

UMore Park and Energy Efficient Incentives in Affordable Housing: Developer to Homeowner



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Summer Internship 2010

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INTRODUCTION TO GREEN AFFORDABLE HOUSING

The Importance of Having Green Affordable Housing

Throughout United States History, affordable housing has been subject to negative perceptions. Many think that an affordable housing complex will lower property values or decrease the home sale performance. After numerous articles and reports disproving these allegations, many still have the same sensitivity. Family Housing Fund is one of numerous organizations that produced articles, attempting to change the public's view of affordable housing. "Affordable Rental Housing Does Not Reduce Property Values: The Evidence from the Twin Cities" was published in April, 2001 by Family Housing Fund. This article provides evidence that home prices increased after the construction of an affordable rental housing complex. Researchers also provided information that challenges the idea of bad home sale performance. Evidence shows that there was no effect on how fast or for how much a home sells for. With the integration of affordable housing in the UMore Park development, the University of Minnesota has the opportunity to alter the public's "age old" perception of affordable housing in the area.

The incorporation of affordable housing in UMore Park is more important now than ever before, with daily living costs steadily increasing, while annual income is at a standstill. More and more people are getting priced out of areas that they work and go to school in. In order to prevent this, the University of Minnesota, along with the City of Rosemount and Dakota County, need to work together to regulate the affordability within the development. These three entities have the outstanding opportunity with this development to maintain a diverse community by keeping the average home price affordable. The chart below compares the median income to the average home price in the area. The residents within Dakota County and the five bordering counties, on average, pay more than thirty percent of their income to their mortgage. On top of their mortgage payment, residents must also budget for rising transportation costs, daily living costs, and energy costs.

County	Average Home Price	Area Median Income	Calculated Mortgage	Percentage of Income
Dakota County	\$249,900	\$75,266	1936.20	30.8%
Goodhue County	\$194,000	\$55,813	1501.35	32.3%
Ramsey County	\$228,500	\$53,141	1699.71	38.4%
Rice County	\$214,800	\$58,697	1663.15	34%
Scott County	\$283,600	\$81,393	2198.35	32.4%
Washington	\$272,200	\$80,432	2109.67	31.4%

The University of Minnesota's vision for UMore Park consists of education, health and energy efficiencies. With the growing dependency of non renewable resources, it is important that the University takes great consideration when investigating and implementing energy efficiencies. With the incorporation of green, energy efficient features in the affordable homes within UMore Park, the University of Minnesota will be able to attract homebuyers to a variety of different homes. The implementation of energy efficiencies will allow homeowners to spend less on energy bills. Homeowners will be able to save more money for their child's education or afford a family vacation. The ability to save money will help insure the stability of UMore Park, attracting more lifelong residents to the development.

DEVELOPERS

Benefits of Working on Green Affordable Housing

There will be many obstacles when trying to persuade a developer to invest money into affordable, green housing at UMore Park. Many developers are reluctant to do any type of development because of the current economic situation. Developers need to be mindful of the incentives that come along with developing affordable housing. In order to entice developers to work on affordable



housing at UMore Park, the University of Minnesota must create a partnership with a reputable developer. They must also educate the developer on the project and its extensive potential, as well as, the support from the community for more affordable housing within Rosemount. This community support stems from regulations put out by the Metropolitan Council. The support also stems from the workforce residents who have been priced out of the area, in conjunc

tion with employers who encourage their workers to live within the community for transportation stability. The University must also support the developer through the application of financial incentives that can be acquired through local, state, and federal entities. More financial incentives can be pursued through non-profit, for-profit, and “green” organizations. Many financial incentives require green and/or energy efficient technologies to be implemented in affordable homes. These features can be used to the developers benefit when marketing their new homes. The green features will draw in potential homebuyers because of the health benefits, energy savings and the environmental impacts. These incentives will help persuade a developer to work with the University of Minnesota on affordable, green housing at UMore Park.

DSIRE

Database of State Incentives for Renewables and Efficiency

Xcel Energy- Solar Rewards Program

Program Overview:

State: Minnesota

Incentive Type: Utility Rebate Program

Eligible Renewable/Other Technologies: Photovoltaic

Applicable Sectors: Commercial, Residential, Nonprofit, Local Government

Maximum Incentive: \$90,000 (as determined by the incentive level and maximum system size)

Ownership of Renewable Energy Credits: Xcel Energy

Start date: 03/01/2010

Summary:

The Xcel Energy's Solar Rewards Program is an incentive for residential and commercial users that install a grid-connected photovoltaic system that is at least .5 kilowatts and less than 40 kilowatts. The system must also be new equipment and must carry a five-year warranty. This up-front incentive requires a 20-year contract with Xcel Energy that transfers ownership of all renewable energy credits produced by the system during the life of the contract.

The system must be installed on a home in Minnesota that is owned by the applicant and that also receives electric service from Xcel Energy in order to be eligible for the incentive. Customers must also have performed an energy audit within the last three years that passes the Xcel Energy's audit program standards. If the standards are not met, the owner may be required to change certain elements in their home to meet the prerequisites that are stated in the energy audit. Homes that have been Energy Star certified through Xcel's Energy Star project, or businesses that have participated in one of several commercial energy efficiency programs will qualify automatically. **“NEW CONSTRUCTION PROJECTS ARE ELIGIBLE FOR THE INCENTIVE, BUT MUST HAVE AN XCEL ENERGY ELECTRIC METER ON-SITE AND AN ELECTRICITY ACCOUNT SET UP WITH THE UTILITY.”**

Net metering is an option that is offered under this program. The resident will be issued a small monthly fee for the use of a bi-directional meter, but they will be credited for the energy produced. These credits will apply to their next statement. If the net excess generation balance exceeds \$25.00, the customer will be issued a check for the extra energy that was produced.

Participants must submit an application and receive approval before installing the system. There is a \$250 application fee that is applied for the engineering review. If the application is denied or the participant decides not to participate, the application fee will be fully refunded.

Contact:

Program Information - Solar*Rewards Program

Xcel Energy

414 Nicollet Mall, 6th Floor

Minneapolis, MN 55401

Fax: (612) 318-4787

E-Mail: SolarProgramMN@xcelenergy.com

Web Site: <http://www.xcelenergy.com>

DSIRE

Database of State Incentives for Renewables and Efficiency

Xcel Energy-Renewable Development Fund Grants

Program Overview:

State: Minnesota

Incentive Type: Utility Grant Program

Eligible Renewable/Other Technologies: Solar Thermal Electric, Photovoltaic, Biomass, Hydroelectric, CHP/ Cogeneration, Hydrogen, Anaerobic Digestion, Renewable Fuels, Fuel Cells using Renewable Fuels

Applicable Sectors: Commercial, Industrial, Residential, Nonprofit, Schools, Local Government, Utility, State Government, Tribal Government, Federal Government, Agricultural, and Institutional

Amount: Varies by RFP details

Maximum Incentive: Projects in Energy Production-\$2 million
Projects in R&D- \$1 million

Program start date: 1999

Summary:

The Xcel Energy Renewable Development Fund was created in 1999, after Minnesota legislation concerning spent nuclear fuel was produced in 1994. Over the years, the legislation has been modified several times. The modifications influenced the amount of money collected by the fund and the allocations of funds for specific programs. The Xcel Energy Renewable Development Fund provides money through a Request for Proposal process. Funding is split between new development projects that have a potential to produce renewable energy, and research and development. Wind energy production products are not eligible for the funding.

