

# *Environmental Stewardship Commission*

Episcopal Diocese of Minnesota

**A User's Guide on the "Resolution on Church Buildings  
and Grounds, and Church-Related Activities"**



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June 2003

# ***Environmental Stewardship Commission***

## **Episcopal Diocese of Minnesota**

### **A User's Guide on the *Resolution on Church Buildings and Grounds, and Church-Related Activities***

This "User's Guide" was prepared by the *Environmental Stewardship Commission* of the Episcopal Diocese of Minnesota as a way to assist interested individuals and congregations within the Diocese of Minnesota, the State of Minnesota, and the Episcopal Church, USA, in ways to live into the spirit and intention of this resolution.

Information contained in this booklet is current as of June 2, 2003, and can be found on the webpage pertaining to the Resolution (<http://www.env-steward.com/events/resolve.htm>). The information on the website is updated on a weekly basis and incorporated into this "User's Guide" on a quarterly basis. Please visit the website for the most current information. A PDF Format of this document is available at <http://www.env-steward.com/events/guide.htm>.

In order to be able to include as much information as possible and keep the size to a minimum, the *Index of Actions Discussed in the Articles*, which was in previous editions, has been left out of this edition. The *Index* will be part of the PDF Format edition available online.

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# Environmental Stewardship Commission

Episcopal Diocese of Minnesota

## A Resolution on Church Buildings and Grounds, and Church-Related Activities *passed at the 143rd Annual Convention (October 27-29, 2000)*

WHEREAS we believe in God as the Creator, Source, and End of all things, who forms the Earth and calls human beings to be created co-creators in harmony with the Earth's well-being, and

WHEREAS environmental degradation and global warming threaten the Earth's well-being, and

WHEREAS our structures and activities are a reflection of our awareness of Creation, our sense of a peaceful and serene world and our feelings of mutual respect with and for our brothers and sisters, and

WHEREAS our church buildings, grounds, and related activities are outward and visible signs of our inward and spiritual grace of commitment to God's purposes in harmony with all Creation,  
*[Thoughts on this Preamble at Pages 2 through 5]*

THEREFORE BE IT RESOLVED that the staff and membership of the Episcopal Diocese of Minnesota engage in building actions and cultural activities with prayerful considerations about the impact these actions will have on our Earth home. Ways we will live into this approach are:

- T use of renewable, sustainable clean energy; *[Thoughts on Implementing this idea at Page 6]*
- T concentration on reduction of energy and resource usage through retrofitting and/or replacement of inefficient heating/cooling, plumbing and ventilation systems; *[Thoughts on Implementing this idea at Pages 8 through 9]*
- T use of energy-efficient, low-impact construction materials and procedures in all construction and renovation projects, to include generation and proper disposal of construction and packaging waste; making careful, educated decisions on the origin, impact and disposal of cleaning, maintenance and office materials purchased, used and expended during on-site activities and operations;
- T use of landscape designs and maintenance that are in harmony with the surrounding ecosystem, center around native flora and fauna, decreasing use of pesticide and herbicide chemicals and proper disposal of yard waste such as grass trimmings and branches;  
*[Thoughts on Implementing this idea at Pages 10 through 12]*
- T intentional planning and execution of all church-related activities so as to maximize use of public transportation, alternative transportation (such as walking and biking), and car-pooling;  
*[Thoughts on Implementing this idea at Pages 13 through 15]*
- T preparation of food that focuses on foods that are organic, locally grown and that do not create excessive waste, and on utensils and packaging that are minimal, environmentally friendly and recyclable.

For additional information, please visit our website: <http://www.env-steward.com> or write to us at:

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# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### Thoughts on the Preamble to the Resolution on Buildings and Grounds, and Church-Related Activities

by John Gibbs, Ph.D.

There is only one ultimate “dominion” over the created order, and this is it: “The earth is the Lord's, and all that is in it” (Psalm 24:1). The singular sovereignty of Creator God over all the creation is a constant given throughout biblical literature.

For that reason all we humans bear special responsibility for the fate of the ecological creation-community to which we belong. We were never given a blank check by the Creator to plunder earth as if its only value would be “resources” for our use. Whatever “dominion” humanity exercises is always subordinate to the sovereignty of the Lord "in all the earth" (Psalm 8; Genesis 1). We are called to live “in the image of God” at the very moment that this special responsibility for the earth is laid upon us (Genesis 1:26). There is to be no “dominion” that mars that “image.”

In particular the Church community and all Christians personally are accountable for the effects of their life on the physical earth. Anybody who prays the Lord's Prayer has to know that God's will is not confined to heaven, nor to our inner individuality: “Your will be done on earth as it is in heaven.” Once God had brought a universe into existence, made humans, and got Christians, God's will did not take flight into airy realms beyond tangible reach, while leaving earth to its own devices. Earth remains object and interest of God's will, for that will energizes “on earth as it is in heaven.”

The good news of our faith addresses relationships-not only within families, nor only within communities, but also within the whole creation. No less than birth, new birth is impossible for one person alone. No less than creation, new creation establishes relationships within the cosmic context that God made

“All real living is meeting,” wrote Martin Buber. “Personal reality is social, not atomistic,” says Daniel Maguire, for: “[b]y relationships are we individuals made, and by relationships will we be saved.” [Daniel C. Maguire, *The Moral Core of Judaism and Christianity: Reclaiming the Revolution*, Minneapolis: Fortress, 1993, pp. 218-219]. Buber and Maguire both emphasize particularly the intimate bonds between God's people and God's earth, their home.

Creation-community and Church-community are bound together. As the apostle Paul saw it, Creation and Church are conjoined in the labor pains of redemption (Romans 8:22-23). Christ does not work through individualistic vacuums toward “pie in the sky by and by.” The cosmic Christ accomplishes personal redemption only within the dual context of humanity being redeemed and world being recreated.

Consequently the fate of the earth and all its creatures, and the issues of climate change and the extent to which it may be caused by human activity – such matters are at the core of Christian responsibility. Environmental ethics is not a dispensable option – not for those who believe that “the earth is the Lord's, and all that is in it.”

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**John Gibbs**, PhD, a retired theologian, attends Trinity Episcopal Church, Park Rapids, MN. He originally wrote these thoughts in 2001. It is available online at: <http://www.env-steward.com/events/earthis.htm> John and we welcome your comments.

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### Additional Thoughts on the Resolution on Church Buildings and Grounds and Church Related Activities.

John Gibbs, PhD

#### *A Household of Food-Fuel Tensions*

The way we live within our households tells who we are. That is true not only of families. We work out our self-definitions also in the civic household of “the common good,” and in the household [*oikos*] of the ecumenical [*oikoumenikos*] Church. The way humans collectively inhabit [*oikein*] the household of all life forms tells no less decisively who (and Whose) we are.

Any living household, moreover, is a continuing balancing act between conflicting demands and resources. Ecology [*oikos + logos*], which studies the one finite household of all life forms, presents us with vast complexities in the interactions of life forms among themselves and with their environments. The choices we make or fail to make, the balances or imbalances that we arrange within those ecological complexities, disclose who we are--for God, ourselves, and all the world to see.

One balancing act that we cannot avoid in the ecological household is the rising tension between food and fuel. The complexities of that tension are both detailed and comprehensive, both intellectual and pragmatic, both technological and moral. It is beyond this brief article, indeed beyond the mind of this writer, to do more than acknowledge the developing conflicts within our human demands for both food and fuel, compare some possibilities and difficulties in biomass fuels, and list some sources for further information.

Both writer and reader require utmost patience and caution, for ideologically constipated minds cannot process ecological complexities. (The same is true of biblical and theological complexities, but that's another story.)

