Checklists
ALASKA STATE LIBRARY
Government Services Section • PO Box 110571 • Juneau, AK 99811-0571 • www.library.state.ak.us

Lowering Energy Costs

No. 166 • revised 2/06

Copies of the following titles may be requested from the Library by circling the title(s) needed and returning the list to the Library, **MS 0571.** This guide is not comprehensive in its coverage and is intended to provide work related information to State employees. For additional materials on the topic, please contact Daniel Cornwall at 465-2927.

Lowering Energy Costs in Businesses, Schools & Government

1. Allen, Paul. **How Disney saves energy and operating costs.** *HPAC Engineering*, v. 77, no. 1, p. 30, January 2005, 6 pages.

   "In aggregate, the efforts Disney has undertaken since 1996 have resulted in a 53-percent internal rate of return (IRR) and metered annual reductions of approximately 100 million kwh of electricity and 1 million therms of natural gas."

2. Facenda, Vanessa L. **The greening of Wal-Mart.** *Retail Merchandiser*, v.45, no. 11, p. 8, November 2005. 5 pages.

   "In addition to reducing the energy loads for the building, the reduced electric lighting load reduces the energy required to cool the building since lights emit heat. According to Moseley, the lighting savings at McKinney are projected to approach 300,000 kwh per year (the average Supercenter expends approximately 1.5 million kwh a year.)"

3. Vavra, Bob. **Finding the power to change.** *Plant Engineering*, v. 59, no. 5, p. 44, May 2005, 5 pages.

   Article provides an overview of several business that have significantly reduced energy use and costs, including: 3M (27% decrease in five years), Collins & Aikman Floorcoverings (reduced natural gas use by 10%), Kimberly-Clark (reduced energy use by 11.7% over five years), Merck ($7 million/yr decrease in energy costs), and Mercury Marine (saves 10 million kWh annually).

4. Kendler, Peggy Bresnick. **Efficiency: Worth the Energy?** *District Administration*, v. 40, no. 2, p. 33, February 2004. 5 pages.

   "During the district's [Loudoun County] decade-long contact with the Wichita Falls, TX-based firm Energy Education, the school system has realized savings of more than $6 million."

5. Colley, Jeff. **Low Energy Schools in Ireland.** *PEB Exchange*, no. 52, p. 20, June 2004. 4 pages.

   "The department researched the latest construction techniques and systems that lower energy consumption. It is hoped that the lessons learned from the construction and monitoring of these buildings will assist in reducing the energy usage of future schools."

6. Reid, Keith. **Slashing the Bill.** *National Petroleum News*, v. 96, no. 5, p. 22, May 2004. 5 pages.

"One company that saw some significant savings, primarily though changing its lighting, was J.O. Cook, Inc. headquartered in Avon, NY. Working with US Energy Capital and Citgo, it upgraded seven sites for an annual savings of over $5,000."

7. Swenson, Gary. **Energy demand: A facility manager tells how he is complying with a state [AZ] energy mandate.** *Health Facilities Management*, v. 17, no. 8, p. 37, August 2004. 4 pages.

"This [Spreadsheet] tool allowed staff members to actually see the contribution they could make with such a simple act as shutting their lights off for an hour while they went to lunch."

8. Ahuja, Anil. **Energy Audits 101.** *Consulting-Specifying Engineer*, v. 36, no. 1, p. 40, July 2004. 4 pages.

"The primary intent of this article is to provide a methodology, sample checklist and structured definition for various types of energy audits, while explaining their similarities, differences, and applications."

9. Bases, Gary. **Boiler energy audit saves big bucks.** *Power*, v. 149, no. 2, p. 17, March 2005. 5 pages.

"Of course, not every deficiency in the following description will apply to your facility. But many will. Experience indicates that refractory updates can save a plant about $100,000 a year in fuel costs."

10. Turpin, Joanna R. **Boilers can make facilities more efficient.** *Engineered Systems*, v. 22, no. 11, p. 51, November 2005.

"The first apartment building came online in October 2003, while the second building became operational in August 2004. An just how much money has been saved by utilizing the energy-efficient boilers? In January 2005, the average cost for heat and domestic hot water was $30.00 per apartment."

11. Leslie, Mark. **Green roofs meet environmental objectives.** *Environmental Design & Construction*, v. 8, no. 3, p. S16, April 2005. 5 pages.

"Not only was stormwater runoff greatly reduced by green roofs, but also the study showed that, during the warmest part of the day, green roofs were 19 to 31 percent cooler than conventional roofs; and during the coolest part of the day, green roofs were 14 to 19 percent warmer than conventional."

