

ENERGY EFFICIENCY

Background:

By working together to use energy efficiently in a child care facility, children, staff, and parents help conserve resources and protect the environment. Energy conservation is important because of the world's limited amount of nonrenewable energy sources. It is vital to conserve our current energy supplies and to use renewable sources of energy, so that our natural resources will be available for future generations.

Energy conservation is also a priority because the consumption of nonrenewable sources impacts the environment. Our use of coal, gas and oil for transportation, manufacturing and to make heat and electricity, produces carbon dioxide, nitrous oxides and other "greenhouse" gasses that contribute to pollution and climate change. Carbon dioxide is necessary for plants, and in the atmosphere acts as a transparent blanket that is essential to maintaining the right temperatures for life on earth. However, partially because of human activity, an excess of carbon dioxide and other gases are contributing to the global warming of the earth or "greenhouse effect" causing dangerous changes in the earth's climate.

Results of these changes include threats to human health from increased smog and the spread of diseases through the insect pests that carry them. Environmental impacts include rising sea levels that can damage coastal areas, major changes in vegetation growth patterns that are causing some plant and animal species to become extinct¹, and more frequent and severe storms.

By conserving energy, child care facilities can demonstrate leadership and teach environmental responsibility. Many of our everyday activities, such as working on the computer or leaving lights turned on, use a lot of energy. When energy use is reduced, greenhouse gas emissions are reduced as well.

Water conservation not only reduces the use of a valuable resource, but also conserves the energy needed to clean, pump and heat water. Practicing the 3Rs (reduce, reuse and recycle) conserves the energy required to make products and reduces the effects of waste disposal. By being aware of our usage and making small changes in our daily habits, we can save energy, save money, and help to reduce pollution and climate change.

What You Can Do:

The following ideas can help you evaluate your daycare's energy use and identify ways to conserve energy. This will help reduce a daycare's utility bill and other energy costs over one year.

- Buy energy-efficient equipment, such as Energy Star². There are standard energy use tags attached to most new equipment that can help you determine which pieces will be the most efficient. This equipment may be more costly, but your utility bill savings will quickly make up for the extra cost.
- Gradually replace your incandescent light bulbs with compact florescent light bulbs (CFLs). Incandescent light bulbs waste 90% of their energy on producing heat as opposed to light, while CFLs are much more efficient at converting energy into light. CFLs also last about nine times longer than incandescent light bulbs.

- Ensure lights are turned off when rooms are not being used. Post signs by light switches that will remind children or staff to turn off lights when leaving a room. If using multi-lighted fixtures, have unnecessary lights removed.
- Install a programmable thermostat that automatically adjusts the temperature when you are not in the daycare. Set the thermostat to 18°C in winter when you're in the daycare and down to 15° C when you leave or are away.
- Close shades in the winter at night and open them during the day to let the sun in and do the opposite to reduce natural heating in the summer.
- Stop air leaks around windows and doors with caulking or weather stripping. Air leaks can rob your daycare of heat in the winter. A porch can act as a buffer zone.
- Windows can be opened in the warmer months to provide natural ventilation.
- Plant deciduous trees on the south side of the daycare to provide natural shade and cooling in the warmer months, but let the sun shine through in the winter.
- Plant coniferous trees on the north side of the daycare to act as a wind break.
- Use cold water when possible.
- Use energy-saving settings on computers and other equipment.
- Plug electrical equipment into power bars and flick off the power bars at night.
- Clean or change air filters on your air heating system in the winter and on air conditioning units in the summer so that they work more efficiently.

ENERGY EFFICIENCY Cont'd:

Resources and Links:

For more information:

Destination Conservation

www.dcplanet.ca

Natural Resources Canada (The Office of Energy Efficiency (OEE))

<http://www.oeenrcan.gc.ca/english/index.cfm>

The New Brunswick Climate Change Public Education & Outreach Hub

<http://www.nbhub.org/>

Earthinstitute.ca

50 Things You Can Do To Lower Your Greenhouse Gas Emissions

http://www.earthinstitute.ca/other/50_things_you_can_do.pdf

Small Business Energy Savings Coach (Savings Calculators)

<http://www.earthinstitute.ca/ee/sbstart.htm>

Efficiency New Brunswick: www.energycynb.ca

Potential sources of funding:

Natural Resources Canada. eCoEnergy Retrofit Grants and Incentives: Offers funding for up to 25% of project costs. <http://www.oeenrcan.gc.ca/corporate/retrofit-summary.cfm?attr=0>

Efficiency NB:

Energy Smart Commercial Buildings Retrofit Program: Offers up to \$3 000 towards an energy audit for potential energy efficiency improvements and up to \$50 000 for project costs.

<http://www.energycynb.ca/PDF/Commercial/ENERGYsmartretrofit-e.pdf>

Existing Homes Energy Efficiency Upgrades Program: Offers \$400 towards an energy evaluation on your home and either a \$2 000 grant on an interest-free loan of up to \$10 000 for energy efficient upgrades. <http://www.energycynb.ca/Promo/indexpromo-e.asp>

Energy auditors:

Amerispec 1 866 922-6607

Enercheck Solutions 1 866 990-2499

Enerplan Consultants Ltd. 1 866 363-7752

Legacy Technical 1 888 545-1882

Sustainable Housing 1 877 722-2842

¹ Canadian Wildlife Federation. *Climate Change*. <http://www.cwf-fcf.org/en/learn/issues/issues-of-concern/climate-change.html>

² Natural Resources Canada. *International Energy Star symbol*. <http://oeenrcan.gc.ca/energystar/english/consumers/index.cfm>