First: What about the hope that biomass fuels can supplement, and to a limited extent replace, fossil fuels? Some experts argue that we can have both an increasing food supply and the fuels that can be derived from biomasses (that is, stored solar energy). The *Food and Agriculture Organization of the United Nations*, which so contends, defines “biomass” as “all forms of plant-derived matter (terrestrial and aquatic) other than that which has been fossilized.” That UN body, which aims to build “partnerships for food security,” proposes “an integrated approach to the production of food and fuel” within which “there is no need for conflict between future food and energy needs.” [For this and other references see the list of websites at the end of this article.]

It is easy to become optimistically enthusiastic about the fuel possibilities latent in biomass resources (sawdust, rice straw, alfalfa and switchgrass, animal wastes, paper components in municipal solid waste, etc.). Experts tell us that direct combustion, thermochemical, and biochemical processes, can process biomass into usable fuels such as biodiesel, and at the same time produce a “carbon sink” (that is, a net removal of CO<sub>2</sub> from the atmosphere) that helps reduce global warming.

For instance, as the *Environmental News Network* reported December 2001, “chicken manure could become environmentally friendly fuel.” ... “Liquefied, cooked and sterilized by heat and intense pressure, it can be blended with diesel to power an engine with no significant difference in performance.” That's a neat answer to water pollution from manure that would otherwise have been plowed into the ground as fertilizer. The 500 tons of litter on the average chicken farm could be converted into fuel worth about a ¼-million dollars, claims Prof. Al Stiller who developed the process at West Virginia University.

Most biofuel in this country has been produced from corn and soybeans, or in Europe from rapeseed (*canola*). The National Biodiesel Board and other groups lobby for funding to convert corn, soybeans, and waste vegetable oils into biodiesel. Only one unit of energy is needed to produce 3.24 units of energy, they claim, which is “the highest energy balance of any fuel.”

The Biomass Energy Research Association's (BERA) website offers a paper by Donald Klass, “An Introduction to Biomass Energy, A Renewable Resource,” which points out that biomass is “renewable in the sense that only a short period of time is needed to replace what is used as an energy resource.” Klass argues that we will have to derive fuel from biomass because of two driving forces: first, “the end of the Fossil Fuel Era” will be in sight by 2050; second, fossil fuel usage adversely impacts the environment.

Second: On the other hand, there are obstacles to bioenergy development, and many difficulties have arisen. First, caveats appear even in proponents' presentations in favor of producing fuels from biomass. The BERA paper, which was last modified on April 21, 2002, reports that in the U.S. “no full-scale IBPCSs [Integrated Biomass Production-Conversion Systems] have yet been built.” But without such systems, biomass energy is limited to niche markets. Further, just when forests are being widely destroyed, more forests are needed “because they are the largest, long-lived, global reserve of standing biomass carbon.” It will also be difficult to get investment in first-of-a-kind IBPCSs.

If biomass is “renewable” over time, as Klass thinks, is it also spatially renewable? Will the space required (land, water, air), and the quality of space that a full-scale IBPCS would demand, be always renewable? If such large systems ever are built, could they remain located in or near areas of biomass growth? Shannon Jung, Director of the Center for Theology and Land in Dubuque, emails to me that “the issue is becoming more and more water.”

Even the UN report implies, and sometimes lists, major barriers that must be overcome before bioenergy can displace fossil fuels to the extent that present and projected energy demands require. If world demographics will in 20 years require 50% more cropland, how can we be sure that, after food demands have been met, there will be sufficient land and water resources for biomass to grow and then be processed into fuel?

The *American Biomass Association* claims: “Energy crops can be grown on more marginal lands, in floodplains, and in between annual crops and riparian areas.” But if demands for bioenergy increase severely at the time that oil and natural gas reserves are nearly depleted, will that less productive land suffice, or will there arise competition for the better food-producing land?

Another difficulty is the impact of corporations on biodiesel production from corn and soybeans in the negative ways they have impacted agriculture for food. Do we really want to be the kind of people who “farm without the farmer” in a “field of corporate dreams,” as Debra Bendis' article in *The Christian Century*, June 19-26, 2002 asks? If we have failed to humanize agribusiness, what strategies can we devise to humanize bioenergy-business?

A third difficulty is both economic and moral. At a time when “falling water tables in China may soon raise food prices everywhere,” as the Earth Policy Institute's “Alert” for May 2, 2000 reports, do we still use soybeans and corn for fuel? The EPI's Alert for Nov. 21, 2001 targets water depletion: “World grain harvest falling short by 54 million tons: water shortages contributing to shortfall.”

Third: Where to from here? Some folk continue to make fuel from corn and soybeans and canola. Others advocate, as does the Union of Concerned Scientists, that we switch from those crops to native crops such as switchgrass as the preferred source of biomass.

Others contend that even native biomass does not go far enough to replace fossil fuels.

Lester

R. Brown of the EPI is persuaded that the new “Eco-Economy” will be powered by wind, solar, and geo-thermal energy. These are fully renewable sources in the sense that they are always inexhaustibly there. Further, they pose no conflicts with food production, and they do not add to global warming. Brown reports that the cost of “wind electricity” has dropped from 35 cents per kilowatt-hour 15 years ago to 4 cents at prime sites, with some long-term contracts signed at 3 cents. Solar energy is a decade or so behind wind in its economic feasibility, but it also is coming along.

We have surveyed the emerging food-fuel tension within our ecological household. Whether we choose food for ourselves at the expense of small local farms, and fuel for ourselves in competition to food for all humanity, depends on who we are, as our own Canon Missioner Steve Schaitberger commented to me. Our choices depend on what priorities guide us, what loyalties determine our journeys, and on Whose we are.

### List of Websites

*American Biomass Association*

<http://www.biomass.org>

*American Soybean Association*

<http://soygrowers.com>

*Biomass Energy Research Association*

<http://www.bera1.org>

*Earth Policy Institute*

<http://www.earth-policy.org>

*Environmental Network News*

<http://www.enn.com>

*Environmental Organization Web Directory*

<http://www.webdirectory.com>

*Food & Agriculture Organization of UN*

<http://www.fao.org>

*National Biodiesel Board*

<http://www.nbb.org>

*NCC Eco-Justice Working Group*

<http://www.webofcreation.org/ncc/index.html>

*Union of Concerned Scientists*

<http://www.ucsusa.org/index.html>

**Note:** Links to each of these websites are on the webpage with this article.

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**John Gibbs**, PhD, a retired theologian, attends Trinity Episcopal Church, Park Rapids, MN. He originally wrote these thoughts in 2002. It is available online at: <http://www.env-steward.com/events/fuel.htm> John and we welcome your comments



# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### Thoughts on how to implement the concept of *the use of renewable, sustainable clean energy.*

by Mary Anderson

Our church buildings, homes, and structures are outward and visible signs of our commitment to God's purposes. These structures are a reflection of our awareness that God calls all of us to live in harmony with the earth and to be good stewards of all God's creations. When we built our home three years ago we used these principles to guide its design and construction with an emphasis placed on energy conservation.

There are numerous products available to minimize energy consumption and reduce our contribution to greenhouse gases and global warming. One area in which energy savings can be made is in the appliances we choose for our homes and churches.

- T Hot water heaters consume a large portion (if not the largest) of the household energy budget. By using a high efficiency water heater you can cut your annual bills by as much as \$100.
- T Another type of water heater saves energy by eliminating the need to keep 30-80 gallons (115-300 liters) of water hot until it's needed. These are known as instantaneous or tankless heaters. They are installed at the point of use and they can reduce energy consumption by as much as 20%.
- T Refrigerators are another large consumer of electricity in the typical household. There are models available that use one-fifth of the electricity that the average refrigerator uses, and operate for as little as \$50 per year.
- T Dishwashers are another appliance in which energy consumption can be reduced. Newer models cut hot water usage by as much as 40% to only a little more than 5 gallons (19 liters) per cycle.
- T Front loading washing machines are another way to reduce hot water use and costs. By spinning the tub on a horizontal axis less water and soap are used to get clothes clean than is used by a conventional top-loading machine in which more water is required to immerse the clothes.

