New Construction – Commercial Savings by Design Subprogram

	Mission	IOU Comments
SW Program: **New Construction**	The New Construction Program is a statewide program that will continue the transformation process of California's residential and nonresidential new construction markets consistent with the vision of the California Long Term Energy Efficiency Strategic Plan (CEESP) and a more sustainable energy efficient future, through four sub programs: Savings By Design (SBD), California Advanced Homes Program (CAHP), Zero Net Energy Homes (ZNEH), and Energy Star Manufactured Housing.	
SW Sub-program: **Savings By Design**	Savings By Design (SBD) is an energy efficiency program developed for the nonresidential new construction industry. Since 1999, SBD has provided statewide consistency, program stability, and savings. SBD seeks to protect and preserve natural resources by advancing the design and construction of sustainable communities and promoting green building practices. The program is designed to overcome customer and market barriers to designing and building high performance facilities. SBD provides the nonresidential new construction industry with a broad palette of technical and financial resources to aid the design of new facilities in the most cost- effective energy and resource efficiency standards. The program will incorporate new approaches for 2009 - 11 to advance integrated design and green building certification in support of the CLTEESP. *(CEESP Section 3 – Goal 1)* *The Strategic Plan spells out a variety of strategies to address energy reduction in California for homes, offices, factories, and farms. SBD advances CLTEESP's comprehensive energy efficiency goals with:*	

	o Integrated design approach *o Support of commissioning and M&V* *o Support training activities* *Nonresidential new construction will be progressively more efficient and include clean, on-site distributed generation, moving towards Zero Net Energy (ZNE) by 2030*	

CA EESP Goals/Strategies Addressed by SW <u>Sub-program</u>:	**CA EESP Ref. pp. #**	**IOU Comments**
CA EE SP Goal (1): New construction will increasingly result in zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030. Goal Results: An increasing percentage of the 50-120 million sq. ft. per year of new commercial construction will be progressively more efficient and all new construction will be zero net energy by 2030.	AL/SP	"Embrace" is not quantifiable.
CA EE SP Strategy 1-6: Develop a multi- pronged approach to advance the practice of integrated design.	AL/SP	Define integrated design

Short-term (2010-2012) "SMART" <u>Sub-program</u> Objectives:	**Source (SP, AL, DR, PIP, or Staff)***	**IOU Comments**
By 2012, have at least 3 examples (statewide) of committed net zero energy buildings targeting diversified building types (and when feasible, different climate zones).	Staff/SP	Ok, if statewide
Objective deleted per ED and IOU discussion	ZNE Goal, p 28 of PG&E PIP	
Distribution of Statewide committed IOU participant projects (whole building only) that exceed T24 (2008) by 2012 75%: 10% - 19% above 2008 T24, 20%: 20% - 29% above 2008 T24, 5%: 30+ % above 2008 T24	Source IOUs DR	Top end is now 30+%
By 2012, Integrate best practices in lighting advanced technologies in SBD program offerings/packages to reduce LPD from standard	Staff/SP	If there are best practices in marketplace we are not using, we *should* integrate them.

practice by building type.		
By 2012, Track penetration of cost-effective best practices for innovative HVAC technologies and practices adopted in participating SBD projects	(Derived from SP p. 63)	CLTEESP's goals for NC/ZNE conflict with its HVAC strategy of promoting particular technologies. Diverting funding to selected technologies at expense of others will result in lower savings and additional opportunity costs. The program is technology neutral. Kickers for particular technologies go against the WBA/integrated program design for SBD. SBD will track installations of innovative HVAC technologies and practices (jointly developed list with HVAC SW team) in participant projects.
For SW SBD committed SA or WBA projects that qualify for "Whole Building" approach by 2012: 2010: 20%; 2011: 25%; 2012: 30%	(PG&E PIP page 8)	Ok
Statewide, SBD projects using Whole Building Approach, where the Design Team receives the Integrated Design Team Charrette Stipend: 2010 – 5% of WBA projects, (DR: 5%); 2011 - 10% of WBA projects (DR: 10%); and 2012 - 15% of WBA projects of DTI projects.	(Source IOUs DR & PG&E PIP p.8)	Clarifying this is for the Charrette stipend, not the Design Team Incentive.
Percentage of SW SBD projects that receive new 2010-12 kicker incentives 2010 - 5% of WBA projects , 2011 - 10% of WBA projects, 2012 - 15% of WBA projects.	(Source IOUs DR)	Ok

Short-term <u>Sub-program</u> PPMs:	**Source (SP, AL, DR, PIP, or Staff)***	**Metric Type (2a or 2b)****	**Baseline Study Required (Y/N)**	**IOU Comments**
Average site energy install, ex-ante (kBtu/sq ft-yr and demand (kW/sq ft) for participating CNC by building type and climate zone	Staff	2b	N	Ok if kbtu/sq ft-yr, clarify that site energy is T24 loads only.

