

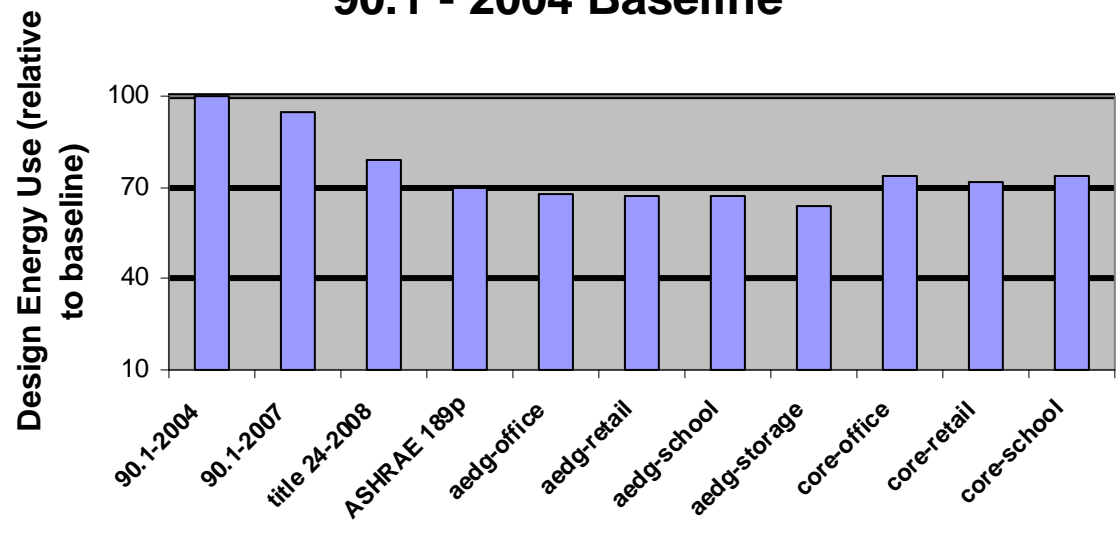
# Prototype Modeling Results Compared to ASHRAE 90.1-2004 Baseline

<b>BASE CASES</b>	Code Averages	Small Office	Large Office	Small Retail	Large Retail	Small Schools	Large Schools, Assembly	Small Storage	Large Warehouse	Multi-family	Other Building Types
ASHRAE Standard 90.1-2004	0%										
2006 IECC											
ASHRAE Standard 90.1-2007	5%										
<b><u>“30%” REDUCTION SOLUTIONS</u></b>											
New Buildings Institute Core Performance (1)(2)		26% (3)		28%		26%					
ASHRAE Advanced Energy Design Guides)		32% (9)		33% (6)		33% (7)		36% (8)			34% (4)
Department of Defense Prescriptive Requirements											
ASHRAE 189P	30% (10)										
Title 24 - 2008	21% (5)										

## Notes:

- (1)CP nominally effective 5000 – 80000 sq. ft.; Additional measures not included – daylighting, evaporative cooling, plugload mgt.
- (2)CP modeled with following numbers of HVAC types: Office 5, Retail 3, School 1
- (3)VT modeling show offices savings consistent through 70000 sq ft
- (4) Lodging – average of 14000 sq ft and 43000 sq ft prototypes; baseline model is 90.1-2004
- (5) California Energy Commission Impact Analysis, 2008.
- (6) Retail - average of a strip mall and a standalone retail store; 90.1- 1999 baseline results adjusted by 5.5% to normalize to 90.1 - 2004
- (7) School with daylighting option; baseline model is 90.1-2004
- (8) Storage - average of 8000 sq ft self-storage and 50000 sq ft warehouse; baseline model is 90.1-2004
- (9) Office - average of 5000 sq ft office and 20000 sq ft office; 90.1- 1999 baseline results adjusted by 5.5% to normalize to 90.1 - 2004
- (10) Under Development – Savings represent only Project Targets

## ENERGY SAVINGS BEYOND ASHRAE 90.1 - 2004 Baseline



ASHRAE 90.1-2004, ASHRAE 90.1-2007, Title 24 - 2008, ASHRAE Advanced Energy Design Guides, ASHRAE 189P(subject to revisions),and NBI Core Performance.