The Federal Government administers the ENERGY STAR<sup>®</sup> program which rates appliances in terms of their energy efficiency. Always check the ENERGY STAR<sup>®</sup> rating to determine how the appliance compares to others in terms of its energy usage and choose the best you can afford remembering that the additional cost will be paid for from the savings in electricity during the life of the appliance.

Be careful when purchasing any of these newer appliances though because in most cases they come equipped with clocks, remote controls, or other energy requiring devices which remain on even when the unit is turned off creating what are called phantom loads.

Another area in which significant reductions in energy use can be made is in lighting. Compact fluorescent light bulbs produce as much light as an incandescent bulb but for about one fourth the amount of energy. And since these bulbs last much longer, they can save as much as \$50 per bulb per year. In addition, an 18 watt compact fluorescent bulb requires burning 500 fewer pounds (230 fewer Kilograms) of coal which saves 1300 pounds (590 Kg) of global warming carbon dioxide, and 20 pounds (9 Kg) of acid rain causing sulfur dioxide during the course of its life.

Other products, which have undergone remarkable improvements in energy efficiency are windows, doors, and insulation. A wide range of window options exist from the number of panes in the window, to the type of gas in between the panes, to the material used to separate the panes, or to the type of glass used and whether or not it is coated. All of these features effect the amount of light that passes through the window and the amount of heat that escapes which determines its energy efficiency. Doors vary in the type and amount of insulation in them, and in the type and method of weatherstripping that seals the door when it closes. And new insulation materials with R-values up to 40 have been developed to help hold heat in during the winter and keep heat out during the summer.

In addition to these appliances, fixtures, and materials, consideration should also be given to the heating and cooling systems. First among them are systems that do not require the use of fossil fuels that contribute to global warming. These include passive solar heat, wind generation, and photovoltaic systems. These systems rely on the sun to create heat either directly in the case of passive solar, or indirectly through modules that convert sunlight into electricity, or through wind that turns turbines that create electricity. Another option is a ground source heat pump, which utilizes the 55° F (13° C) heat of the ground to heat your home during the winter and cool your home during the summer.

But remember, even if you choose not to invest in any of these more efficient technologies, you can still have a meaningful impact on energy consumption by choosing to conserve our energy resources. Simply turning down the thermostat, turning off the lights when not in use, or not letting the water run needlessly will all help to preserve this wonderful planet God has given us.

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**Mary Anderson** is an active member of St. Andrew's by the Lake Episcopal Church, Duluth, MN. She originally wrote this implementation essay in 2002. It is available online at <http://www.env-steward.com/events/res-ener.htm> Mary and we welcome your comments.

### **How is Wind Energy being used in Minnesota?**

*During April and May 2003, the Environmental Stewardship Commission contacted 48 Electric Utilities in Minnesota about their Wind Energy Programs. Of the 34 (71%) responses received, only 6 (12.5%) provided information about Wind Energy Subscribers. The 48 utilities reported 714,794 subscribers (as of December 31, 2002). The 6 utilities (representing 315,094 customers [44.1% of the total surveyed]) reported 2,928 Wind Energy subscribers (as of Dec 31, 2002). This represents about 0.93% participation.*

*So, are you doing your part??*

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### **Thoughts on how to implement the concept of *concentration on reduction of energy and resource usage through retrofitting and/or replacement of inefficient heating/cooling, plumbing and ventilation systems***

by Bert Whitcombe

A basic, common understanding of thermodynamics is essential to environmental stewardship in these times. No math, no complex physics, just what's happening in the world (the universe) of heat and cold and how it affects our church community, the earth and ourselves. The most direct savings are monetary; they also include resource conservation and global warming reduction.

As far as how the hot and cold thing works, first and foremost heat moves to cold. So when we say that the cold is leaking in, we feel a cold draft, actually the heat is leaving, it's doing the moving. This has caused some to speculate that the universe is destined to seek stasis, a steady state, achieving a universal temperature, which has lead others to speculate on physical and Meta-physical stuff, but that's another matter.

Another important principle is that the desire of heat to move to a cold place is not constant. The greater the difference between the hot and cold places, the stronger the heat's desire is to leave.

For instance, in Minnesota, when its -10° F (-23° C) outside and 70° F (21° C) inside the heat is very anxious to be going out into the cold, which makes its desire to go out much greater than that of most Minnesotans.

When it comes to those warm houses and churches there are two ways for the heat to leave, warm air leaving and radiation loss.

Taking up 'air infiltration', being the term used in the trade, odd seeing as it's actually the heat leaving, not the cold coming in. Ok, ok, you can actually feel cold air coming into a room when the outside door is open, but it is coming in (positive air flow) because warm air (negative air flow) has left.

Time for another part of the thermal saga, warm air is lighter than cold air, which is soon to become important information.

Ok, warmth wants to leave, how do we stop it?

1. Make sure that there are no air leaks, especially in the upper parts of the building, remembering that the greater the difference between in and out, and that the hot air is going up, there is a great urge, on the part of the heat to go out holes that are on the upper reaches of the building, which creates a vacuum, or great desire to suck cold air in from the bottom.
2. Regulate how easy it is for the cold to get in. Storm doors and windows and double entry doors are inventions to accomplish this. It works sort of like entering a city speed limit and first the speed drops from 55 to 40 and then to 30.

Energy companies and private firms do 'energy audits', that by calculation and physical discovery, find the leaks. This can be initially costly, and it is usually cost effective over time.

And onto the radiation issue. By preventing the air from leaving as per above we have taken the first step – but heat has a very great desire to leave so we need to create an additional obstacle, we need to thicken the envelope with thermal resistance, insulation.

This resistance issue also is not constant. There are two factors:

1. As I mentioned before, if there is a greater difference between in and out, there will need to be more thermal resistance to keep the heat in.
2. The thermal resistance is measured in R units, R-1 resists 50% of the thermal heat loss, R-2 resists 75% of the loss, R-4, 87.5%; and so on. The way it works is this, doubling the resistance (insulation) stops ½ of the remaining heat loss.

To put it into another form, a masonry church has about R-4 walls if they are not insulated (often, they are not). Which means that, of the heat that desires to go through the wall, 12.5% is doing so, and if that heat costs \$200 a month, \$25 is lost.

Addressing thermal loss:

1. Windows are prime air infiltration sites and very low in thermal resistance, R-2 maybe. Curtains of all kinds help, the tighter (close the top of the curtain envelope) and the thicker (more thermal resistance) the better.
2. Increasing the R-Value will always pay off in the long run, but these pay backs take much longer, addressing air infiltration losses first is usually the best plan.
3. A somewhat separate thermal loss issue that can result in huge savings is higher efficient heating plants. Older units can be operating at as little as 40% efficiency while modern appliances often are 95% efficient.

**Attention – attention!**

This information is just as important in the summer as the winter! Same heat-cold issue, and if you air condition, you want to keep that cold air in, so the very same rules and solutions apply!

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**Bert Whitcombe** is a member of St. James' Episcopal Church, Fergus Falls, MN. He originally wrote this implementation essay in 2002. It is available online at <http://www.env-steward.com/events/res-ther.htm> Bert and we welcome your comments.

