Comfort $ & Light

A NEWSLETTER FROM THE INTERFAITH COALITION ON ENERGY

Interfaith Coalition on Energy
7217 Oak Avenue
Melrose Park, PA 19027
(215) 635-1122

The Archdiocese of Philadelphia

The Board of Rabbis of Greater Philadelphia

The Metropolitan Christian Council of Philadelphia

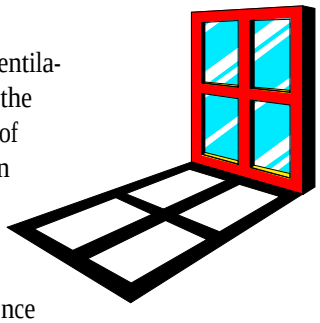
The American Jewish Committee Philadelphia Chapter

Achieving Comfort with No Air Conditioning:

Keeping Your Congregation Cool

Our examination of over 1,000 buildings has revealed many inexpensive ways to achieve comfort without air conditioning. Here are ten hints for the cooling season:

1. Use natural ventilation overnight



Natural ventilation can be as effective as fan-driven mechanical ventilation and certainly is less expensive. Older buildings built during the pre-air conditioning era usually have openings in the upper parts of the building to allow warm air to escape. Cooler overnight air can flow through the space, making the next morning's worship services more comfortable. Often, congregations have sealed off these valuable ventilation systems in order to preserve winter heat. If you need help in finding them and making them useful once again, ICE can help.

2. Install lower wattage lamps

Lamps add heat to a building. Each 3,000 watts of light removed equals about one ton of air conditioning. By installing more efficient lamps with lower wattage, a congregation can have the same quantity and quality of light with less heat. ICE can help you choose better quality lighting which costs less to operate. We can also suggest low cost sources of supply.

3. Reduce other heat produced inside the building:

- Turn off all unnecessary inside lights and office machines.
- Minimize appliance use inside air conditioned areas.
- Reduce lighting levels.
- Insulate domestic water heaters and associated pipes.
- Turn off the boiler during the summer.
- Turn off circulators that pump water to the hot water faucets.
- Turn off pilot lights in boilers and furnaces.
- Do not run fans when building is vacant. (All fans add heat to the air.)
- Do not use ceiling fans when building is vacant.
- Open the shades and drapes at night to increase heat loss.
- Exhaust heated air overnight

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4. Reduce the generation of moisture inside the building:

- Exhaust moisture from showers and clothes dryers.
- Assure against leaks in the exhaust pipes.

5. Keep the heat from coming into the building:

- Keep storm windows closed on windows not used for ventilation.
- Install translucent shades under skylights.
- When replacing windows, order "Low E" double glazing.

6. Kitchens are usually warmer than other rooms; add minimal heat:

- Lower gas pilot lights to minimum heights.
- Cook with the microwave, rather than the range or oven.
- Cook on outside grilles.
- Exhaust moisture from boiling water and cooking.
- Drink and eat cool substances – iced beverages and salads.
- Avoid caffeinated, alcoholic and hot beverages.
- Exhaust the heat from refrigeration condensing coils.
- Cover pots on the stove to minimize cooking time and evaporation.
- Cool dishes outside, or in areas that do not have air conditioning.
- Consolidate refrigerated items into fewer refrigerators or freezers.
- Thaw frozen foods inside the refrigerator or inside air conditioned spaces.
- Bake or broil several items at a time.
- Preheat ovens only as much as necessary.
- Turn off the oven a few minutes before the required time.
- Minimize the use of self-cleaning oven heat on hot days.

7. Change personal dress:

- Dress in light-weight clothing.
- Rethink heavy clergy and choir robes.
- Natural fabrics often feel cooler than synthetics.

8. Instead of cooling the air, move it with fans:

- Open windows for cross ventilation.
- Install ceiling fans for occupied summer use only.
- Distribute hand held fans to all pews.
- Use a small personal fan by your desk.

9. Change scheduling in warm weather:

- Move summer morning worship to earlier in the morning.
- Consider outside worship services in a shaded location.
- Shift the summer work schedule to cooler times.
- Perform more active work during the cooler times of the day.

...And 10?

Call ICE at (215) 635–1132 for help with any of the above…except number 7! ⊙

Correction

We mistakenly published the wrong phone number for the new Pennsylvania Purchasing Coalition, which supplies low cost fuel oil, office supplies, and other services to congregations. Their correct phone number is (610) 941-4313.

Luckily, our mistake didn't keep congregations from signing up with PPG anyway. Their #2 fuel oil price for March was about $0.63. PPC director Michael Kitei says that, "Our program is gaining popularity among congregations because we can save them considerable expense."

