

# Cool Congregations Carbon Checklist & Action Menu




June 2009

Dear friends,

Now that you have calculated your congregation's carbon footprint what should you do next? It's time to take action! This guide will lead you through the steps and help you decide what you should do first. The changes that you make will save you energy and money at the same time you are helping to protect Creation. This guide is not a replacement for a full energy audit by a qualified professional. A professional energy audit will utilize special tools that can see air leaks and find spots that need insulation. But if you are not yet ready to do a professional energy audit, a small group of people can use this guide to take many important steps.

There are five easy steps to begin:

1. Gather a team at your congregation. You'll need the support of the head of the congregation, so be sure to ask for their endorsement. Then you'll want to involve people who know your congregational building well, along with office and building maintenance staff. Finally, you need a project champion – someone to put things in motion and assign tasks. Maybe that's you.
2. Calculate your congregation's footprint by going to [www.CoolCongregations.com](http://www.CoolCongregations.com). This website was designed specifically for houses of worship. There's a checklist on the website which tells you what documents you'll need to gather to complete the footprint. Once you've input your data, it will tell you your carbon footprint. Download or print the results.
3. Identify carbon-saving actions that make sense at your congregation by working through the 50 questions on the following Carbon Checklist. This is best done when your whole team is assembled; it will take 60-90 minutes to answer the questions and prioritize your next steps.
4. Make changes to reduce your carbon by following the suggested actions we've noted in the worksheet. Many of these are free or low-cost. Others will require purchases and we've tried to include how you can purchase those items for less. The suggested actions with a star next to them provide some of the biggest carbon savings possible. 
5. Add this effort to your annual meeting agenda. Each year you can re-measure your footprint at [www.CoolCongregations.com](http://www.CoolCongregations.com) and celebrate the progress you've made.

Remember, you aren't alone doing this. We give thanks to all the people who have been part of this effort. Feel free to contact your state Interfaith Power & Light (IPL) leader or the IPL national office for help.

Interfaith Power and Light  
[www.InterfaithPowerandLight.org](http://www.InterfaithPowerandLight.org)

A map of the IPL state affiliates with links to contact information:  
<http://www.theregenerationproject.org/State.htm>

This guide was developed by Faith in Place/Illinois Interfaith Power & Light in partnership with the Climate Action Task Force of the Metropolitan Chicago Synod of the Evangelical Lutheran Church in America. Special thanks to Rachelle Ankney, Joyce Coffee, Juliana Glassco, David Glover, Mark Granfors, Kris Kaar, Jim Mastaler-Gutermuth, The Rev. Brooke Petersen, Nicolai Schousboe, James Schwab, Sara Spoonheim, Ken Westlake and Bill Bradlee.

# BUILDING ENVELOPE



## Checklist

## Actions

1. Are all windows and doors properly aligned and operational?

Check doors and windows and fix any problems

2. Is weather-stripping and caulking in place and intact on windows, doors, conduits, piping, exterior joints, or other areas of infiltration?

Caulk, weatherstrip and foam seal around doors, windows and other spaces to plug air leaks.



3. Are doors and/or windows separating conditioned from non-conditioned areas (including outdoors) utilized properly?

Make signs asking people to close doors and/or windows.

4. Are all windows double paned?

Replace with double-pane Energy Star windows for approx. 1,500 lbs/year carbon reduction per window replaced. If you can't replace windows, add air-gap window films to seal leaky windows. Attach storm glazing to the sashes of windows that open (good for stained glass).



5. Is there insulation between conditioned and unconditioned spaces?

Insulate the ceiling, walls and basement. Where practical, cover windows and through the wall cooling units when not in use. In windy areas, install wind screens to protect outside doors. Consider adding reflective or heat absorbing film to minimize solar heating in summer and heat loss in winter. Proper insulation can save you 25% on your heating bills.



6. Is there at least 7 inches of insulation in your ceiling/roof?

Install insulation where it is lacking and repair any roof damage.

7. Are blinds and curtains used to help insulate the building?

Keep curtains and blinds closed at night during the winter and during the day in the summer (this may mean instructing office and custodial staff to open/close blinds in the mornings and evenings).

# HEATING AND COOLING SYSTEMS



## Checklist

## Actions

8. Are thermostats on heating/cooling units safe from occupant manipulation?

Make sure that thermostats are locked or inaccessible so that occupants do not tamper with them.

9. Are space temperatures similar to thermostat settings?

Thermostats should be in a central location, away from areas subject to extreme temperature fluctuations (e.g. a window or heating or cooling unit)..

10. Are thermostat settings adjusted for changes in seasons?

Adjust for the seasons. Turn your thermostat down in the winter and up in the summer (try 68° in winter and 78° in summer). Use outside air rather than AC for cooling and ventilation whenever possible. It may be easier or more efficient to have separate thermostats for controlling heating and cooling.



11. Does your congregation refrain from heating or cooling unoccupied or little-used areas unnecessarily?

Try to schedule activities in spaces that can be conditioned separately from the rest of the building. In other words, use your cooled/heated space efficiently. Use spot heaters/coolers in large spaces with low occupancy.

