

Tennessee Leading By Example (LBE): Current Conditions & Potential Options

Governor's Energy Task Force
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Process to Date

This presentation is based on the following:

- Presentations made at the first Task Force meeting, 5/5/08
- Interviews with state agencies and Task Force members
- Two half-day Lead-By-Example (LBE) meetings with agency representatives—buildings and fleets
- Follow-up data requests

Buildings & Facilities: Current Conditions

- TN has ~90 million ft² in “state”-owned or leased buildings and facilities
 - Approximately 1/3 of total ft² in General Government, other 2/3 in University of Tennessee and The Board of Regents systems
- Total 2007 energy expenditure for entire state system (90 million ft²) was \$129 million, \$22 million from General Services-managed facilities

Summary of State Energy Costs (2007)

	Electricity Costs	Heating Costs	Total Energy Costs	% of Total
General Services Facilities	\$ 12,482,584	\$ 8,488,029*	\$ 20,970,613	(16%)
Other (25) depts./agencies	\$ 29,531,815	\$ 11,648,034	\$ 41,179,849	(32%)
Total General Government	\$ 42,014,399	\$ 20,136,063	\$ 62,150,462	48%
Total TBR & UT systems	\$ 45,171,886	\$ 21,685,815	\$ 66,857,701**	52%
Total for State	\$ 87,186,285	\$ 41,821,878	\$ 129,008,162	100%

* Includes \$3.4 million for chilled water (electricity)

** \$35 million in TBR system, \$32 million in UT system

Buildings & Facilities: Current Conditions

- No long-term energy savings goals or targets for state buildings and facilities
- No systematic data tracking system for energy consumption by state-owned or leased buildings
 - Also not all buildings are separately metered
- State currently uses 5-8 year payback rule to judge upgrade cost-effectiveness

Buildings & Facilities: Current Conditions

- New construction:
 - Task force with State Architect developing “Sustainable Design Guidelines”
- Existing buildings:
 - Much cost-effective potential remains (e.g., approximately half lights in General Service managed buildings are still T-12s and no LED exit signs)
 - Retrofitting of state-owned buildings largely “ad hoc”
 - General Services manages 9 million ft². The remaining 20+ million ft² in General Government buildings are managed by approximately 25 other agencies and departments
 - Collaboration with TVA on retrofitting has been positive, experiences with ESCo’s so far not as successful

Nashville State Buildings Electricity Consumption (May 2007-April 2008)

Building Name	Total Cost of Electricity	Cost per Area (\$/ft ²)	Elec. Use per Area (KWh/ft ²)
Tenn Tower	\$ 1,001,157	\$ 1.72	24
Polk	\$ 813,663	\$ 1.92	26
Citizens	\$ 310,359	\$ 1.20	17
Cordell Hull	\$ 348,310	\$ 1.08	15
Capitol	\$ 134,285	\$ 3.24	49
Andrew Jackson	\$ 428,647	\$ 1.17	15
Davy Crockett	\$ 333,474	\$ 1.54	21
Andrew Johnson	\$ 306, 932	\$ 1.40	18
Total/(Average)	\$ 3,676,827	(\$ 1.66)	(23)

Buildings & Facilities: Potential Options

1. *Organization/Infrastructure* –

- Track and benchmark building energy consumption
- Formalize LBE leadership and staffing for buildings
- Incentivize/Reward agencies to aggressively pursue LBE energy reductions in buildings (and fleets)

Buildings & Facilities: Potential Options

2. *Uniform Policies & Standards* –

- Set energy use reduction targets
- Consider life-cycle cost analysis (to replace payback rule)
- Fully adopt and regularly update energy performance standards for new construction and major additions
- Require Energy Star appliances and equipment

Buildings & Facilities: Potential Options

3. *Improving Building Energy Performance* –
 - Reduce energy consumption in owned space
 - Audits, implement low-cost/no-cost measures, financing for deeper measures (TVA, state, other?)
 - Minimize energy consumption in leased space
 - (Selection, on-going)
 - Identify potential cogeneration installations
 - Consider on-site renewable energy installations, and purchasing of off-site renewable energy credits

Fleets: Current Conditions

- Public Chapter 489 (2007) includes a fuel reduction target of 20% by 2010; all state agencies are required to have plans to meet this target by September
- State owns ~10,000 vehicles (85% GS and TDOT, 15% UT and Board of Regents)
- 2007 fuel expenditures for state fleet: \$22 million (expected to be higher for 2008)
- TN reimburses state employees for use of personal vehicles, at double the cost per mile of state-owned fleet. Total reimbursement expenditure in FY 2007: \$27 million
- “Fuelman” gas card system allows fuel use and cost data to be closely tracked for state-owned vehicles

Fleets: Current Conditions

- Vehicle purchases based on lowest-cost bids, without full consideration for fuel efficiency (mpg)
- 98% of light-duty vehicles recently purchased by General Services were hybrids or flex-fuel vehicles (FFVs). TDOT recently purchased 100% FFVs
- Marginal utilization of FFV capability: in 2007, state purchased 11,000 gal. of E-85, compared to 6 million gal of gasoline
- Utilization of B20 somewhat better: 237,000 gal used, compared to 4.4 million gal of diesel fuel
- Programs in Nashville and some other areas to reduce energy from employee commuting
 - Parking shuttle program has ~1000 daily riders, van pools serve 255 commuters in Nashville and Memphis areas

Fleets: Potential Options

- Complete plans and then meet 20% state fleet petroleum reduction requirements for 2010
- Incorporate fuel efficiency fully into new vehicle purchasing
- Improve energy practices in existing vehicles
 - Use smallest, most efficient vehicles first
 - Require FFVs to refuel with E-85 and B-20 where available, and increase availability
 - Require proper vehicle maintenance (tires, oil)
 - Reduce VMT (tele-/video-conferencing, ridesharing)
 - Ensure that state employees adhere to speed limits

Fleets: Potential Options

- Address personal auto reimbursement policies in ways consistent with reducing energy use
- Enhance alternatives to state employee car commuting
 - Flex-time (4 day work week)
 - Ride sharing (Van pools, park-and-ride)
 - Free or subsidized mass transit (e.g. MTA card swipe)
 - Expand mass transit options – bus, light rail

Next Steps for LBE

- Improve data
- Develop strategies for buildings and fleets
 - Meet with state working groups on June 24 (open to Task Force Members)
 - Report back and work with Task Force Members on LBE at July Task Force Mtg.
- Develop LBE plan by September