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

**Thoughts on how to implement the concept of *use of landscape designs and maintenance that are in harmony with the surrounding ecosystem, center around native flora and fauna, decreasing use of pesticide and herbicide chemicals and proper disposal of yard waste such as grass trimmings and branches***

by Nan Stokes

A totally different world would be evident if we could change our reliance on gasoline motors! Giving up our car seems drastic, and even though we are berated for not car-pooling or driving less, chances are our love affair with our vehicle may be here for a very long time. The lawn mower, however, is a different story. We have been captivated by visions of acres of green grass surrounding our homes and churches, and now we discover we must mow that grass – creating loud noise and smoke and using up precious leisure hours to maintain those visions. It is time to consider alternatives – ground covers and/or plantings to enhance public and private landscapes and cut down on the mowing and the time needed to mow. Nurseries and greenhouses offer many different ideas and plants to help with those re-designs – using native species is just one of the ways to change. Church lawns especially offer chances to arrange paths and/or benches to take advantage of the need for relaxation and reflection. As the growing season offers those chances, take time to study about what is available and discuss the ideas with the Vestry or Bishop's Committee. Think of the gasoline to be saved and the pollution to be prevented!

### Winter and Landscaping

It is not easy to be thinking about the landscape when Winter is here, but it is never too early to start planning! Extension Offices and landscape designers will be offering workshops soon, and you should enroll in a workshop to learn the basics of landscape design. There are many "indoor" activities which can be done while you are waiting for warmer weather. Landscaping offers so many more choices now – outdoor living spaces have unlimited possibilities. Perhaps the biggest change is the incorporation of native plants and efforts to provide sustainability, which means using plantings that are suited for the soil and the climate. We are learning to balance human needs with low maintenance demands that give environmentally sound results.

Whether you are planning a landscape at your church or in your own backyard, you can begin by developing a base plan which identifies characteristics of the site:

- + buildings and property lines should be measured;
- + locations of trees and shrubs, walks and driveways should be noted;
- + making a scale drawing is very helpful at this point;
- + decide what plants/shrubs/trees you would like to include in the landscape;
- + include cost estimates and work plans in your design;
- + select those plants which will match the site conditions;
- + continue to expand (or change) your original plan as needed;
- + leave some grassy areas;
- + consider wildlife needs.

Continue to do research – many nurseries have suggestions for native species and can help identify appropriate plants for any situation, but only you can choose what is right for your landscape. Planning a landscape and making that plan reality is not a quick and easy task.

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**Nan Stokes**, 2002-2004 co-chair of the Environmental Stewardship Commission, is an active member of St. Edward the Confessor Episcopal Church, Duluth, MN. She originally wrote this implementation of the resolution in 2001. It is found online at <http://www.env-steward.com/events/res-land.htm> Nan and we welcome your comments.

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

**Thoughts on how to implement the concept of *use of landscape designs and maintenance that are in harmony with the surrounding ecosystem, center around native flora and fauna, decreasing use of pesticide and herbicide chemicals and proper disposal of yard waste such as grass trimmings and branches***

by Nancy B. Gibbs

### *Harmony and Landscape*

Gardening is love. It's connecting to creation palpably: moving dirt, creating space, planting, watering, watching, participating in resurrection, tilling and weeding, rejuvenation. It's viewing the hard labor of back, legs, arms and hands and exclaiming with God, it is good.

Gardening is an acquired taste, like *Fritos*<sup>TM</sup> "you can't eat just one". Some gardeners may have to enroll in an addiction-breaking organization to help them **not** buy that extra green potted thing, which somehow summoned them to be its caretaker, even though they had no idea where to plant it. Or they may have to resist "one day at a time" that urge to create another garden bed despite having decided at last season's end that everything was "just" right.

Gardening is wonderful. It's the balm of Gilead: mind focuses, and spirit settles. With all the work, peace grows. Leaves enlarge, buds swell, and flowers emerge. The red of geraniums, the blues of delphinium, the purples of violets, and the yellow of daisies, all irradiate immeasurable contentment. What ear has not heard, nor eye seen, the spirit senses, for God's presence is here. Toil, rain and sun, insects, perpetuation of life all are held in the beauty of God's holiness.

Descending from the heights of wonder, I look out on this yard of mine with an eye for detail. What do I do with that flat spot, side hill, and this shady area with clumps of upended stump sculptures?

Questions abound when I do site evaluation. Grade of slopes, contour, light and moisture will determine the degree of vegetation to be used or not used in particular areas. Ideally vegetation helps solve problems like erosion, the securing of privacy, or the sheltering against noise.

When beginning a garden, I evaluate the present flora and fauna. Within the property may be valuable assets. One of our side hills had single violet plants emerging through the grass. When transplanted to their own garden with better soil and adequate moisture the violets propagated and flourished providing spectacular bouquets of blues and purples. Another find was an indigenous cherry tree. My attention was drawn to its pointed leaves with their springtime red protuberances and its white flecked bark. By trimming the growth around the tree and enlarging the yard around it, I had an excellent focal point without moving the tree.

Also look for plants that encroach. Some natural species may be beautiful if contained. But others like wild strawberries want to "eat" your garden. A discerning eye can determine whether to encourage invasive plants. Daisies are invasive, which may be acceptable within a space that is "contained".

An important pre-gardening evaluation is to specify my expectations. What colors, symmetry, varied shapes would I like this landscape to offer those who behold it? What am I willing and capable of giving it? What are my possibilities and limitations in time, energy, and physical capacity?

The best pre-planning includes excursions to other gardens through books, magazines, catalogs, videos, and on-site visits to greenhouses and other gardens. Even a drive by a garden can provide valuable information. Coming home one morning I took a side street in Park Rapids I do not

normally travel. In the center of a small yard I spotted a garden with a single plant, a Bee Balm. When I saw it's height and breadth I knew my plant at home needed to be moved out of the sun garden to its own place.

Visits and conversations with other gardeners are wonderful sources of information and inspiration. Two of my neighbors are great gardeners. One, a retired university agriculture instructor, is a wealth of information. He and his wife devote hours of labor to a multitude of lush gardens and grass. The other neighbor is an "I like it, let's do it" gardener who cleared wooded land to create a water garden surrounded by rocks and an entry bed of northern azaleas. Of course, the question was: where would the pond's gold fish go in the winter? They are indoors, now, in their aerated tank surrounded by the bonsai trees that also needed snow shelter. From each gardener I've learned the love and adventure of gardening.

To stimulate your quest for gardening love and adventure the following sources are recommended:

1. Agriculture Extension Service of your local Landgrant University (Many communities have a local branch office. Often you are a phone call away and much of the information they offer is free.)
2. Garden Catalogs: Gurneys, Burpees, Jungs, etc. are good primers on plant varieties and zone tolerances. Most of these mail order catalogs have 800-numbers. Jung Seed Co. has a website (<http://www.jungseed.com>).
3. Local Greenhouses and Garden Clubs
4. Books. There's an extensive array. Explore your options: use the library, visit used bookstores and garage sales. (The photographs may look dated in an old book but the basic gardening information is timeless.) *Barnes & Noble* or *Borders Books* often have tables of inexpensive books. Single-subject topical garden books are often found here.
5. For inspiration: Maureen Gilmer, *Rooted In The Spirit: Exploring Inspirational Gardens*; Taylor Publishing Co., Dallas, Texas; 1997.