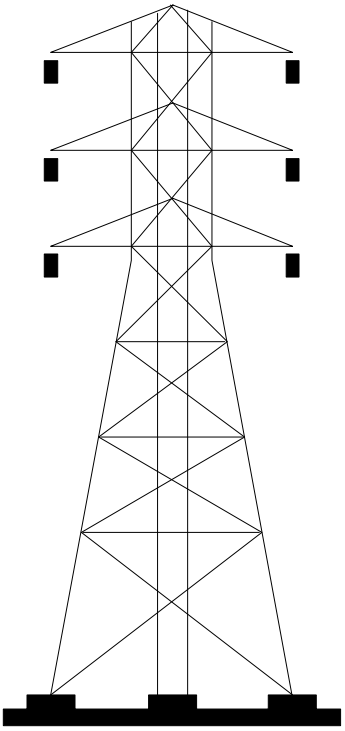
WHAT CAN YOU DO WITH ONE KILOWATTHOUR OF ELECTRICITY?

We take electricity for granted. The typical house of worship in the Philadelphia area uses about 39,000 kilowatthours per year. The lowest used 876, and the highest consumed 578,200 annual kilowatthours.

The following information presents the equivalency of just one kilowatthour. At 120 volts, one kilowatthour is the energy required to push 52,499,999,790,000,000,000 electrons through a wire—about the amount of energy stored in a typical fully–charged car battery.

Light:

One kilowatthour can light ten 100-watt electric lights for one hour. A typical exit sign containing two 20-watt incandescent lamps, however, uses a whopping 350 kilowatthours in one year, which is equivalent to lighting an altar with eight 150-watt floodlights for three years of two-hour weekly worship services. The electricity used by an average house of worship is equivalent to that used by about four average American residences.



Physical work:

One kilowatthour can raise 2,000 pounds to a height of 1,000 feet with 80% efficient electric motor. Or you can raise a Saturn V rocket off its lift pad 3 feet or raise the US aircraft carrier Nimitz enough to release a piece of paper stuck underneath its hull.

Using just one kilowatthour, a bicyclist can bike about twenty miles at 11 miles per hour, or you can drive an average car a half mile or walk 12 miles. For the electricity used by a typical house of worship in Philadelphia, you could walk 200 round trips from Philadelphia to San Francisco.

Heat:

If you completely burn about 3,400 wooden kitchen matches, you release the heat contained in one kilowatthour, which is relatively little heat energy. When compared to 80% efficient gas heating systems, for example, an 80,000 BTU per hour residential furnace would run for only three minutes to use up the heat of one kilowatthour. One kilowatthour also can raise 2 3/4 gallons of cold tap water to 212 degrees or run a typical 1,500-watt portable electric heater for 40 minutes.

Pause to think:

It takes three units of fuel equivalent to generate one unit of electricity in a typical power generation station. So, the next time we throw on a switch, let's pause a minute to think if we really need to use that energy. ⊙

News on Underground Fuel Oil Tanks

ICE Advisory Board member Roy Patterson has been one of many people lobbying in Harrisburg to successfully reverse the laws applying to underground heating oil storage tanks. With the support of the Department of Energy, House Bill 825 passed the Pennsylvania Legislature and Senate and was signed by Governor Ridge. The bill reverses regulation on underground fuel oil storage tanks making participation in the indemnity fund voluntary.

Be Wary of Tank Testing Services

Congregations will be able to choose whether they wish to pay 15 cents per gallon of tank capacity annual tax as insurance against catastrophic spills. Neither this nor preceding legislation requires tank tightness testing, so be very wary of people trying to scare you into purchasing their tank testing services.

According to Roy Patterson, "Members of the legislature have been getting numerous complaints from the religious community about the foolishness of these laws. Fuel oil should not have been placed in the same category as gasoline, which contains toxic substances." ⊙

Need $$$ For An Energy Project?

Two grant programs have recently made funds available to congregations that meet their requirements:

The Black Church Environmental and Economic Justice Fund of the National Council of Churches:

Grants from $500 to $2,000. Contact Council at (202) 319–2598 or fax (202) 462–4507.

For Catholic dioceses, parishes, or organizations, grants are available from $500 to $1,500.

Write to Small Grants Program of the US Catholic Conference, 3211 Fourth St., NE, Washington, DC 20017–1194, or phone (202) 541–3000.

If you are awarded a grant, contact ICE so we can report your project! ⊙

Interfaith Coalition on Energy c/o AJC
117 South 17th Street
Philadelphia, PA 19103

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