12. Is heating/cooling equipment set to start as occupants arrive and/or set to stop operating during last hour of occupancy?

Reduce thermostat settings by at least 10° F and/or shut down AC units at nights and for any long period of time when the space will be unoccupied (55° is good for winter). A programmable thermostat to automatically adjust temperatures can help with this tremendously. Experiment with start-up and shut-down times to keep the building more comfortable while it is occupied (especially at worship times). During the last hour of occupancy, reduce or turn off the heating and cooling, allowing the building to “coast.”



13. Does air flow to space feel adequate and consistent from one space to another?

Post signs reminding people not to put objects in places where they will obstruct air flow.

14. Are exhaust system (i.e., restroom fans) operation programmed?

Stop using unnecessary exhaust fans and re-wire restroom exhaust fans to operate only when lights are on.

15. Do air filters and heating/cooling coils receive scheduled maintenance?

Replace air filters regularly. Develop a maintenance schedule and install filter pressure-drop gauges. This can reduce energy costs by up to 5%!



16. Is duct or pipe insulation present and intact?

Install/replace installation.

# HEATING




## Checklist

## Actions

17. Are air inlets or outlets clean and unobstructed?

Check air duct openings to make sure nothing is blocking the air flow. Also see #13.

18. Are boilers maintained on a scheduled basis?

Install a new Energy Star furnace or boiler if you need one. This could mean huge operational savings- both in carbon emitted and in heating bills! Schedule annual HVAC maintenance checks,  and stick to them.

# COOLING

19. Are refrigeration condensers or coils clean, unclogged and/or functioning efficiently?


Schedule regular maintenance for your AC. Make sure that your AC's condensers or coils are clean, unclogged and functional. Replace your old AC with a more efficient one.

# DOMESTIC HOT WATER

20. Is hot water temperature set so that it doesn't scald?

Keep your water heater's thermostat no higher than 120° F.

21. Is system insulation present and intact?

If your water heater is more than 5 years old, wrap it in an insulating jacket. 

22. Is the hot water system de-centralized with small domestic hot water heaters instead of a large central boiler?

Replace your standard electric water heater with a high-efficiency Energy Star unit. (On-demand water heaters are the most efficient.)

23. Are water temperatures reduced during unoccupied periods?

Reduce water temperatures to the lowest setting during unoccupied periods either manually or with an automatic control device.

# LIGHTING



## Checklist

## Actions

24. Are fluorescent or LED lamps used instead of incandescents in offices, meeting spaces, hallways, and sanctuaries (wherever possible)? Are your exit signs LED?

Replace old light bulbs with compact fluorescent light bulbs and save 180 lbs. of carbon per year for each bulb. Go to [www.ShopPL.org](http://www.ShopPL.org) to get deals on CFLs, LED exit signs and other energy savers. If every U.S. home replaced just one light bulb with a compact fluorescent bulb, we would save enough energy to light more than 3 million homes for a year, more than \$600 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions of more than 800,000 cars.



25. When burned out fluorescent lamps and/or ballasts have been replaced, have more efficient lights been installed (i.e. lower watts in sunny rooms used primarily during the day)?

Replace T12 fluorescent lights with T8 bulbs (will need retrofiting). New ballasts and bulbs can be found at [www.ShopPL.org](http://www.ShopPL.org).

26. Is decorative lighting used sparingly and/or controlled optimally? In fixtures where fluorescent lamps have been removed, have the ballasts been disconnected?

Don't use more light than you need. Get rid of extraneous bulbs and disconnect their ballasts. Replace unnecessary fluorescent tubes with "dummy" types that don't draw very much current but still provide uniform lighting.

27. Is lighting always turned off in unoccupied areas?

Turn off the lights, make signs, install motion sensors or timed switches.

28. Are lamps and fixtures clean? Do ceilings and other room surfaces adequately reflect light because they are clean, bright and free from dirt?

Dust buildup reduces reflectivity and effectiveness. Create a regular cleaning schedule for lamps, light fixtures, ceilings and other reflective surfaces.

29. Is daylight used effectively (i.e. work stations are close to windows)?

Use natural lighting whenever you can. Put work stations next to windows and turn off the lights when it's sunny.

30. Is security/outdoor lighting automatically controlled and/or do lighting levels stay within adequate boundaries (i.e. they're not excessive)?

Don't forget that all of the above suggestions, especially #'s 24, 25, and 27, apply to outside and security lighting as well.

# REFRIGERATION AND ANCILLARY



## Checklist

## Actions

31. Is your freezer free of icy build-up?

Make sure that your refrigerator/freezer condensers or coils are clean, unclogged and functional.

32. Is your refrigerator temperature set correctly (i.e. food toward the back top is sometimes frozen)?

Make sure that your refrigerator is set to be adequately cool, but no colder than necessary.

33. Is kitchen equipment used efficiently (i.e. exhaust hood fans off when not in use, coffee makers off when coffee is finished brewing)?

Use your kitchen efficiently (another place for signs). Cook with lids on, only preheat ovens for baked goods, provide ovens and fryers with loads all of the time they are heated and on, shut down exhaust hood fans when not required, and use microwave ovens to heat small quantities of food.