Three rounds of grants have been completed and approved. In 2001, the first round was completed, supporting nineteen projects with \$16 million. In 2005, the second round of grants was approved, now supporting twenty-nine projects with almost \$37 million. In 2009, the most recent cycle was completed. This time, the funds supported twenty-two projects with \$22.6 million. There are plans for a fourth cycle, but it has not been scheduled yet.

Note: The application deadline for the third and most recent funding cycle is now closed. The fourth funding cycle has not yet been scheduled.

Contact:

Timothy J. Edman

Xcel Energy

414 Nicollet Mall

Minneapolis, MN 55401-1993

Phone: (800) 354-3060

Fax: (612) 330-7601

E-Mail: timothy.j.edman@xcelenergy.com

Web Site: <http://www.xcelenergy.com>

DSIRE

Database of State Incentives for Renewables and Efficiency **Solar Energy Sales Tax Exemption**

Program Overview:

State: Minnesota

Incentive Type: Sales Tax Incentive

Eligible Renewable/Other Technologies: Solar Water Heat, Solar Space Heat, Solar Thermal Process Heat,
Photovoltaic

Applicable Sectors: Commercial, Industrial, Residential, General Public/Consumer

Amount: 100% Exemption

Maximum Incentive: None

Date Effective: 08/01/2005

Summary:

In Minnesota, solar energy products defined by the legislation and purchased after August 1, 2005, are exempt from the state's sales tax. All components of the systems listed above are covered under the tax exemption. Buyers must complete a "Certificate of Exemption" form (Minnesota Department of Revenue Form ST3) in order to claim the exemption. Sellers of the systems and components must keep the form on file to future reference. The incentive has no expiration date.

Contact:

Energy Information Center

Minnesota Department of Commerce

Office of Energy Security

85 7th Place East, Suite 500

St. Paul, MN 55101-2198

Phone: (651) 296-5175

Phone 2: (800) 657-3710

Fax: (651) 297-7891

E-Mail: energy.info@state.mn.us

Web Site: <http://www.energy.mn.gov/>

DSIRE

Database of State Incentives for Renewables and Efficiency **Energy-Efficient New Homes Tax Credit**

Program Overview:

State: Federal

Incentive Type: Corporate Tax Credit

Eligible Efficiency Technologies: Comprehensive Measures/Whole Building

Applicable Sectors: Construction

Amount: \$1,000-\$2,000 (Depending on energy savings and home type)

Maximum Incentive: \$2,000

Program Start Date: 1/1/2006

Summary:

“The Energy-Efficient New Homes Tax Credit applies to new residential homes completed by December 31, 2009. The credit is currently not available for new homes constructed after January 1, 2010. Refer to the IRS for any developments in the renewal of this credit.”

The Energy Policy Act of 2005 established the tax credit for up to \$2,000 for builders of new energy efficient homes and manufactured homes. The tax credit was originally planned to expire at the end of 2007. It was extended, twice, by the Tax Relief and Health Care Act of 2006 and the Energy Improvement and Extension Act of 2008.

In order to apply for the tax credit, the residential project must be in the United States. The construction of the project must be completed after August 8, 2005. Finally, the project must meet the energy savings requirements outlined in the statute. The requirements consist of being certified to reduce heating and cooling energy consumption by 50% relative to the International Energy Conservation Code standard. It must also meet the minimum efficiency standards that were established by the Department of Energy. Finally, the building envelope must account for one-fifth of the reduction in energy consumption. The IRS is in charge of the certification of each project.

Contact:

Public Information - IRS

U.S. Internal Revenue Service

1111 Constitution Avenue, N.W.

Washington, DC 20224

Phone: (800) 829-1040

Web Site: <http://www.irs.gov>

ENTERPRISE

Solutions and Financing for Affordable Homes **Charrette Grants**

Program Overview:

Maximum Incentive: \$5,000

Organization: Enterprise-Green Communities

Incentive Type: Grant

Eligible Efficiency Technologies: Sustainability Education

Applicable Sectors: 501(c)(3) nonprofits, tribally designated housing entities, and for-profit entities participating through joint ventures must identify the nonprofit 501(c)(3)

Summary:

The Green Communities Charrette Grants is a grant, up to \$5,000, to assist developers with implementing green building systems into their developments and also engage in a discussion of green design possibilities. The grant is awarded to developers to coordinate a green charrette. The charrette includes a work session of funders, policymakers and community stakeholders used to discuss the integration of sustainable design principles into affordable housing, while also keeping the community in mind. The charrette allows developers to address these issues at the early stages in development, in order to establish green goals as early as possible and also insure that the most cost effective strategies are used. The cost of the charrette is covered by the grant, up to \$5,000, covering everything but the food.

Contact:

Janne Flisrand

Program Coordinator

c/o Greater Minnesota Housing Fund

332 Minnesota St.

Suite 1310-East

St. Paul, MN 55101

Cell Phone: 612-816-2115

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Toll-Free: 800-277-2258, ext. 119

Fax: 651-221-1904

*Can not speak for Enterprise Communities, National.

ENTERPRISE

Solutions and Financing for Affordable Homes **Sustainability Training Grants**

Program Overview:

Maximum Incentive: \$5,000

Organization: Enterprise-Green Communities

Incentive Type: Grant

Eligible Efficiency Technologies: Sustainability Education

Applicable Sectors: 501(c)(3) nonprofits, tribally designated housing entities, and for-profit entities participating through joint ventures must identify the nonprofit 501(c)(3)

Summary:

The Sustainability Training Grant provides the opportunity to educate residents about the green features in their home. It provides the opportunity for developers to create an operations and maintenance manual in order to preserve the features in the development. The grant also allows for a training session for residents and operational staff. In order to receive the grant, construction must have been completed on the development at the time of application. The project must also have been occupied before the grant can be awarded. The grant is disbursed after the manual and training have been complete.

**Because funds are limited, Enterprise reserves the right to negotiate with grant applicants to determine the highest and best use of Green Communities grants in a specific project.*

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Cell Phone: 612-816-2115

Telephone: 651-221-1997, ext. 119

Toll-Free: 800-277-2258, ext. 119

Fax: 651-221-1904

*Can not speak for Enterprise Communities, National.

HUD

Department of Housing and Urban Development

Sustainable Communities Regional Planning Grant

Program Overview:

Maximum Incentive: Large Cities: minimum \$500,000, maximum \$5,000,000

Medium Cities: minimum \$200,000, maximum \$2,000,000

Small, Rural Cities: minimum \$100,000, maximum \$1,000,000

Organization: HUD- Sustainable Housing and Communities

Incentive Type: Grant

Eligible Efficiency Technologies: Preparation of Regional Plans

Applicable Sectors: units of government, regional planning agencies, nonprofit organizations, and allied public and private sector partners that seek to develop a regional plan

Start Date: June 24, 2010

End Date: August 23, 2010

Summary:

In 2010, Congress gave HUD a total of \$150,000,000 for a Sustainable Communities Initiative in order to improve regional planning throughout the country while integrating housing and transportation. The initiative is also to increase capacity by incorporating livability, sustainability and social equity values into planning and zoning. \$100,000,000 of the \$150,000,000 will be used in the Sustainable Communities Regional Planning Grant. The grant supports metropolitan and multi-jurisdictional planning that intend on integrating housing, land use, economic and workforce development, along with transportation and infrastructure investments.

