

Renewable Energy



Where does renewable energy come from?

Renewable energy sources are those which can be naturally replenished in a short period of time such as rain, wind, and geothermal heat. Those used most often are solar, hydroelectricity, biomass, geothermal, and wind.

What is the benefit of using renewable energy?

When renewable energy is used, the demand for fossil fuels is reduced. Unlike fossil fuels, non-biomass renewable sources of energy (water, geothermal, wind, and solar) do not emit greenhouse gases. Over half of renewable energy goes to producing electricity. The next largest use is the production of heat and steam for industrial purposes.

Did you know that renewable energy was used more than 150 years ago?

The source was wood, a form of biomass, which supplied up to 90% of the United States energy needs.

How can I utilize renewable energy?

In the past, renewable energy has generally been more expensive than fossil fuels. However, the production and use of renewable sources has grown more quickly in recent years due to the higher prices of oil and natural gas, and numerous State and Federal Government incentives.

Solar power—Whether captured as heat or as electricity, solar power is virtually limitless, although this technology is most efficient in the Southwest United States.

Biofuels and Hybrid Technologies—consider the following:

- Biofuels face some challenges in the future, but burn cleaner than fossil fuels.
- A shift to hybrid technology would result in fewer greenhouse gas emissions than fossil fuels or biofuels.
- Solar photovoltaic (PV) is currently used in watches and calculators, and could be used to charge vehicles.

Geothermal—investing now results in sustainable heating and cooling for the future.

Wind—studies must be conducted to determine where it's most feasible.

In 2006, Governor Pawlenty set Minnesota on a course to have 25% of our energy come from renewable sources by the year 2025—the most aggressive plan in the nation.

Renewable Energy in Action

Renewable Energy Resources

By making a phone call or simply filling your gas tank, renewable energy can be at your finger tips. For more information about renewable energy options, please visit: <http://www.state.mn.us/portal/mn/jsp/home.do?agency=Energy>



Great River Energy. A leading provider of renewable energy to Minnesota and Wisconsin, Great River Energy has partnered with Dakota Electric to bring clean wind energy to residents in the area. Through the Wellspring Renewable Wind Energy Program, Great River Energy has been able to provide wind generated power to over 6,000 consumers. Dakota Electric members, commercial and residential alike, who would like to sign up for the Wellspring energy may do so by calling the cooperative at 651-463-6212.

In 2006, ethanol use in the U.S. reduced greenhouse gas emissions by approximately 8 million tons, the equivalent to removing annual emissions of more than 1.21 million cars from the road.



Windsorce. Provided through Xcel Energy, Windsorce is available to both residential and commercial purchasers. This is a great way to reduce your environmental impact, with a minimal increase in price. Residential and small business properties alike have the opportunity to purchase 100 kWh blocks or choose to purchase 100% Windsorce. To sign up, contact Xcel Energy directly at <http://www.xcelenergy.com>



Ethanol, a form of biomass, is a renewable energy used in gasoline. Ethanol is a growing industry in Minnesota. At the 550 million gallon production level in 2006, Minnesota's ethanol industry generated an estimated \$2.77 billion in total economic impacts and over 10,000 jobs. As research continues, the production of ethanol becomes cheaper. According to the USDA, the additional increase to be expected in corn yields comes with no large increase in nitrogen use per acre. In fact, the improved genetic traits of seeds has led to less use of herbicides and pesticides. To use ethanol, be sure to check with your local gas station.



Geothermal. Minnesota's cold winter climate can be utilized in the production of geothermal heating, cooling, and energy. The climate can maximize the energy savings available in heating dominant regions. Geothermal energy is a clean, safe, and reliable source of energy built to last a lifetime. This renewable resource can be implemented in new and existing properties. Whether it is a commercial or residential property, saving can be realized within a matter of years. The City of Burnsville is incorporating this form of renewable energy in the Ice Center. For more information about the Ice Center project, visit the City's website at <http://www.ci.burnsville.mn.us/index.aspx?NID=879>

Challenge Yourself to do More

Use Renewable Energy—visit the Minnesota Energy Challenge website at www.MNEnergyChallenge.org to join over 22,000 Minnesota households in reducing their fossil fuel energy usage through simple, effective actions.