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**Nancy B. Gibbs** is an active member of Trinity Episcopal Church, Park Rapids, MN. She originally wrote this implementation of the resolution in 2001. Nancy and we welcome your comments. It is found online at <http://www.env-steward.com/events/res-land.htm>

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

**Thoughts on how to implement the concept of *intentional planning and execution of all church-related activities so as to maximize use of public transportation, alternative transportation (such as walking and biking), and car-pooling.***

by the Rev Helen Hanten

Adherence to the resolution requires that the staff and membership of the Episcopal Diocese of Minnesota engage in building actions and cultural activities with prayerful consideration about the impact these actions will have on our Earth home. One way we live into this approach is intentional planning and execution of all church-related activities so as to maximize use of public transportation, alternative transportation (such as walking and biking) and car-pooling;

Sunday services are only part of the problem, but Sunday service times often put pressure on existing parking lots leading to discussion about the need to expand and to resurface space around the church. Too often parking lots are surfaced, with runoff of rain and melting snow flowing into the street or neighboring yards, with the lots essentially unused except for a few hours a week. Congregations in those situations would do well to consider planning to reduce the number of cars arriving on Sundays at church time by mapping the area of congregants homes and attempting to organizing car-pooling. The twofold benefits are the energy saved in transportation and better use of space near the church.

Energy saved in transportation could be maximized by scheduling events at the church in a way that lessens the number of trips each week for the members. The more the members tend to live in a wide area and drive long distances to events at the church, the more would be saved by carefully scheduling the extra events. Some congregations make use of Sunday worship service time to include some events before, after or between services. Adult educational forums, choir practice, meetings of committees and work on projects have all been included in some places. Church school is typically worked in or concurrent with the worship service. An additional possibility is a designated evening such as Wednesday, which in many places is "church night". All of the mid-week events could be scheduled either late afternoon, over dinner time with food included, or early evening. If the education committee meets once a month, let it be the first Wednesday with or without supper first. The men's group, women's group, contemporary music group, Bishop's Committee or vestry and whoever else wants to be on the schedule. The church library and computer lab can be staffed during those times. Nursery care provided. Start a discussion group!

Outings and excursions provide other opportunities for car-pooling and enable some who couldn't participate otherwise to be part of the group going together. Certainly regional board meetings or diocesan conventions out of town are a place to begin. One congregation in Duluth plans outings to nearby state parks with intentional planning for inclusion of older members. Another has a once a month lunch at a restaurant, a different one each month, for those who are 70, plus or minus 25, years old, and everyone is provided transportation who needs it. Why not appoint someone in your congregation the Minister of Transportation.!!! Helen B. Hanten. April, 2001

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**The Rev Helen Hanten** is a retired deacon at and an active member of St. Andrew's by the Lake Episcopal Church, Duluth, MN. She originally wrote this implementation essay in 2001. It is available online at: <http://www.env-steward.com/events/res-trans.htm> Helen and we welcome your comments



# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

**Thoughts on how to implement the concept of *intentional planning and execution of all church-related activities so as to maximize use of public transportation, alternative transportation (such as walking and biking), and car-pooling.***

by the Rev Margaret W. Thomas

### *Teaching the Next Generation to Care for Creation*

Children can readily learn respectful care and stewardship for God's entire planet. Although it is possible for children's activities to be richly nurturing at home, theologian Sallie McFague hopes that Christians and our institutions will strive toward developing strong experiential nurturing relationships between children and all forms of God's Creation.

Some ways of establishing and nurturing those relationships may be available on the church property itself. Outdoor play and discussion, regular cleanup, and/or gardening on the grounds can bond children to the soil, the fauna and flora, the weather, and the wider neighborhood community.

Insightful observance could lead to ongoing garden projects of flowers, pumpkins patches, meditation gardens, and enhanced play areas. Also possible are real vegetable gardens where food could be planted, tilled, and harvested in celebration of Rogation activities. Even a parish feed of a community sharing meal could be managed.

Other programming could allow for "critter care" of whoever also inhabits the parish space on Earth. In limited areas, local public parks could be incorporated. An experiment with park uses occurred August 2002 at St. Mary's Episcopal Mission in Ely, MN. A local national park, just fifteen minutes from the church, was the site for a week of day Camp. Local children were recruited. Volunteer elders from the Environmental Stewardship Commission visited, bring in activities which were highly experimental and low cost. Supplies were minimal, all natural, and barely left a trace was left when the camp was over.

Each Creation Camp day began with hiking through different portions of the park, viewing and discussing portions of the area. One day the Water Women, Nan Stokes, walked and talked the campers through and around the watershed concept. On another day the Minnow Man, Nelson Thomas, helped children seine small fish which were caught and released after sensing and identification.

As the week progressed the Rev. Roger Weaver, Story Man, captured young interests with themes of animals and their interrelated communities. The Rev. Margaret Warren Thomas told Creation stories from Genesis and Native American (Huron) tales, finding parallels and connections with the day activities. The Crafty Women, Kathy Weaver and Mary Groeninger, taught children to fashion mobiles from natural items found while hiking. An amazing wild storm had twisted down a young birch tree, so fresh sticks could be utilized in the spirit of thankfulness.

Bag lunches and lots of swimming graced the hot weather days. An eagle soared high over on the last day, giving a sense of joy and peace with awareness that campers were much closer in relationship to their areas than the locals had imagined to be possible.

**Resources:**

Joseph Bruchac, *Keepers of the Animals Keepers of Life*, Fulcrum Publishing, Golden California  
Michael J. Caduoto, *Keepers of the Earth*, Fulcrum Publishing, Golden California  
Sallie McFague. *Super, Natural Christians: How We Should Love Nature*, Fortress Press, Minneapolis, 1997.

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**The Rev. Margaret W. Thomas** is rector of St. Edward the Confessor Episcopal Church, Duluth, MN. She originally wrote these thoughts in 2003. It is available online at <http://www.env-steward.com/events/teach.htm>. Margaret and we welcome your comments.

The *Environmental Stewardship Commission* has identified 362 Electric Utilities providing service in the State of Minnesota. Of this number, 11 (3%) do not provide a Wind Energy option. Additionally, the Commission has not been able to obtain any information on 32 Utilities. Details can be found on the webpages about this project: <http://www.env-steward.com/events/mn-green.htm>

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### *Green Energy Providers in the State of Minnesota*

In Minnesota there are nine major providers of Wind Energy. Several of these utilities provide wind energy to local utilities. Below and on the following pages is a list of the majority of the electric utilities serving in the State of Minnesota, broken down by Local Utility and Major Provider. Unless indicated otherwise, the local utility offers Wind Energy. When you locate your local utility, identify the major Wind Energy provider on the right side of the column. The key for abbreviations is found on page 19.. The chart on page 20 explains the pricing programs. Contact information is on Page 23.