12. Madsen, Jana J. **Roofing: 10 things you need to know to start saving energy.** *Buildings*, v. 98, no. 10, p. 64, October 2004. 4 pages.

"There are many roofing decisions that can positively impact a building's energy consumption, and many organizations, cities and states are beginning to push for stronger action on the part of building owners. While no federal mandate is in place, more than 30 states have adopted ASHRAE 90.1, Energy Standards for Buildings Except Low-Rise Residential Buildings, or the equivalent."

13. Stromberg, Meghan. **Green grow the buildings.** *Planning*, v. 71, no. 7, p. 16, July 2005. 6 pages.

"The CalEPA lighting system is tied into an energy management system that also controls and monitors the HVAC system, energy use, security and other components. It spends just $1 per square foot on electricity, far less than the $1.59 paid by other office buildings in downtown Sacramento."

14. Quillinan, Justin. **The connected building.** *IEE Review*, v. 51, no. 4, p. 44, April 2005. 4 pages.

"Linking control systems as part of an energy management system can slash energy costs by as much as 30%, claims John Geaney, Hewlett-Packard's business development manager for intelligent buildings."

Lowering energy costs in the home

15. Scheckel, Paul. **Slash your heating bills!** *Mother Earth News*, no. 213, p. 26, December 2005/January 2006. 6 pages.

"Many of these are simple, inexpensive steps that can reduce your energy use and bring you immediate savings. You should also keep in mind home improvements that will lead to long-term savings, including purchasing more efficient windows, additional insulation or an energy efficient heating system."

16. Max, Sarah. **Save your energy.** *Money*, v. 35, no. 1, p. 102, January 2006. 4 pages.

"Pick up a caulking gun, program your thermostat, roll out insulation and get much of the price hike back by heating and cooling more efficiently. Junk old appliances and shrink your electric bill by 30%."

17. Kendall, Mark. A. **Energy-saving opportunities in residential air-handler efficiency.** *ASHRAE Transactions*, v. 110, no. 1, p. 425, 2004. 6 pages.

"This paper demonstrates the technical considerations that are important to understanding the energy-saving potential of encouraging the use of brushless direct current (BDC) motors in residential air handlers."

18. **Four houses in Tennessee.** *Energy Design Update*, v. 25, no. 11, p. 1, November 2005. 5 pages.

"The energy consumption of all four homes is being monitored, and 12 months of data have been collected for each house. The homes use between 9,230 kWh and 10,216 kWh per year, with the PV systems contributing between 18.8% and 26.7% of the electricity used."

19. **A high-performance house in Colorado.** *Energy Design Update*, v.24, no. 11, p. 1, November 2004. 5 pages.

"Builders in Carbondale, Colorado, are completing work on a high-performance house that is expected to use 37% less energy than a house complying with the 2000 International Energy Conservation Code (IEEC)."

20. Ibrahim, E.A., et al. **Thermal performance characteristics of an energy-efficient, healthy house.** *ASHRAE Transactions*, v. 110, no. 2, p. 432, 2004. 11 pages.

"The present work provides evidence that affordability and energy efficiency are not necessarily incompatible attributes in housing. Implementing energy-efficient features at the design stage leads to more economical and practical housing solutions."

Suggested Internet Resources (Accessed February 1, 2006)

Alaska Building Energy Efficiency Standard

<http://www.ahfc.state.ak.us/reference/bees.cfm>

"The Alaska Building Energy Efficiency Standard (BEES) was established by the State of Alaska to promote the construction of energy-efficient buildings. It sets standards for thermal resistance, air leakage, moisture protection, and ventilation as they relate to efficient use of energy in buildings."

Alaska Building Science Network Links Page

<http://www.absn.com/links/>

List of resources relating to a number of building topics, including energy efficiency and alternative energy.

National Association of Manufacturers Energy Efficiency and Innovation page

< http://www.nam.org/s_nam/sec.asp?CID=202138&DID=233435>

Provides links to business oriented resources on reducing energy use and costs. Includes a list of "energy efficiency best practices presentations."

Alliance to Save Energy Policymaker page

< http://www.ase.org/section/_audience/policymakers>

Provides information on state and federal efforts to reduce energy use. Includes legislative updates and state comparisons.

Science.gov Energy Conservation links

< http://www.science.gov/browse/w_121B.htm>

Provides access to many federal publications and databases concerned with energy conservation.

Name:_____

Agency:_____

Mail Stop:_____

info