior programs). WE&T offers multiple classes and series for whole building performance.
• Manage research into new/advanced cost-effective innovations to reduce energy use in existing homes	Use of Customer analytics very useful in research to inform decisions on programs. This is an ongoing effort. The emerging technologies program is an ongoing effort to identify, evaluate, and transfer new energy efficient technologies for programs (examples include residential disaggregation, HAN, HVAC, PCTs, etc.). Continuing EM&V efforts, including focus on behavior programs, inform continuing program improvements.
• Develop financial programs such as on-bill financing to encourage demand	A new statewide off-bill financing offering for single-family customers called Residential Energy Efficiency Loan Assistance Program is expected to launch in Q2 2016 and run in a pilot phase for two years. Other financing programs are widely available, e.g., PACE.
• Increase Title 24 compliance through specific measures	The compliance improvement sub-program has developed several tools and trainings to assist and promote title 24 compliance on both whole house and measure specific approaches. This also includes focus on HVAC quality installation and maintenance (cross-cutting).

EESP Residential Sector: Goal 3

Goal 3: Plug loads will be managed by developing consumer electronics and appliances that use less energy and provide tools to enable customers to understand and manage their energy demand.

Expected Result: Plug loads will grow at a slower rate and then decline through technological innovation spurred by market transformation and customer demand for energy efficient products.

Strategies Overview	Status Updates
• Drive continual advances in residential energy usage, including plug loads, home energy management systems, and appliances	Emerging Technologies is focusing on home energy management including smart home and plug load management technologies for potential future program implementation. Driving advances is then done through PLA program, IHD, Smart Thermostat, and through title 20 and federal appliance advocacy.
• In coordination with Strategy 2-2 above, develop public awareness of and demand for highly efficient products	Customer analytics continues to inform decisions on programs. This is an ongoing effort. Marketplace has also launched which provides customers an avenue to compare high efficient products and then purchase them directly through the site.
• Create demand for such products through market transformation activities	Through the PLA program, rebates are being packaged towards higher-end products. Other new avenues such as online marketing platforms are now availiable.
• Continuously strengthen standards, including the expansion of both Title 24 and 20 to codify advances in plug load management homes.	The codes and standards program has continuously supported code advancement towards plug-load management.