<u>Local Utility</u>	<u>Major Provider</u>	<u>Local Utility</u>	<u>Major Provider</u>
Ada Utilities	XCEL	Buffalo Lake Public Utilities	XCEL
Agralite Electric Cooperative	GRE	Butterfield Public Utilities	XCEL
Albany Public Utilities	XCEL	Byron Public Utilities	XCEL
Albertville Public Utilities	XCEL	Cannon City Public Utilities	XCEL
Alma City Public Utilities	XCEL	Cannon Falls Public Utilities	XCEL
Altura Public Utilities	XCEL	Castle Rock Public Utilities	XCEL
Annandale Public Utilities	XCEL	Chandler Public Utilities	XCEL
Arrowhead Electric Coop	GRE	Clara City Public Utilities	XCEL
Atwater Public Utilities	XCEL	Claremont Public Utilities	XCEL
Austin Utilities	SMMPA	Clarkfield Public Utilities	XCEL
Averill Public Utilities	XCEL	Clarks Grove Public Utilities	XCEL
Avon Public Utilities	XCEL	Clear Lake Public Utilities	XCEL
<b>Bagley Public Utilities</b>		Clearwater Public Utilities	XCEL
	<b>Not Offering Green Power</b>	<b>Clearwater Polk</b>	<b>MPC.</b>
Baker Public Utilities	XCEL		<b>Not offering Green Power</b>
Balaton Public Utilities	XC EL	Clements Public Utilities	XCEL
<b>Baudette Municipal Utilities</b>		Cleveland Public Utilities	XCEL
	<b>Not Offering Green Power</b>	Clinton Falls Public Utilities	XCEL
Beauford Public Utilities	XCEL	Cobden Public Utilities	XCEL
Becker Public Utilities	XCEL	Cokato Public Utilities	XCEL
Belgrade Public Utilities	XCEL	Cold Springs Public Utilities	XCEL
Belle Plaine Public Utilities	XCEL	Comstock Public Utilities	XCEL
Bellchester Public Utilities	XCEL	Concord Public Utilities	XCEL
Beltrami Electric Cooperative	MPC	CONNEXUS Energy	GRE
Belview Public Utilities	XC EL	Co-op Light & Power	GRE
BENCO Electric Cooperative	GRE	Corcoran Public Utilities	XCEL
Big Lake Public Utilities	XCEL	Cosmos Public Utilities	XCEL
Bird Island Public Utilities	XCEL	Cottonwood Public Utilities	XCEL
Blakely Public Utilities	XCEL	Courtland Public Utilities	XCEL
Blomkest Public Utilities	XCEL	Crow Wing Power	GRE
Blooming Prairie Public Utilities	SMMPA	Currie Public Utilities	XCEL
Bombay Public Utilities	XCEL	Dakota Electric Association	Dakota Electric Association
Borup Public Utilities	XCEL	Dakota Public Utilities	XCEL
Brooten Public Utilities	XCEL	Danube Public Utilities	XCEL
Brown County Rural Electric	GRE	Dassel Public Utilities	XCEL
Buffalo Public Utilities	XCEL	Delhi Public Utilities	XCEL
		Dennison Public Utilities	XCEL

**Local Utility                      Major Provider**

Dilworth Public Utilities	XCEL
Dodge Center Public Utilities	XCEL
Dresback Public Utilities	XCEL
Dundas Public Utilities	XCEL
East Central Electric Association	GRE
East Grand Forks Public Utilities	XCEL
Eagle Lake Public Utilities	XCEL
Echo Public Utilities	XCEL
Eden Valley Public Utilities	XCEL
Edgerton Public Utilities	XCEL
Elba Public Utilities	XCEL
Elko Public Utilities	XCEL
Elysian Public Utilities	XCEL
Essig Public Utilities	XCEL
Evan Public Utilities	XCEL
Fairfax Public Utilities	XCEL
Fairmont Public Utilities	SMMPA
Faribault Public Utilities	XCEL
Federated Rural Electric	GRE
Felton Public Utilities	XCEL
Fletcher Public Utilities	XCEL
Florence Public Utilities	XCEL
Flynntown Public Utilities	XCEL
Foley Public Utilities	XCEL

**Fosston Municipal Utilities**

**Not Offering Green Power**

Franklin Public Utilities	XC
	EL

**Freeborn-Mower Cooperative Services**

**Not Offering Green Power**

Freeport Public Utilities	XC
	EL

Frontenac Public Utilities	XCEL
Garvin Public Utilities	XCEL
Gaylord Public Utilities	XCEL
Gibbon Public Utilities	XCEL
Glenwood, Public Utilities	XCEL
Glyndon Public Utilities	XC
	EL

Good Thunder Public Utilities	XCEL
Goodhue Public Utilities	XCEL
Goodhue County Cooperative Electric	GRE
Goodview Public Utilities	XCEL
Grand Marais Public Utilities	SMMPA
Granite Falls Public Utilities	XCEL
Green Isle Public Utilities	XCEL
Green Lake Public Utilities	XCEL
Greenwald Public Utilities	XCEL
Hadley Public Utilities	XCEL

**Halstad Municipal Utilities**

**Not Offering Green Power**

Hammond Public Utilities	XCEL
Hampton Public Utilities	XCEL
Hanley Falls Public Utilities	XCEL

**Local Utility                      Major Provider**

Hanover Public Utilities	XCEL
	L
Hartland Public Utilities	XCEL
Hatfield Public Utilities	XCEL

**Hawley Public Utilities**

**Not Offering Green Power**

Hayfield Public Utilities	XCEL
Hazel Run Public Utilities	XCEL
Head of the Lakes Electric Cooperative	GRE

*Note: Merging with East Central Electric Association*

Hector Public Utilities	XCEL
Henderson Public Utilities	XCEL
Hokah Public Utilities	XCEL
Holdingsford Public Utilities	XCEL
Holland Public Utilities	XCEL
Homer Public Utilities	XCEL
Howard Lake Public Utilities	XCEL
Ihlen Public Utilities	XCEL
Iona Public Utilities	XCEL
Itasca Mantrap Cooperative Electric	GRE
Janesville Village Public Utilities	XCEL
Jordan Public Utilities	XCEL
Kandiyohi Power Cooperative	GRE
Kasota Village Public Utilities	XCEL
Kasson Public Utilities	XCEL
Kellogg Public Utilities	XCEL
Kenyon Village Public Utilities	XCEL
Kilkenny Public Utilities	XCEL
Kimball Prairie Public Utilities	XCEL
Kingston Public Utilities	XCEL
La Crescent Public Utilities	XCEL
Lafayette Public Utilities	XCEL
Lake City Utilities	SMMPA
Lake Country Power	GRE
Lake Crystal Public Utilities	XCEL
Lake Henry Public Utilities	XCEL
Lake Lillian Public Utilities	XCEL
Lake Region Electric Cooperative	GRE
Lake Wilson Public Utilities	XCEL
Litchfield Public Utilities	SMMPA
Long Beach Public Utilities	XCEL
Lonsdale Public Utilities	XCEL
Lowry Public Utilities	XCEL
Lydia Public Utilities	XCEL
Lyon-Lincoln Electric Cooperative	BEP
Madelia Village Public Utilities	XCEL
Madison Lake Public Utilities	XCEL
Manchester Public Utilities	XCEL
Mankato Public Utilities	XCEL
Mantorville Public Utilities	XCEL
Maple Lake Public Utilities	XCEL
Mapleton Public Utilities	XCEL
Marshall Municipal Utilities	XCEL

**Local Utility                      Major Provider**

Maynard Public Utilities	XCEL
Mazeppa Public Utilities	XCEL
McLeod Cooperative Power	GRE
Meeker Cooperative Light & Power	GRE
Meire Grove Public Utilities	XCEL
Melrose Municipal Utilities	XCEL
Meriden Public Utilities	XC EL
Mille Lacs Electric Cooperative	GRE
Millville Public Utilities	XC EL
Minneiska Public Utilities	XCEL
Minnesota City Public Utilities	XCEL
Minnesota Lake Public Utilities	XCEL
Minnesota Power	Minnesota Power
Minnesota Valley Electric Coop	GR E
Minnesota Valley Cooperative Light & Power Association	BEPC
Minnkota Power	MPC
Monticello Public Utilities	XCEL
Montrose Public Utilities	XCEL
Moorhead Public Service	Moorhead Public Service
Mora Municipal Utilities	SMMPA
Morgan Public Utilities	XCEL
Morristown Public Utilities	XCEL
Morton Public Utilities	XCEL
Nerstrand Public Utilities	XCEL
New Auburn Public Utilities	XCEL
New London Public Utilities	XCEL
New Market Public Utilities	XCEL
New Munich Public Utilities	XCEL
New Prague Utilities Commission	SMMPA
New Richland Public Utilities	XCEL
New Ulm Public Utilities Commission	XCEL
Nicollet Public Utilities	XCEL
Nobles Cooperative Electric	GRE
Nodine Public Utilities	XCEL
North Branch Water and Light	SMMPA
North Itasca Electric Cooperative	GRE
North Mankato Public Utilities	XCEL
North Redwood Public Utilities	XCEL
North Star Electric Co-op	MPC
Northfield Public Utilities	XCEL
Oak Center Public Utilities	XCEL
Orono Public Utilities	XCEL
Osakis Public Utilities	XCEL
Otisco Public Utilities	XCEL
Otter Tail Power Company	OTPC
Owatonna Public Utilities	SMMPA
PKM	MPC
Paynesville Public Utilities	XCEL
Pemberton Public Utilities	XCEL