34. Is laundry equipment used efficiently if it is present?

Replace inefficient washers with Energy Star appliances (visit [www.ShopIPL.com](http://www.ShopIPL.com) for discounted rates), wash full loads, clean lint screens before/after each use, use cold water rather than hot whenever possible, and hang laundry to dry.

35. Are freezers and refrigerators kept full?

Save 2300 lbs of CO<sub>2</sub>/year by replacing refrigerators more than 10 yrs. old and other old appliances with Energy Star ones, and dispose of unnecessary or unused old appliances. Visit [www.ShopIPL.org](http://www.ShopIPL.org) to order Sears Energy Star appliances at a discounted rate. They will haul away your old appliance when they bring the new one. If there is a lot of extra space in your refrigerator or freezer, fill it up with jugs of water.



36. Are electronic devices and office equipment turned off and unplugged when not in use?

Cut your phantom load by turning off computers, chargers and other standby electronics by unplugging or using a power strip. (Phantom loads are the energy that appliances use when they are plugged in, even when they are not turned on. They account for 6% of electricity usage in the US.)



37. Are LED Holiday lights used?

Switching to LED lights on one tree will save 122 lbs. of carbon per season.

38. Are LED exit signs installed?

Visit [www.ShopIPL.org](http://www.ShopIPL.org) to buy LED exit signs. Exit sign requirements differ from state to state, so brush up on local codes before you buy any new signs.



# TRANSPORTATION



## Checklist

## Actions

39. Does a congregational car sharing program exist?

Encourage carpooling and organize a car sharing system for your congregation. Find out the public transportation stops that are closest to your church and encourage people to use them, even if it means organizing a shuttle system to get them to and from worship.

40. Do congregation-owned vehicles receive proper maintenance?

Regular tune-ups, maintenance of tire pressure and changing the air filter will increase fuel efficiency and decrease pollution.

41. Are bike racks installed at your congregation?

Build a culture for biking, encourage it by installing bike racks on your church property and hold promotional "bike to worship" days.

# VARIOUS & SUNDRIES

42. Do you maintain pesticide-free outdoor lawns and plantings with manual tools?

Consider manual tools. Gasoline powered landscape equipment (mowers, trimmers, blowers, chainsaws) account for over 5% of our urban air pollution. Reduce or stop use of pesticides. Residential application of pesticides is typically at a rate of 20 times that of farmers per acre. (US EPA).

43. Does your congregation make good use of its land?

Think about planting a community garden or a native plants. Plant trees to provide shade. Tear up impermeable surfaces that aren't being used and replace them with plants - a lawn has less than 10% of the water absorption capacity of a natural woodland (US EPA).

44. Do you lift up environmental issues in visible ways during worship?

Encourage sermons that educate about caring for creation. Use organic, seasonal and/or potted altar flower, organic communion wine and bread, etc. Visit [www.theregenerationproject.org/Resources.htm](http://www.theregenerationproject.org/Resources.htm) for resources and ideas.

45. Have you figured out ways to get your youth involved in all of this?

Organize activities and integrate environmental issues into the youth curriculum, or have your youth group sell CFLs as a fundraiser and a way to help people reduce energy and save money at home.

# GOODS AND SERVICES



## Checklist

## Actions

46. Are office supplies and cleaning products purchased in bulk to reduce packaging?

Avoid unnecessary and excessive packaging wherever possible.

47. Are foods and refreshments purchased sustainably (as locally and organic as possible)?

Buy local products when possible to reduce the distance food needs to be transported. Buy organic to reduce the need for synthetic fertilizers and pesticides.

48. Do you purchase ecosensitive products (post-consumer paper and petroleum-free, chemical sensitive cleaning products)?

Invest in organic, recycled or reusable, and sustainable: food, office supplies, paper products, cleaning supplies, furniture and fixtures, textiles, printing and publishing, and construction and renovations. Ask your custodian or cleaning service to find out which eco-friendly products they prefer and would be willing to start using.

# WASTE

49. Does your congregation recycle paper, plastic, glass, and/or metal?

Check out local recycling information at [www.earth911.org](http://www.earth911.org) or your local government's website. For every ton of aluminum recycled, 10 tons of carbon dioxide are saved. For every ton of glass, 0.32 tons of CO<sub>2</sub> are saved, and for every ton of plastic, approximately 1.7 tons of CO<sub>2</sub> are saved.

50. Does your congregation compost food/yard waste?

Even if your kitchen waste is too much to handle, you can reuse your yard clippings as mulch. According to the EPA, yard wastes, mostly grass clippings, comprise 20% of municipal solid waste collected and most still ends up in landfills. Find out more on how to compost at <http://www.planetnatural.com/site/xdpy/kb/composting-yard-waste.html>, <http://www.gardenguides.com/how-to/tipstechniques/planning/compost.asp>, or <http://www.howtocompost.org/>.

The suggested actions with a star next to them provide some of the biggest carbon savings possible.



The statistics above, unless otherwise cited, are from the Cool Congregations program, originally implemented by Iowa Interfaith Power Light.