There are two categories of funding for the Sustainable Communities Regional Planning Grant. The first category is to support the preparation of regional plans for sustainable development. The second category is to fine tune existing plans to accommodate for sustainability and prepare for a more detailed execution of the plan. In order to receive any grant money, the applicant must abide by the six Livability Principles set out by HUD and its partners, the DOT and the EPA. The principles include:

1. Provide more transportation choices.
2. Promote equitable, affordable housing.
3. Enhance economic competitiveness.
4. Support existing communities.
5. Coordinate policies and leverage investments.
6. Value communities and neighborhoods.

This grant ends on August 23, 2010. The grant has the opportunity to be extended, based on participation and federal funds available.

Contact:

Dale Darrow

Sustainability Officer, Minneapolis HUD Field Office

612.370.3000 ext. 2280

Dale.A.Darrow@hud.gov

sustainablecommunities@hud.gov

HUD

Department of Housing and Urban Development

HUD-DOT Community Challenge Grant

Program Overview:

Maximum Incentive: \$3,000,000, no minimum grant amount

Organization: HUD- Sustainable Housing and Communities

Incentive Type: Grant

Eligible Efficiency Technologies: Detailed engineering or architectural specification drawings for specific housing, capital facilities and transportation projects.

Applicable Sectors: State and local governments, transit agencies, port authorities, MPO's, other political subdivisions of state or local government and multi state or multi jurisdictional groupings

Start Date: July 26, 2010

End Date: August 23, 2010

Summary:

The Community Challenge Planning Grant is a \$40 million grant that supports the reform and reduction of barriers that prevent affordable, economically vital, and sustainable communities. The planning grant supports amending or replacing local master plans, zoning codes and building codes in order to promote mixed-use development, affordable housing, and reuse of older buildings and structures for new purposes. The Community Challenge Planning Grant also supports the development of affordable housing through the adoption of inclusionary zoning ordinances and other land acquisition techniques. HUD, in conjunction with the DOT, is working to better align transportation, housing, economic development, land use planning, and to improve the links between HUD and DOT programs.

This grant ends on August 23, 2010. The grant has the opportunity to be extended, based on participation and federal funds available.

Contact:

Dale Darrow

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612.370.3000 ext. 2280

Dale.A.Darrow@hud.gov

sustainablecommunities@hud.gov

GMHF

Greater Minnesota Housing Fund

Multifamily Gap Loan Program

Program Overview:

Maximum Incentive: Limited

Organization: Greater Minnesota Housing Fund

Incentive Type: Loan

Eligible Programs: Newly constructed permanent housing for families, transitional housing, and permanent supportive housing

Applicable Sectors: Non-profit and for-profit developers and local government agencies

Summary:

The goal of this program is to provide quality rental housing to low- and moderate-income families. The program was also established to provide affordable opportunities to stabilize the workforce housing in areas that are economically vital. This program contains minimum project requirements as long with other selection priorities.

Minimum Project Requirements:

- Need for affordable rental housing in community
- Leverage with additional funds, and must be committed before approval of GMHF funds
- Local participation from governments, businesses, and/or lenders
- Sound financial structure
- Attractive, functional, cost effective and complementary to existing neighborhood
- In compliance with all codes and requirements
- Income cannot exceed 80% area median income

Other Selection Priorities:

- Employer involvement throughout all development stages
- Reduced fees for developer
- Mixed income development
- Location need neighborhood amenities
- Innovative building techniques, including the implementation of green features

To apply for the loan, send a Super Request for Proposal, along with a Common Application.

Contact:

Warren Hanson

President and CEO

332 Minnesota St., Suite 1201 East

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651.221.1997

whanson@gmhf.com

GMHF

Greater Minnesota Housing Fund

New Construction Gap Financing Program

Program Overview:

State: Minnesota

Incentive Type: Loan

Eligible Programs: Need based gap funds for newly constructed homes

Eligible Applicants: Non-profit and for-profit developers, local government agencies, employers, lenders, and local or regional non-profits.

Maximum Incentive: \$15,000 per homebuyer

Summary:

The New Construction Gap Financing Program was established to promote the construction of affordable housing for low- and moderate- income families. It was also formed to support the production of affordable starter homes. This program contains basic program requirements.

- Local sponsors must be involved in development of new housing, facilitating homebuyer education, and determining homebuyer gap financing.
- Funds are for new construction only.
- Acquisition cost limit may not exceed GMHF limits.*
- Homes must be connected to city water and sewer.
- Homebuyers must meet mortgage criteria with homebuyer education.
- Gap financing needs to be used in conjunction with down payment assistance.
- Income is restricted to 80% or below statewide median income.

A request for proposal must be submitted to apply for the program. Decisions are made twice per year, once in spring and once in fall.

*# of Children in Household	Acquisition Cost Limit	Acquisition Cost Limit in High Cost Areas**	Minimum Space to Finish
0-1	\$167,000	\$175,000	2 B 1 B or 3 B 1B
2	\$173,000	\$181,000	3 B 1 B or 2 B 2 B
3	\$179,000	\$187,000	4 B 1 B or 3 B 2 B
4+	\$185,000	\$193,000	4 B 2 B

**High cost areas are Chisago, Isanti, Sherburne, and Wright counties.

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MARKETING ADVANTAGE

Getting Consumers in Sustainable Homes

“For both owner occupied and rental housing, lower energy and maintenance costs, as well as, healthier sustainable construction can be a marketing advantage.” –CSBR, Minnesota Sustainable Housing Initiative

One of the main concerns for developers is not building an affordable house with green amenities; the concern lies in the selling of homes during and after construction. With the current economic situation, this concern grows daily for developers. Once a developer is chosen to partner with the University of Minnesota, they must be educated and understand the mind of the consumer when marketing the new affordable, green homes. While developers might think that the environmental issues are the most important, the consumer is concerned about the cost and payback of their investment. Another large consideration for the consumer is the health benefit of a green home. When trying to market the new homes the developer needs to acknowledge the consumers needs and, ultimately, adjust their marketing strategy to fit the consumer's needs.

On July 22, 2010, a focus group was held at the Dakota County Community Development Agency. During the focus group, questions were asked about the group's feelings on their current community, what they want in an ideal community, and their thoughts on green and/or energy efficient features in a home. The general consensus was that the most known features are the most desirable, such as, energy efficient appliances, double pane windows, and extra insulation. These three items pay off for the consumer, making these features the most important when it comes to marketing the new homes. Many participants were open to large technologies, but were concerned that they would not see the pay back on their investment. The focus group participants were interested in incentives for buying a green home, but were not willing to pay more for a home with green amenities. Therefore, as a developer, the smartest marketing strategy is showing the monthly, yearly, and long term energy savings for the consumer.