Pine Island Public Utilities                      XCEL

**Local Utility                      Major Provider**

Pipestone Public Utilities	XCEL
Plato Public Utilities	XCEL
Preston Public Utilities	SMMPA
Princeton Public Utilities	SMMPA
Prinsburg Public Utilities	XCEL
Prior Lake Public Utilities	XCEL
Pulaski Public Utilities	XCEL
Randolph Public Utilities	XCEL
Rapidan Public Utilities	XCE L
Raymond Public Utilities	XCEL
Reads Landing Public Utilities	XCEL
Red Lake Electric Cooperative	MPC
Red River Valley Cooperative Power	MPC
Red Wing Public Utilities	XCEL
Redwood Electric Cooperative	GRE
Redwood Falls Public Utilities	SMMPA
Redwood Falls Public Utilities	XCEL
Regal Public Utilities	XCEL
Renville Public Utilities	XCE L
<b>Renville-Sibley Coop Power Association BEPC. Not Offering Green Power</b>	
Richmond Public Utilities	XCEL
Ridgeway Public Utilities	XCEL
Rochester Public Utilities	SMMPA
Rockville Public Utilities	XCEL
Rogers Public Utilities	XCEL
Rollingstone Public Utilities	XCEL
Roseau Municipal Utilities	MPC
Roscoe Public Utilities	XCEL
Roseland Public Utilities	XCEL
Runestone Electric Association	GRE
Ruthton Public Utilities	XCEL
Sabin Public Utilities	XCEL
Sacred Heart Public Utilities	XCEL
St Clair Public Utilities	XCEL
St Cloud Public Utilities	XCEL
St James Public Utilities	XCEL
St Joseph Public Utilities	XCEL
St Martin Public Utilities	XCEL
St Michael Public Utilities	XCEL
St Nicholas Public Utilities	XCEL
St. Peter Municipal Utilities	SMMPA
St Peter Public Utilities	XCEL
Sartell Public Utilities	XCEL
Sauk Centre Public Utilities Commission	XCEL
Sauk Rapids Public Utilities	XCEL
Sedan Public Utilities	XCEL
Shafer Public Utilities	XCEL
Sioux Valley Southwestern	BEPC
Skyberg Public Utilities	XCE

Skyline Public Utilities	XCEL	L	<b>Local Utility</b>	<b>Major Provider</b>
Slayton Public Utilities	XCEL		<b>Warren Water and Light</b>	
<b>Local Utility</b>	<b>Major Provider</b>		<b>Not Offering Green Power</b>	
Sleepy Eye Public Utility Comm	XCEL		<b>Warroad Municipal Utilities</b>	<b>Not Offering Green Power</b>
Smiths Mill Public Utilities	XCEL		Warsaw Public Utilities	XCEL
South Bend Public Utilities	XCEL		Waseca Utilities	SMMPA
South Central Electric Association	GRE		Waseca Public Utilities	XCEL
South Haven Public Utilities	XCEL		Wasioja Public Utilities	XCEL
SMMPA	SMMPA		Waterville Public Utilities	XCEL
Spicer (EG) Public Utilities	XCEL		Watkins Public Utilities	XCE
Spring Hill Public Utilities	XCEL			L
Spring Valley Utilities	SMMPA		Watson Public Utilities	XCEL
Stanton Public Utilities	XCEL		Waverly Public Utilities	XCE
Starbuck Public Utilities	XCEL			L
Stearns Electric Association	GRE		Weaver Public Utilities	XCEL
Steele-Waseca Cooperative Electric	GRE		Webster Public Utilities	XCE
Stewart Public Utilities	XCEL			L
Sunset Beach Public Utilities	XCEL		Wegdahl Public Utilities	XCEL
Thief River Falls Municipal Utilities	MPC		Wells Public Utilities	SMMPA
Todd-Wadena	GRE		West Concord Public Utilities	XCEL
Tracy Public Utilities	XCEL		West Union Public Utilities	XCEL
<b>Traverse Electric Cooperative</b>	<b>BE</b>		Westport Public Utilities	XCEL
	<b>PC.</b>		Wild Rice Electric Cooperative	MPC
	<b>Not Offering Green Power</b>		Wilson Public Utilities	XCEL
Trosky Public Utilities	XCEL		Winona Public Utilities	XCEL
Vermillion Public Utilities	XCEL		Witoka Public Utilities	XCEL
Veseli Public Utilities	XCEL		Wolverton Public Utilities	XCEL
Villard Public Utilities	XCEL		Wood Lake Public Utilities	XCEL
Wabasha Public Utilities	XCEL		Woodstock Public Utilities	XCEL
Wacouta Public Utilities	XCEL		Wright-Hennepin Cooperative Electric Association	BEPC
Waite Park Public Utilities	XCEL			
Waldorf Public Utilities		XC	Wright-Hennepin Electric	GRE
		EL	Xcel Energy	XCEL
Waltham Public Utilities	XCEL		Zumbro Falls Public Utilities	XCEL
Wanamingo Public Utilities	XCEL		Zumbrota Public Utilities	XCEL

**Abbreviations:**

- BEPC = Basin Electric Power Cooperative
- GRE = Great River Energy
- MPC = Minnkota Power Company
- OTPC = Otter Tail Power Company
- SMMPA = Southern Minnesota Municipal Power Agency
- XCEL = Xcel Energy

**This page will be updated on the website as changes are received.**

If your local utility is not listed above, that means there is **No Data Available** about Green Energy at that utility. Please notify the Environmental Stewardship Commission of changes:

**Environmental Stewardship Commission**

c/o Holy Trinity Episcopal Church

P.O. Box 65

Elk River, MN 55330-0065

e-mail: [info@env-steward.com](mailto:info@env-steward.com)

## Notice -

Page 20 is presently under revision and will be available in July 2003. For an updated version, please visit our website.

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### *Online References on Green Energy Programs and Providers*

**American Wind Energy Association** (<http://www.awea.org/>): advocates the development of wind energy as a reliable, environmentally superior energy alternative in the United States and the world

**Energy Efficiency and Renewable Energy** (<http://www.eere.energy.gov/>): A gateway to hundreds of Web sites and thousands of online documents on energy efficiency and renewable energy provided by the Department of Energy

**ENERGY STAR® Program** (<http://www.energystar.gov/>): a government-backed program helping businesses and individuals protect the environment through superior energy efficiency, including:

**Small Business ENERGY STAR® Program**

([http://208.254.22.7/index.cfm?c=small\\_business.sb\\_index](http://208.254.22.7/index.cfm?c=small_business.sb_index)): Click on the link for congregations, or go directly to the

**ENERGY STAR® Congregations** webpage

([http://208.254.22.7/index.cfm?c=small\\_business.sb\\_congregations](http://208.254.22.7/index.cfm?c=small_business.sb_congregations)): and download the no-cost ENERGY STAR for Congregations Guide: "Putting Energy into Stewardship" to learn ways that your congregation can achieve energy efficiency.

**Episcopal Ecological Network** (<http://EENonline.org/action/links.htm#Green>): As the grassroots network of Episcopalians from around the United States to help the Episcopal Church in the USA to advocate and articulate protection of the environment and preserving the sanctity of creation

**Episcopal Power and Light** (<http://www.theregenerationproject.org/epl.html>): By combining the purchasing power of Episcopal Churches and their congregations into what is known in the industry as an "aggregate", not only will we be able to negotiate a favorable price, but we will be able to buy "environmentally friendly" power as well. Furthermore, because of the labor intensive nature of environmental businesses, we will help create jobs.