Percentage of committed participating Whole Building Approach projects that are expected to reach a minimum of 40% less energy than 2008 T24 codes requirements.	PIP (PG&E page 28)	2b	N	Committed and WBA only.

**SP=Strategic Plan, AL=Advice Letter, DR=Data Request Response, PIP=program plans, Staff=ED proposed. [Include page reference when applicable.]*
***Metric type: 2a = reported annually, 2b = reported by end of cycle.*

Long-Term (2013-2020) "SMART" <u>Sub-program</u> Objectives:	**Source (SP, AL, DR, PIP, or Staff)***	**IOU Comments**
By 2020, have at least *2* examples of net zero energy buildings for each appropriate building type across entire state.	Staff/SP	There are 21 building types in the E3 (we track 35) - this is 210 ZNE buildings in less than 10 years. Some building types may never get to ZNE (e.g. quick service restaurants, hospitals).
By 2030 100% of CNC will be designed to be ZNE	Staff/SP	Note – will need mandatory code for this to be realistic.
An increasing percentage of the 50-120 million sq ft/year of new commercial construction will be progressively more efficient	Staff/(SP p.31)	Eliminate redundancy
Meet the examples of LPD targets of the LMT Strategic Plan by 2020 by building and space type	Best practices p23 of SP Lighting	Note – will need mandatory code for this to be realistic.
Programs should emphasize HVAC measures as part of an integrated WB strategy. By 2015, demonstrate HVAC recommendations to 25% of WB projects.	Staff/SP 63	SBD's approach to integrate whole-building systems conflict with the objective to emphasize HVAC elements to the disadvantage of other systems. We will promote advanced technologies where appropriate. 25% emphasis is unclear. Suggest: show that at least 25% of WBA recommendations include targeted HVAC.
Track penetration of cost-effective best practices for innovative HVAC technologies and practices adopted by participating SBD projects .	Staff/SP 63	CLTEESP's goals for NC/ZNE conflict with its HVAC strategy of promoting particular technologies. Diverting funding to selected technologies at expense of others will result in lower savings and additional opportunity costs. The program is technology neutral. Kickers for particular technologies go against the WBA/integrated program design for SBD.

		SBD will track installations of innovative HVAC technologies and practices (jointly developed list with HVAC SW team) in participant projects.
By 2015, increase market penetration (participants and non-participants) of high efficiency projects in the California that implement Integrated Design/Whole Building Approach over 2008 baseline.	Staff	
By 2020, all CNC in California implements Integrated Design/Whole Building Approaches	Staff	Note – will need mandatory code for this to be realistic, agree this is the way to go

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Long-Term Sub-program MT Indicators:	**Source (SP, AL, DR, PIP, or Staff)***	**Metric Type (3)****	**Baseline Study Required (Y/N)**	**IOU Comments**
Percentage decrease in average site energy use (kBtu/sq ft-yr) and demand reduction (kW/sq ft) for CNC by building type in California.	Staff	3	Y	Definition of site use is important: Building site energy comprises T24-regulated loads only Total site energy comprises building site energy *and* exterior lighting, architectural lighting/signage, all non-building energy use (fountains, irrigation, vehicle charging stations) non-occupied space (garages, walkways), and building end-uses unregulated by T24 (plug loads, process loads, appliances, occupancy, etc)
Percentage of completed CNC buildings California-wide implementing: Integrated Design/Whole Building approaches	staff	3	Y	Definition of Integrated Design/WBA: Whole Building and Integrated Design are synonymous, as used by SBD program: - If project is >50% Design Development, it is too late for WBA/ID: then becomes a Systems project in SBD. - A complete building model is still done for systems projects - A complete building model looks at interactive affects, day lighting, etc. Most likely non-participant WB/ID will be identified by % > T24.

				For example, if project is 15% > T24, project most likely utilized WB/ID.

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***Metric type: 3 = data collection, tracking, and reporting [by IOUs, CPUC staff, and/or other entities] to be determined later.*