Showing the energy savings to a potential homebuyer is very important, but the consumer will also want to know about the health and maintenance benefits. The focus group participants wanted to be able to experience and see firsthand the sustainable features, as well as, the maintenance and health features. Another marketing strategy that should be implemented is hands-on, educational programs. This will allow the homebuyer to see exactly what features will be implemented in their home. It will also allow the potential consumer to see how to maintain their new home. By offering this benefit as part of the marketing strategy, the developer will be able to put the consumers mind at ease, while also giving them beneficial information for the future of their new investment.

It is important for the developer to keep in mind what the consumer will be interested in. The two most important marketing strategies will be showing the energy cost savings and showing the maintenance and health benefits with hands-on, educational curriculum. These two things will make the decision to invest in a sustainable home a lot easier for the interested consumer.

QUICK REFERENCES

For More Information about Developer Incentives

United States Census Data

1. <http://factfinder.census.gov>

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY

Energy Efficient New Homes Tax Credit:

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US41F&re=1&ee=1
2. <http://www.state.mn.us/portal/mn/jsp/content.do?id=-536893811&subchannel=null&sc2=null&sc3=null&contentid=536885915&contenttype=EDITORIAL&programid=536917401&agency=Energy>

Solar Energy Sales Tax Exemption:

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN16F&re=1&ee=1
2. www.energy.mn.gov

Xcel Energy Renewable Development Fund Grants:

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN11F&re=1&ee=1
2. <http://www.xcelenergy.com/Minnesota/Company/Environment/Renewable%20Development%20Fund/Pages/RenewableDevelopmentFund.aspx>

Xcel Energy Solar Rewards Program:

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN138F&re=1&ee=1
2. http://www.xcelenergy.com/Minnesota/Residential/RenewableEnergy/Solar_Rewards/Pages/home.aspx

ENTERPRISE GREEN COMMUNITIES

Charrette Grants:

1. <http://www.greencommunitiesonline.org/tools/funding/grants/charrette.asp>

Sustainability Training Grants:

1. <http://www.greencommunitiesonline.org/tools/funding/grants/sustainability/index.asp>

UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

HUD-DOT Community Challenge Grants:

1. http://portal.hud.gov/portal/page/portal/HUD/program_offices/sustainable_housing_communities/HUD-DOT%20Community%20Challenge%20Grants

Sustainable Communities Regional Planning Grant:

1. http://portal.hud.gov/portal/page/portal/HUD/program_offices/sustainable_housing_communities/Sustainable%20Communities%20Regional%20Planning%20Grants

GREATER MINNESOTA HOUSING FUND

Multifamily Gap Loan Program:

1. <http://www.gmhf.com/programs/multifamily/multifamily.htm>

New Construction Gap Financing Program:

1. http://www.gmhf.com/programs/single-family/gap_financing.html

CENTER FOR SUSTAINABLE BUILDING RESEARCH

Minnesota Sustainable Housing Initiative:

1. <http://www.mnshi.umn.edu/index.html>

HOMEOWNER

Benefits of Owning a Green Affordable Home

Purchasing a home is a lifelong dream for many people. The investment that the homebuyer is considering will be the biggest investment that he and/or she will ever make. Therefore, the homebuyer will be looking for an ideal home, in an ideal community, all within their budget. Many homebuyers choose where they live for the school district, others choose it for its proximity to local amenities, and even others choose their community based on its parks and outdoor spaces. There are a variety of reasons for someone to purchase a home, but the most important thing is that it fits within their budget. Sacrifices will be made on square footage to be downtown or in the perfect school district. So, why would a potential homebuyer look at homes in UMore Park, which may have a higher initial price tag?

There are three reasons why someone would spend more on initial costs to buy a green, affordable home, but all three boil down to one thing-payback for the consumer. Green homeowners have many opportunities for financial incentives from the local government, state government, and federal government. These financial incentives range from tax exemptions, to tax credits, loans, and grants. There is also an energy efficient mortgage program to help homebuyers get into and stay in energy efficient homes. These things may help with the initial costs, but do not justify the extra initial expenses for the homebuyer.

Items and features that we implemented in the new green home are the cause of those extra expenses, but these items also have a payoff for the consumer. The most noticeable payoff will be in the monthly energy costs. Each month energy bills will be lower than most non-energy efficient homes. The extra insulation and double pane windows will pay off when air conditioners and heaters run half as much because of these features. The washer and dryer will pay for themselves in a couple of years because of the amount of money saved on energy bills. Financial incentives and energy savings are two of the things that will have a payback for the consumer; the last is in the health benefits.

The health benefits have a different kind of payback than the financial savings. With the implementation of ventilation systems and vapor barriers for mold and moisture control, the homeowner will benefit from not getting sick as often. This leads to less missed work days or less missed days at school. This benefit will help the occupants for a lifetime.

These three benefits will help incentivize consumers to move to UMore Park. Potential residents will be happy to know that there is a payback for buying a green home and will be more willing to spend more on the large energy efficient investment.

DSIRE

Database of State Incentives for Renewables and Efficiency

Centerpoint Energy-Residential Energy Efficiency Rebate Program

Program Overview:

State: Minnesota

Incentive Type: Utility Rebate Program

Eligible Renewable/Other Technologies: Water Heaters, Furnaces, Boilers, Programmable Thermostats,
Duct/Air sealing, Building Insulation, Natural Gas

Applicable Sectors: Residential

Amount: Forced Air Furnaces: \$150-\$400

Boiler: \$300

Condensing Boiler: \$500

Water Heater: \$70-\$100

Indirect Water Heater: \$200

Programmable Thermostat Installation: \$25

Air Sealing/Insulation: 50% of cost, max \$400

Start date: 01/01/2010

End date: 12/31/2010

Summary:

Centerpoint Energy offers a rebate program for select energy efficient technologies for their Minnesota customers. The selected systems include forced air furnaces, boilers, condensing boilers, water heaters, indirect water heaters, programmable thermostat installation, and air sealing/insulation. The systems were chosen because they can greatly enhance energy savings for the customer. Equipment requirements must be met in order to receive the rebate. Qualifying equipment includes atmospheric, power and vent models. Tankless models do not qualify for the rebate.

Contact:

CenterPoint Energy Heating System Rebate Program

PO Box 59038

800 LaSalle Avenue

Minneapolis, MN 55459-0038

Phone: (612) 399-1545 Ext.4327

Phone 2: (888) 525-1566

Web Site: <http://www.centerpointenergy.com/services/naturalgas/residential/?sa=MN>

DSIRE

Database of State Incentives for Renewables and Efficiency

Connexus Energy - Residential Energy Efficiency Rebate Programs

Program Overview:

State: Minnesota

Incentive Type: Utility Rebate Program

Eligible Renewable/Other Technologies: Clothes Washers, Dishwasher, Refrigerators, Water Heaters, Heat pumps, Central Air conditioners, Geothermal Heat Pumps

Applicable Sectors: Residential

Amount: Central Air Conditioners: \$30 - \$300

Ductless Central Air Conditioners: \$35

Air-source Heat Pumps: \$330 - \$630

Ductless Air-source Heat Pumps: \$300

Geothermal Heat Pumps: \$400 per ton

Air Conditioner Tune-Up: \$25

Water Heaters: varies

Clothes Washer: \$25

Dehumidifier: \$25

Dishwasher: \$25

Refrigerator: \$75

End date: 12/31/2010

Summary:

Connexus Energy offers rebates to their residents for implementing energy efficient technologies in their homes. Some of the equipment that qualifies for the rebate are central air conditioners, ductless central air conditioners, air-source heat pumps, ductless air-source heat pumps, geothermal heat pumps, air conditioner tune-ups, water heaters, clothes washers, dehumidifiers, dishwashers, and refrigerators. All technologies must meet certain requirements and must be installed by a certified HVAC contractor. Residents need to fill out an application in order to receive the rebate.

