



# U T A H

*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 Utah-specific data and results:

### **Status of Energy Codes**

Utah is the only state in the Southwest that has passed a mandatory statewide IECC 2000 code for all new residential and commercial buildings. Implementation of the code, which became effective in January of 2002, is largely a local matter and those involved in both training and testing estimate that code compliance was roughly 50% in the first year after the new code became effective. By way of setting a good example for the private sector, all new state buildings are being designed to use at least 25% less energy that required by the ASHRAE 90.1-99 commercial energy code. The ultimate aim is to adopt Silver LEED<sup>4</sup> as the standard for state buildings.

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

There are 22 ENERGY STAR<sup>®</sup> builders in Utah, one of which has built over 892 ENERGY STAR homes as of July 2003, 98 percent of the total in the state (EPA 2003). Approximately 14,400 new homes were built in Utah in 2002, of which slightly less than three percent were ENERGY STAR labeled.

### **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 (%)
UT	768,594	1,148,279	49	490	826	69
Region	6,597,710	9,543,226	45	3,969	7,085	79
UT as % of Region	12	12	-	12	12	-

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	2.4	70.5	2.1	3.4	110.3	3.0
Strong Improvement	4.9	145.3	4.4	10.6	345.5	9.4

**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	0.9	137.9	0.5	1.6	241.0	0.8
Strong Improvement	2.4	454.0	0.8	4.8	961.0	1.5

**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	33.2	53.7	20.6	23.7	80.8	57.0
Strong Improvement	70.2	118.4	48.2	71.9	249.6	177.7

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

	SCENARIO	
	Moderate Improvement	Strong Improvement
UT	0.39	1.17
Region	2.85	8.36
UT as % of Region	14	14