



## **C O L O R A D O**

*Increasing Energy Efficiency in New Buildings in the Southwest: Energy Codes and Best Practices* examines the potential for and benefits from adopting and enforcing up-to-date residential and commercial energy codes and “best practice” building techniques in the Southwest states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming. The study examines three scenarios – business-as-usual, moderate improvement, and strong improvement – modeling costs and energy savings for all three scenarios in 2010 and 2020. The study also makes a series of policy recommendations to promote energy codes and the construction of highly-efficient buildings.

Following are Colorado-specific data and results:

### **Status of Energy Codes**

Colorado is a home rule state, so local jurisdictions preside over the energy code adoption and implementation processes. At least ten large jurisdictions and a handful of smaller towns have adopted IECC 2000 residential energy codes and ASHRAE 90.1 1999 commercial codes. In addition, there is activity in at least six other cities and counties that shows promise, including the City of Denver. It is expected that as many as 75% of Colorado’s jurisdictions will have up-to-date energy codes on the books by 2004.

### **Status of “Best Practices” Efforts**

As of July 2003, there were 30 ENERGY STAR® partner builders in Colorado who have built 1200 ENERGY STAR labeled homes since the program’s inception. The program is accelerating; in the 12 months preceding July 2003, 71% of the program’s total were built. The state has an active residential energy efficiency program conducted by E-Star Colorado, which trains code officials and builders and tracks the certification process for both existing and new homes. There are 30 certified ENERGY STAR builders in Colorado. Colorado’s largest utility company, Xcel Energy, conducts a program that targets new commercial buildings, helping in the design process and providing financial incentives for achieving buildings whose energy performance is substantially superior to a model commercial building code. As of August 2003, Xcel has nine buildings representing 2.4 million ft<sup>2</sup> enrolled in the new commercial buildings program.

### **Building Stock and Projected Growth**

	Housing units 2000	Housing units 2020	Growth 2000-2020 (%)	Commercial area in 2000 (ft <sup>2</sup> x 10 <sup>6</sup> )	Commercial area in 2020 (ft <sup>2</sup> x 10 <sup>6</sup> )	Growth 2000-2020 (%)
CO	1,808,037	2,425,482	34	1,269	2,172	71
Region	6,597,710	9,543,226	45	3,969	7,085	79
CO as % of Region	27	25	-	32	31	-

Source: U.S. Census; Tellus Institute



**Energy Savings Potential – Residential Sector**

Scenario	2010			2020		
	Total Savings (TBtu)	Total Elec Savings (GWh)	Total Gas Savings (TBtu)	Total Savings (TBtu)	Total Elec Savings (GWh)	Total Gas Savings (TBtu)
Moderate Improvement	4.1	88.9	3.8	5.8	149.6	5.3
Strong Improvement	8.4	182.6	7.8	18.1	467.3	16.5

**Energy Savings Potential – Commercial Sector**

Scenario	2010			2020		
	Total Savings (TBtu)	Total Elec Savings (GWh)	Total Gas Savings (TBtu)	Total Savings (TBtu)	Total Elec Savings (GWh)	Total Gas Savings (TBtu)
Moderate Improvement	2.6	386.8	1.3	4.6	695.0	2.2
Strong Improvement	6.6	1,265.0	2.3	13.6	2,772.0	4.1

**Combined Residential and Commercial Costs and Savings (millions of constant 2003 dollars)**

Scenario	2010			2020		
	Costs	Savings	Net Savings	Costs	Savings	Net Savings
Moderate Improvement	71.3	109.0	37.7	52.5	168.6	116.0
Strong Improvement	148.3	243.5	95.2	150.4	513.1	362.7

**Net Economic Savings during 2001-2020 (billion dollars)**

	SCENARIO	
	Moderate Improvement	Strong Improvement
CO	0.80	2.38
Region	2.85	8.36
CO as % of Region	28	28