Contact:

Customer Service - CE

Connexus Energy

14601 Ramsey Blvd NW

Ramsey, MN 55303

Phone: (763) 323-2600

Phone 2: (800) 642-1672

E-Mail: info@connexusenergy.com

Web Site: <http://www.connexusenergy.com/>

DSIRE

Database of State Incentives for Renewables and Efficiency

Home Energy Loan Program

Program Overview:

State: Minnesota

Incentive Type: State Loan Program

Eligible Renewable/Other Technologies: Water Heaters, Furnaces , Boilers, Central Air conditioners, Building Insulation, Custom/Others pending approval, Storm Windows and Storm Doors

Applicable Sectors: Residential

Amount: Varies by improvements

Maximum Incentive: \$10,000

Terms: 5.99% APR with a maximum term of 5 years

Summary:

The Home Energy Loan Program is a statewide program. It is under the Minnesota Housing Finance Agency and administered by the Center for Energy and Environment Financial Resources. The program offers low interest loans for energy efficient improvements on their home. The property should be single family, but can be up to 49% business. The house must be built before May 1, 1989. The borrower has no maximum income limit, but the loan must be through their mortgage.

Contact:

Jim Hasnik
Center for Energy and Environment
212 3rd Ave North
Suite 560
Minneapolis, MN 55401
Phone: (612) 335-5885
Fax: (612) 335-2650
E-Mail: jhasnik@mncee.org
Web Site: <http://www.mncee.org/>

DSIRE

Database of State Incentives for Renewables and Efficiency

Solar Hot Water Rebate Program

Program Overview:

State: Minnesota

Incentive Type: State Rebate Program

Eligible Renewable/Other Technologies: Solar Water Heat

Applicable Sectors: Commercial, Residential, Multi-Family Residential

Amount: \$25 per square foot of net aperture

Maximum Incentive: Single family residential: lesser of 25% or \$2,000

Multi-family residential (2-3 units): lesser of 25% or \$4,000

Small business, including multi-family residential (4+ units):
lesser of 25% or \$25,000

Program Budget: \$500,000

End Date: When funds are exhausted

Summary:

The Minnesota Office of Energy Security offers a rebate for Minnesota single family residential, multi-family residential and small businesses for solar hot water heating systems. The rebate is available for new systems only. Systems for a hot tub or pool are not eligible for the rebate. There are many requirements that should be studied before applying for the rebate. All systems must be installed by a contractor with at least \$50,000 in liability insurance under a licensed plumber. The Office of Energy Security has the right to inspect and monitor systems. The program will stop accepting applications once funds have been exhausted.

Contact:

Energy Information Center

Minnesota Department of Commerce

Office of Energy Security

85 7th Place East, Suite 500

St. Paul, MN 55101-2198

Phone: (800) 657-3710

Fax: (651) 297-7891

E-Mail: energy.info@state.mn.us

Web Site: <http://www.energy.mn.gov/>

DSIRE

Database of State Incentives for Renewables and Efficiency **Solar Space Heating Rebate Program**

Program Overview:

State: Minnesota
Incentive Type: State Rebate Program
Eligible Renewable/Other Technologies: Solar Space Heating
Applicable Sectors: Commercial, Residential, Multi-Family Residential
Amount: \$25 per square foot of net aperture
Maximum Incentive: Single family residential: lesser of 25% or \$2,000
Multi-family residential (2-3 units): lesser of 25% or \$4,000
Small business, including multi-family residential (4+ units):
lesser of 25% or \$25,000
Program Budget: \$500,000
End Date: When funds are exhausted

Summary:

The Minnesota Office of Energy Security offers a rebate for Minnesota single family residential, multi-family residential and small businesses for solar space heating systems. The rebate is available for new systems only. Systems for a hot tub or pool are not eligible for the rebate. There are many requirements that should be studied before applying for the rebate, including the requirement to get your house air-sealed before installation. All systems must be installed by a contractor with at least \$50,000 in liability insurance under a licensed plumber. The Office of Energy Security has the right to inspect and monitor systems. The program will stop accepting applications once funds have been exhausted.

Contact:

Energy Information Center
Minnesota Department of Commerce
Office of Energy Security
85 7th Place East, Suite 500
St. Paul, MN 55101-2198
Phone: (800) 657-3710
Fax: (651) 297-7891
E-Mail: energy.info@state.mn.us
Web Site: <http://www.energy.mn.gov/>

DSIRE

Database of State Incentives for Renewables and Efficiency **Xcel Energy (Gas and Electric) - Residential Energy Efficiency Rebate Programs**

Program Overview:

State: Minnesota

Incentive Type: Utility Rebate Program

Eligible Renewable/Other Technologies: Clothes Washers, Refrigerators, Water Heaters, Lighting, Lighting Control Sensors, Furnaces, Boilers, Heat pumps, Central Air conditioners, Programmable Thermostats, Duct/Air sealing, Building Insulation, Whole House Fans, A/C Cycling Demand Response, Geothermal Heat Pumps

Applicable Sectors: Residential

Amount: Central A/C: \$225-\$475

Air-source Heat Pumps: \$180-\$330

Geothermal Heat Pumps: \$150/ton

Natural Gas Furnaces: \$100-\$325

Boilers: \$100 or \$250 with Home Performance Rebates

Water Heaters: \$120-\$250(standard); \$400-\$450 (tankless)

Air Sealing/Weather stripping: \$60

Attic Insulation: \$350

Wall Insulation: \$400

CFLs: \$40

Clothes Washer: \$50

Dishwasher: \$15

ECM Fan: \$100

Refrigerator: \$15

Refrigerator Recycling: \$35

Occupancy Sensor: \$60

Programmable Thermostat: \$10

Savers Switch A/C Cycling: 15% off your electric energy and fuel cost charges from June through September

Summary:

Xcel Energy offers rebates for Minnesota residents for the purchase of select energy efficient technologies. Customers receive an energy audit, and then must implement five energy efficient improvements. There are many requirements to review before applying for the rebate.

Contact:

Customer Service - Xcel Residential Efficiency

Xcel Energy

P.O. Box 59

Minneapolis, MN 55440-0059

Phone: (800) 481-4700

Phone 2: (800) 895-4999

Web Site: <http://www.xcelenergy.com>

OFFICE OF ENERGY SECURITY

Minnesota Department of Commerce

Heating Bill Assistance

Program Overview:

State: Minnesota
Incentive Type: Utility Grant Program
Eligible Renewable/Other Technologies: Heating Costs
Applicable Sectors: Residential, rental or ownership
Amount: Size of grant is based on household size, income, fuel type and energy usage
Funds: U.S. Department of Human Services

Summary:

The Energy Assistance Program is available to Minnesota residents who are at or below 50 percent of the state median income. The grant is to help those families pay their heating bills. The households with the lowest income and the highest energy costs will receive the most funds. Funds are available for renters or homeowners. Some of the services available through the fund are:

- Provide direct payment to the energy supplier
- Educate consumers to use home heating energy efficiently and safely
- Advocate with energy suppliers and human service providers on behalf of consumers
- Crisis help for utility disconnections or necessary fuel deliveries
- Emergency heating system repair or replacement

Residents who would like assistance must contact 1-800-657-3710 for an application or for more information.

