

PRESBYTERY OF CHICAGO

Properties Ministry Team GUIDE # 8

TITLE: HOW TO SAVE ENERGY

Book of Order Section G-10.0102o: "The session is responsible for the mission and government of the particular church. It therefore has the responsibility and power . . .to provide for the management of the property of the church, including determination of the appropriate use of church buildings and facilities, and to obtain property and liability insurance coverage to protect the facilities, programs, and offices, including members of the session, staff, board of trustees, and deacons."

PURPOSE OF THIS GUIDE

Next to staff compensation, the cost of energy to heat and cool churches is usually its largest expense. It is also subject to large fluctuation from year to year. The Guide means to offer a check-list of actions that churches have found effective in reducing exposure to these costs, i.e: ways to reduce energy use.

A) LIGHTING: Use fluorescent or halogen lighting wherever possible. Fluorescent lighting provides the same light levels at a fraction of the wattage and is available in a variety of colors such as *warm*, *cool* and *daylight* and lasts up to 10 times the life of an incandescent bulb. In addition to the familiar tubes, a variety of small fluorescent bulbs are available with bases adapted to the sockets that incandescent bulbs use. Fluorescent lighting can replace virtually all the general incandescent lighting currently used in work lighting and exit lighting except for special effects lighting (dimnable, focusable) that may be required for worship or performance. Halogen lighting can provide dimming and directional lighting. NOTE: Safe disposal is a matter of concern for fluorescent lighting due to small amounts of mercury.

B) TEMPERATURE SETTING: For every degree cooler (in winter) and warmer (in summer) thermostats are set substantial fuel savings may be realized. Economical, comfortable temperatures *in occupied spaces* are considered to be 68 degrees in winter and 72 degrees in summer; both can be further adjusted to be more economical, especially in winter when sweaters are available. To maintain these settings under the control of the Buildings & Grounds Committee, it is advisable to cover thermostats with the transparent thermostats guards available.

C) TEMPERATURE CONTROL: Most church spaces are used in a ranging from a low of Sunday morning (about 6 hours) up to about 10 hours seven days a week (70 hours) for a church with many pastoral and social programs. Either way this is a fraction of the 168 hours in a week. To control fuel costs, it is essential to *reset the thermostats (setback) during unoccupied hours*. The best way to do this is to use *7-day programmable thermostats* that are readily available; these will allow the church to set the temperatures for each temperature zone in the building (including lead times for early warm-up or cool-down) for every hour of a typical week along with a short-term override when needed.

Because of the risk of freezing piping (plumbing or heating) especially next to outside walls, the following winter set-back guidelines should be followed:

When exterior temperatures in a 24-hour period are Set back no lower than:

Above 32 degrees F.	50 degrees F.
Above 0 degrees F.	55 degrees F.
Below 0 degrees F	60 degrees F.
Below minus 20 degrees F	Do not setback

D) PROGRAMMING BUILDING USE: Churches challenged with fuel cost have also found it helpful to:

1) Coordinate building use (committee meetings, etc.) so as to maximize setback hours. Of course, it would be preferable to increase congregational and mission use of the facility for a more active ministry.

2) In multi-zone buildings (with more than one thermostat) to locate activities within a limited number of zones (one or more) so as to allow setback temperatures in the others.

E) BUILDING CONSTRUCTION: Temperature transfer from exterior to interior is the reason we need to heat and cool buildings. Further economies may therefore be realized by

1) Weather stripping doors and windows

2) Installing insulating glass windows (which will also eliminate most drafts)

3) Installing insulation when re-roofing or renovating the inside of exterior walls.

4) Installing more efficient heating systems when upgrading or replacing components. Payback varies by building and system.

Last updated 2/28/07