**Green-e, Renewable Energy Program** (<http://www.GREEN-E.ORG/>): provides an easy way for consumers to quickly identify environmentally superior electricity products in competitive markets.

**Green Church Network** (<http://www.greenchurch.cafeprogressive.com/>) provides a simple, quick, yet varied informational tool for anyone telling where to get more information.

**Massachusetts Interfaith Power and Light** (<http://www.MIPandL.org/>): a non-profit initiative to offer Massachusetts congregations of every religious tradition a comprehensive means of reducing energy consumption, lowering operating costs, and promoting non-polluting renewable energy in houses of worship and related buildings.

**Minnesota Power** ([http://www.mnpower.com/energy\\_tips/](http://www.mnpower.com/energy_tips/)): This website has several interesting pages on calculating savings (see page 22) on items before purchase and on improving your energy savings through remedial activities.

Continued next page



## *Minnesota Power calculators:*

### **Home Energy Analyzer:**

([http://www.mnpower.com/energy\\_tips/frame\\_home\\_energy\\_analyzer.htm](http://www.mnpower.com/energy_tips/frame_home_energy_analyzer.htm)): Compare your home energy use with similar homes- See where your home uses energy -Reduce your energy bills.

### **Home Analyzer FastTrack**

([http://www.mnpower.com/energy\\_tips/frame\\_home\\_analyzer\\_fasttrack.htm](http://www.mnpower.com/energy_tips/frame_home_analyzer_fasttrack.htm)): Spend just minutes answering a few questions about your home and you will receive effective ways to conserve energy and save money.

### **ENERGYSmart University** ([http://www.mnpower.com/energy\\_tips/frame\\_university.htm](http://www.mnpower.com/energy_tips/frame_university.htm)):

A variety of courses, reference materials, labs and other materials to help individuals and groups learn about energy and energy related issues.

### **ENERGYSmart Library** ([http://www.mnpower.com/energy\\_tips/frame\\_library.htm](http://www.mnpower.com/energy_tips/frame_library.htm)):

Source for information about energy topics and technologies to learn more about the energy used in your home. Includes a searchable index

### **Energy Calculators** ([http://www.mnpower.com/energy\\_tips/frame\\_energy\\_calculators.htm](http://www.mnpower.com/energy_tips/frame_energy_calculators.htm)):

Shows how much can be saved by installing new, energy-efficient appliances (refrigerators, heating, air conditioning, washers) and how to operate them efficiently.

**Note:** Minnesota Power was the only major energy provider in Minnesota to offer this service on their website.

**Minnesotans For An Energy Efficient Economy** (<http://www.me3.org/issues/wind/>): a nonprofit organization leading the transition to a clean, efficient, and fair energy system

**National Wind Coordinating Committee** (<http://www.nationalwind.org/default.htm>): identifies issues that affect the use of wind power, establishes dialogue among key stakeholders, and catalyzes appropriate activities to support the development of environmentally, economically, and politically sustainable commercial markets for wind power

**National Renewable Energy Laboratory [NREL]** (<http://www.nrel.gov/>): The U.S. Department of Energy's premier laboratory for renewable energy research & development and a lead lab for energy efficiency R&D

**Renewable Resource Data Center [RReDC]** (<http://rredc.nrel.gov/>): as part of the National Renewable Energy Laboratory, the RReDC provides information on several types of renewable energy resources (solar, wind, and biomass) in the United States, in the form of publications, data, and maps; as well as an extensive dictionary of renewable energy related terms

**The Regeneration Project** (<http://www.theregenerationproject.org/>): committed to lead communities of faith to a deeper understanding of what it means to be "Good Stewards" of creation. Our mission is to expand, deepen, and leverage the link between religious faith and environmental responsibility

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**NOTE:** All of the above links are on the website of the Environmental Stewardship Commission (<http://www.env-steward.com/events/mn-green-refs.htm>). The Website is updated monthly.

# Environmental Stewardship Commission

## Episcopal Diocese of Minnesota

### *Contact information for the Major Utilities in Minnesota:*

**Basin Electric Power Cooperative** (<http://www.basinelectric.com/>)

1717 East Interstate Avenue  
Bismarck, ND 58503-0564

Main Phone: (701) 223-0441  
General Fax: (701) 224-5336

**Dakota Electric Association** (<http://www.dakotaelectric.com/>)

4300 220th Street West  
Farmington MN 55024

651-463-6212  
1-800-874-3409

**Great River Energy** ([http://www.greatriverenergy.com/HTML/gre\\_home.html](http://www.greatriverenergy.com/HTML/gre_home.html))

17845 East Highway 10  
Elk River, MN 55330

Phone: 763-441-3121  
Fax : 763-241-2366

**Minnesota Power** (<http://www.allete.com/business/electric/>)

30 West Superior Street  
Duluth, Minnesota 55802

218-722-2641 (Duluth Area)  
Toll free 1-800-228-4966

**Minnkota Power Cooperative** (<http://www.minnkota.com/>)

1822 Mill Road  
Grand Forks, ND 58206-3200

Phone 701-795-4000  
Fax 701-795-4214

**Moorhead Public Service** (<http://www.mpsutility.com/>)

500 Center Avenue  
P.O. Box 779  
Moorhead, MN 56561

218-299-5400

**Otter Tail Power Company** (<http://www.otpco.com/>)

PO Box 496  
215 S Cascade Street  
Fergus Falls, MN 56538-0496

Phone: 218-739-8200

**Southern Minnesota Municipal Power Agency** (<http://www.mnhometownnetwork.com/>)

500 First Avenue Southwest  
Rochester, Minnesota 55902-3303

Main: 507-285-0478  
Toll Free: 1-800-237-8992  
Fax: 507-292-6414

**Xcel Energy** (<http://www.xcelenergy.com/XLWEB/CDA/>)

414 Nicollet Mall  
Minneapolis, MN 55401-1993

1-800-895-4999

# Environmental Stewardship Commission

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## *An Example of Cost and Savings:*

**How much electricity is a 100-kilowatt-hour block?**

The chart below shows how much electricity typical appliances require in a month.

### **Monthly blocks of energy used by typical electric home appliances**

<b>Appliance</b>	<b>100-KwH blocks</b>	<b>Additional charge per month*</b>
<b>Clothes Dryer</b>	<b>1</b>	<b>\$1.28 to \$3.00</b>
<b>Deep Freezer</b>	<b>1</b>	<b>\$1.28 to \$3.00</b>
<b>Refrigerator</b>	<b>1</b>	<b>\$1.28 to \$3.00</b>
<b>Small room air conditioner</b>	<b>3</b>	<b>\$3.84 to \$9.00</b>
<b>Water heating for family of 4</b>	<b>5</b>	<b>\$6.40 to \$15.00</b>

\* Data based on highest and lowest rate indicated on page 15

KwH usage provided by *Otter Tail Power Company*.

So if you use 1100 kilowatt-hours (KwH) of electricity per month and you choose to utilize wind power for all your electricity needs, your electric bill would be an additional \$14.08 to \$33.00 more per month, depending upon your utility. However, you may buy as many or as few blocks of 100 kilowatt-hours of wind energy as you like.

Through the use of more energy efficient appliances, you can further reduce hazardous emissions into the air from “traditional” power generation.

Together, the purchase of energy-efficient appliances and the purchase of wind energy can greatly reduce the negative impact on our environment. The choice is yours.

# *Environmental Stewardship Commission*

Episcopal Diocese of Minnesota

<http://www.env-steward.com>



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