Contact:

Energy Information Center
Minnesota Department of Commerce
Office of Energy Security
85 7th Place East, Suite 500
St. Paul, MN 55101-2198
Phone: (800) 657-3710
Fax: (651) 297-7891
E-Mail: energy.info@state.mn.us
Web Site: <http://www.energy.mn.gov/>

OFFICE OF ENERGY SECURITY

Minnesota Department of Commerce

Weatherization Assistance

Program Overview:

State: Minnesota

Incentive Type: Utility Grant Program

Eligible Renewable/Other Technologies: Home Energy, Health and Safety Hazards

Applicable Sectors: Residential, rental or ownership

Amount: Size of grant is based on household size, income, fuel type and energy usage

Funds: U.S. Department of Human Services and U.S. Department of Energy

Summary:

The Weatherization Assistance Program is available to Minnesota residents who are at or below 200% of the Federal Poverty Income Guidelines. The grant is to help those families pay their energy bills and fix and health or safety hazards associated with the HVAC systems. The households with the lowest income and the highest energy costs will receive the most funds. Priority will also be given to households with at least one elderly or disabled member. Funds are available for renters or homeowners. Some of the services available through the fund are:

- Participant education
- Energy audits to evaluate home's energy usage
- Exterior wall and attic insulation
- Air infiltration and bypass sealing
- Test, repair, and/or replace home mechanical systems to ensure efficiency and safety

To apply for assistance, visit the website and proceed with the application process.

Contact:

Energy Information Center

Minnesota Department of Commerce

Office of Energy Security

85 7th Place East, Suite 500

St. Paul, MN 55101-2198

Phone: (800) 657-3710

Fax: (651) 297-7891

E-Mail: energy.info@state.mn.us

Web Site: <http://www.energy.mn.gov/>

GMHF

Greater Minnesota Housing Fund

Single Family Down Payment Assistance Program

Program Overview:

State: Minnesota

Incentive Type: Grant

Eligible Programs: Down payment assistance for low- and moderate-income households

Applicable Sectors: Local government agencies, non-profit developers, for-profit developers, and local non-profits.

Amount: \$2,500 per homebuyer

Funds: Greater Minnesota Housing Fund

Summary:

The Down Payment Assistance Program was established to help low- and moderate-income households achieve homeownership. The program was also established to promote affordable housing in order to stabilize the workforce group in communities. The assistance will be dispersed through a local sponsor, \$2,500 per household. Households must be at or below 80 percent of the statewide median income. Local funds must also be in place to match down payment dollars. In order for a household to receive funds, they must complete homebuyer education courses and meet GMHF mortgage criteria.

Contact:

Warren Hanson

President and CEO

332 Minnestoa St., Suite 1201 East

St. Paul, MN 55101

651.221.1997

whanson@gmhf.com

FHA and HUD

*Federal Housing Agency and U.S. Department of Housing
and Urban Development*

Energy Efficient Mortgage Program

Program Overview:

State: Federal
Incentive Type: Mortgage Loan Program
Eligible Programs: Federal mortgage insurance for a higher mortgage to cover the cost of the energy improvements
Applicable Sectors: Residential
Amount: 5% of the property's value, not exceeding \$8,000 or \$4,000
Funds for Insurance: U.S. Department of Housing and Urban Development and Federal Housing Agency

Summary:

The Energy Efficient Mortgage Program, originally started in 1992 as a pilot program, helps homebuyers and homeowners save money on their utility by helping them finance the extra costs of adding energy efficiency features to new or existing homes. The program allows the borrower to add either 5 percent of the property's value, not to exceed \$8,000 or \$4,000 to their mortgage for energy efficient upgrades. This will reduce the monthly energy costs and allow the borrower to afford a higher mortgage. FHA will provide mortgage insurance for the mortgage, including the cost of the energy efficient improvements. The borrower does not have to be able to qualify for the extra money for the improvements and does not have to make a down payment on that portion of the funds. There are many requirements before you can be approved for the energy efficient mortgage:

- The borrower must make a 3.5 percent down payment.
- Eligible properties are one to four bedroom unit existing or new construction.
- The energy improvements must be cost effective.
- A Home Energy Rating System must be used on the improvements to determine cost effectiveness. This will be paid for through the mortgage.
- The energy improvements must be installed after the loan is closed.
- The maximum mortgage limit varies depending on location, and it is adjusted annually.

In order to apply for the mortgage, the borrower must contact an FHA certified lender.

Contact:

Minneapolis HUD field office and Administrating office

HOMEOWNER ENERGY SAVING STATISTICS

There are many tools available online to estimate the savings that the consumer will have when making an energy efficient investment. All three examples of appliances have a payback period of under five years, shorter than the average first time homebuyers length of stay in their first home. Therefore, the investment of energy efficient utilities will have a payback, even for someone who is not looking to stay in their home for a long period of time. This is something that needs to be emphasized to the potential homebuyer, and these statistics will help.

Clothes Washer Example:

Initial cost difference	\$5,160
Life cycle savings	\$9,614
Net life cycle savings (life cycle savings - additional cost)	\$4,454
Simple payback of additional cost	4.7years
Life cycle electricity saved	49,280 kWh
Life cycle air pollution reduction	75,891 lbs of CO ₂
Air pollution reduction equivalence	6.30 cars removed/year
Air pollution reduction equivalence	7.82 acres of forest planted
Savings as a percent of retail price	30%

Refrigerator Example:

Initial cost difference	\$600
Life cycle savings	\$2,013
Net life cycle savings (life cycle savings - additional cost)	\$1,413
Simple payback of additional cost (years)	2.8
Life cycle energy saved (kWh)	22,833
Life cycle air pollution reduction (lbs of CO ₂)	35,162
Air pollution reduction equivalence (number of cars removed /year)	2.92
Air pollution reduction equivalence (acres of forest)	3.62
Savings as a percent of retail price	6%

Dishwasher Example:

Initial cost difference	\$240
Life cycle savings	\$1,669
Net life cycle savings (life cycle savings - additional cost)	\$1,429
Simple payback of additional cost	1.2 years
Life cycle electricity saved	14,806 kWh
Life cycle air pollution reduction	22,802 lbs of CO ₂
Air pollution reduction equivalence	1.89 cars removed/year
Air pollution reduction equivalence	2.35 acres of forest planted
Savings as a percent of retail price	13%
http://www.business.gov/manage/green-business/energy-efficiency/calculate-savings/energy-saving-calculator.html	

HEALTHY HOME BENEFITS

Small to Large Steps for Better Indoor Air Quality

When we think about appliances as they relate to green homes, we tend to consider the energy and water savings from dishwashers, refrigerators, and washing machines, or about the inherent indoor air quality benefits of range hoods and bath fans.

But some appliances go even further with special cycles, improved engineering, and add-on options that provide extra attributes that can take a green home to the next level.

Here are a few examples of additional features in appliances:

- Dishwashers: Water must be hot enough to kill germs, so models with sanitizing-wash programs provide an additional option for loads with items like baby bottles or cutting boards. Some units also provide options for “Clean Air” drying. This means that air is not pulled from around the room but rather from inside the appliance. This insures that the dishes will stay sanitized, even during the drying cycle.
- Washing machines:
 - Like dishwashers, there are special washing machine functions for people with health issues like skin irritation from fragrances. This “sensitive” feature has a healthy benefit for anyone with skin allergies.
 - Washers, particularly front-loaders that are more gentle on clothes and therefore help them last longer, don’t just save homeowners money, they conserve water from manufacturing.
- Stainless steel: New versions of stainless steel that resist fingerprints and smudging mean simple wet-rag cleanup instead of using stainless steel cleaners. This is another option for healthy indoor air quality, but eliminating harmful odors.
- Ventilation: Select hoods that ventilate to the outside.

Appliances with these higher-end features often cost more, but their durability and expanded options are attributes that frugal buyers are latching on to. The bonus features in these appliances will help with the healthy indoor air quality, but you can help with a healthy home in smaller ways also. One way to do this is by using the ventilation system in the bathroom at all times. The moisture that gets trapped within the walls is the perfect place for mold to grow. By using the ventilation system, you will be able to prevent mold spores from taking over the bathroom. Another simple way to improve the indoor air quality is by using no volatile organic compound paints, cleaners and sealants. These smaller items, along with the larger appliances, can make the green home, a healthy home. This in turn will make the resident healthier throughout the life of their stay.

QUICK REFERENCES

For More Information about Homeowner Incentives

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY

Centerpoint Energy - Residential Energy Efficiency Rebate Program

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN122F&State=federal¤tpageid=1&ee=1&re=1
2. <http://www.centerpointenergy.com/services/naturalgas/residential/saveenergyandmoney/MN/>

Connexus Energy - Residential Energy Efficiency Rebate Programs

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN125F&State=federal¤tpageid=1&ee=1&re=1
2. <http://www.connexusenergy.com/default.aspx>

Home Energy Loan Program

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN14F&State=federal¤tpageid=1&ee=1&re=1
2. http://www.mncee.org/programs_residential/home_improvement_financing/home_energy_loan_program/index.php

Solar Hot Water Rebate Program

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN114F&State=federal¤tpageid=1&ee=1&re=1
2. <http://www.state.mn.us/portal/mn/jsp/content.do?subchannel=-536895046&programid=536917313&id=-536893809&agency=Energy&sp2=y>

Solar Space Heating Rebate Program

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN140F&State=federal¤tpageid=1&ee=1&re=1
2. <http://www.state.mn.us/portal/mn/jsp/content.do?subchannel=null&programid=536917401&sc3=null&sc2=null&id=-536893811&agency=Energy>

Xcel Energy (Gas and Electric) - Residential Energy Efficiency Rebate Programs

1. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MN39F&State=federal¤tpageid=1&ee=1&re=1
2. http://www.xcelenergy.com/Minnesota/Residential/Programs_Resources/HeatingandCoolingRebates/Pages/HeatingandCoolingRebates.aspx

OFFICE OF ENERGY SECURITY- MINNESOTA DEPARTMENT OF COMMERCE

Heating Bill Assistance

1. <http://www.state.mn.us/portal/mn/jsp/content.do?subchannel=null&programid=536916219&sc3=null&sc2=null&id=-536893810&agency=Energy>

QUICK REFERENCES

For More Information about Homeowner Incentives

Weatherization Assistance

1. <http://www.state.mn.us/portal/mn/jsp/content.do?subchannel=null&programid=536916220&sc3=null&sc2=null&id=-536893810&agency=Energy>

GREATER MINNESOTA HOUSING FUND

Single Family Down Payment Assistance Program

1. <http://www.gmhf.com/programs/single-family/dpa.html>

UNITED STATES DEPARTMENT OF ENERGY

Weatherization Assistance

1. <http://www1.eere.energy.gov/wip/wap.html>

FEDERAL HOUSING AGENCY

Energy Efficient Mortgage Program

1. <http://www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm>

UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Energy efficient Mortgage Insurance

1. <http://www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm>

CONCLUSION OF FINDINGS

Suggestions for the Future

Throughout the research process, I have spoken with many different professionals, searched through countless “green” websites, read numerous articles, and had a discussion with members of the community. During the search, I found that there are many positive things that are happening within the affordable green community, while there are still things that are not being addressed as pro actively as they should be. During my research, I came to these conclusions:

- There are not very many incentives for developers. The variety of financial incentives that should be in place to help developers keep their home prices low is not there. Organizations need to establish more programs to help developers in this task.
- There are also not very many incentives for homebuyers to purchase a green affordable home. There are countless tax credits available for implementing green features into the home after purchase, but not for purchasing a green home. Programs need to be established to help hom owners invest in the initial purchase of a green home.
- There are a lot of marketing strategies for developers to attract potential homebuyers. Some of the things that developers should be focusing on are the energy cost savings for the homeowner and also the health benefits of living in a green home.
- There are great tool available through government programs and other organizations to help homebuyers see the energy cost savings of their investment. There are also many tools to help calculate their mortgage, to show them that they can afford the higher mortgage with the lower energy costs.
- Finally, partnerships and education are key when incentivizing both the developer and home buyer. The University needs to keep in close contact with members of the community to see what people want and keep them educated about the process of the development. It is also im portant to establish a close partnership with the developer to insure that needs and expectations are being met throughout the whole process. And, the University needs to make sure that the developer and homeowner are educated on the new green features to insure that they will be used properly and will make the most out of the investment.

After doing my research, it is clear that more investigation needs to be done on how to educate develop-ers and homebuyers. It will also be important to find a way to insure that the green features are being used prop-erly, whether that is inspections from an association or a maintenance manual. It will also be very important to hold focus groups throughout the process to make sure that the University is doing everything it can to incen-tivize the potential homebuyers. These things well help the UMore Park Vision and will also help in insuring a prosperous community.

ANNOTATED BIBLIOGRAPHY

For More Information on Researched Websites

CENTER FOR SUSTAINABLE BUILDING RESEARCH - COLLEGE OF DESIGN - UNIVERSITY OF MINNESOTA

<http://www.csbr.umn.edu/index.html>

Contact: William (Billy) Weber, Senior Research Fellow
wmweber@umn.edu

Contact: Richard Strong, Senior Research Fellow
stron081@umn.edu

The mission of the Center for Sustainable Building Research is to “lead and support—through research, outreach, and education—the transformation of the regional built environment to provide for the ecological, economic, and social needs of the present without compromising those of the future.”

CSBR is dedicated to finding sustainable solutions for the built environment. Partnering with CSBR will be helpful because of the resources that they have provided on their website and also because of the knowledgeable team of research fellows that work with CSBR.

This website contains:

- Latest News on Sustainable Building Projects in Minnesota
- Information about CSBR, Events and Staff
- Research and Projects on Housing, Evaluation, Community Resilience and Windows & Glazing
 - o Links to different projects headed by CSBR staff, along with other projects done by local and federal sustainability groups
- Information on upcoming lectures, classes and exhibits
- Different publications put out by CSBR or contributed to by CSBR staff.

PROJECTS FOUND UNDER CSBR WEBSITE:

The Minnesota Green Affordable Housing Guide

<http://www.greenhousing.umn.edu/>

Contact: John Carmody, Director CSBR
carmo001@umn.edu

Contact: William (Billy) Weber, Senior Research Fellow
wmweber@umn.edu

The Minnesota Green Affordable Housing Guide is a web-based tool for policy makers, designers, developers and homeowners. This guide will help them integrate affordability and sustainability into cold climate housing. The guide will help obtain a sustainable outcome by 1) reducing site and building associated pollution, waste, and environmental impacts; 2) improving residential building performance and energy efficiency; 3) improve indoor environmental quality; and 4) reduce construction and operating waste.

This website contains:

- The Minnesota Green Affordable Housing Guide- Organized into five different categories:

ANNOTATED BIBLIOGRAPHY

For More Information on Researched Websites

- Neighborhood, Yard, House, Assemblies and Components
 - o Design strategies are associated with each category
 - o Analysis and Recommendations for House, Assemblies and Components categories
- Case Studies completed on four different affordable homes, all located in Minnesota
- Information for Policy Makers, Developers, Builders & Designers and Homeowners
 - o Why Green Affordable Housing matters to them
 - o Links for more information

The Affordable Housing Initiative

<http://www.ahi.umn.edu/>

Contact: William (Billy) Weber, Senior Research Fellow
wmweber@umn.edu

The Affordable Housing Initiative project is a collaboration of the Amherst H. Wilder Foundation, the Greater Frogtown Community Development Corporation, and the University of Minnesota. The group was established to put together ten prototype homes that will integrate affordability with sustainable design. The ultimate goal is to address the housing crisis by providing low-income housing, while also improving the quality of life in low-income communities.

This website contains:

- Information on multiple affordable, green houses
 - o Floor plans, Construction Cost, Description of Project
- Research Agenda for the project
 - o New technologies to improve house performance, durability, and construction cost.
- Information on other outreach projects
 - o HOME Housing Project: The Future of Affordable Housing
 - o The Eco-Experience at the Minnesota State Fair
 - o Leading from Policy
- Information on the partners for the Affordable Housing Initiative

Minnesota Sustainable Housing Initiative

<http://www.mnshi.umn.edu/>

Contact: William (Billy) Weber, Senior Research Fellow
wmweber@umn.edu

Contact: John Carmody, Director CSBR
carmo001@umn.edu

This project is dedicated to providing knowledge through information, tools and protocols for sustainable building within the affordable housing community. The Minnesota Sustainable Housing Initiative will constantly

ANNOTATED BIBLIOGRAPHY

For More Information on Researched Websites

update the website in order to keep the consumer informed. They will also be providing case studies to show how this knowledge base will apply. They will be working with Minnesota Housing to surface the issues associated with funding affordable green housing.

This website contains:

- The Knowledge Base: Analysis and Recommendations, Environmental Topics, Guidelines and Rating Systems, and Case Studies
 - o Link to the Minnesota Green Affordable Housing Guide
 - o Environmental Goals and Strategies
 - o Links to regional and national rating systems
 - o List of case studies and their Environmental impacts
- The Tool Box: Process, Calculators and Tools, Financial Incentives, Library, and Glossary
 - o Link to a Basic Utility Calculator
 - o Large list of sources
 - o List of terms associated with affordable green building
 - o This section of site is still under development.
- Special Projects by the Minnesota Sustainable Housing Initiative team
 - o Viking Terrace Health Outcome report
 - o AEON: Greening the Development Process
 - o Minnesota Housing: How they will be involved in the future
 - o Minnesota Green Communities Initiative Outcome Evaluation

GREATER MINNESOTA HOUSING FUND

<http://www.gmhf.com/index.htm>

Contact: Warren Hanson, GMHF President and Chief Executive Officer
whanson@gmhf.com

Contact: Andrew Schlack, Program/Loan Officer
aschlack@gmhf.com

The Greater Minnesota Housing Fund was launched in 1996 with the help of the McKnight Foundation and also the Blandin Foundation. The group was founded in order to address the need for decent affordable housing in Greater Minnesota. The projects support a wide variety of people, from young people that are just getting started to multi-generational homes. The funds support new construction or rehabilitation of affordable single family homes or rental units. They also fund technical assistance for communities developing affordable housing, as well as educational services for first time home buyers.

This website contains:

- Information on GMHF Programs
 - o Building Better Neighborhoods
 - o Employer Assisted Housing
 - o Housing and Redevelopment Authority Initiative

ANNOTATED BIBLIOGRAPHY

For More Information on Researched Websites

- o Emerging Markets Homeownership
- o Single-Family Homeownership
- o Multifamily Housing Development
- Greater Minnesota Housing Funds Applications
 - o Multifamily Gap Loan and Interim Financing
 - o Single Family Gap Loan and Interim Financing
 - o Building Better Neighborhoods Full Project Funding
 - o Supportive Housing Gap Loan Financing
- List of Funded Programs (1996-September 2008)
- Links to Publications produced by GMHF

PROJECTS FOUND UNDER GMHF WEBSITE

Minnesota Green Communities

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

Contact: Janne Flisrand, Program Coordinator

janne@mngreencommunities.org

Contact: Warren Hanson, GMHF President and Chief Executive Officer

whanson@gmhf.com

Minnesota Green Communities is an initiative that aims to support affordable green housing. They are dedicated to ensuring that all new affordable housing is built green, while also seeking to retrofit existing buildings to sustainable technologies by 2015. The collaboration of Greater Minnesota Housing Fund, Family Housing Fund, and Enterprise supports the production of housing with reduced energy costs, use of materials beneficial to the environment, conservation-minded land use planning, and attention to the creation of healthy environments and lifestyles for the consumer.

This website contains:

- Minnesota Green Communities Projects
 - o Greater Minnesota Demonstration Projects
 - Information on projects including description, developer, number of units, funding sources, and what they learned.
 - o Metro Area Demonstration Projects
 - Information on projects including description, developer, number of units, funding sources, and what they learned.
 - o Other Minnesota Green Communities Projects
 - Information on projects including description, developer, number of units, funding sources, and what they learned.
- Information on green design events and news
- Links for publications produced by Minnesota Green Communities, in conjunction with Minnesota GreenStar, the local chapter of USGBC, and Enterprise
- List of Resources

ANNOTATED BIBLIOGRAPHY

For More Information on Researched Websites

GMHF: Building Better Neighborhoods

<http://www.gmhf.com/programs/bbn/default.htm>

Contacts: Andy Schlack, Program/Loan Officer
aschlack@gmhf.com

Contact: Warren Hanson, GMHF President and Chief Executive Officer
whanson@gmhf.com

Building Better Neighborhoods is a program supported by the Greater Minnesota Housing Fund. They are interested in fostering the creation of safe, decent and affordable housing within cohesive, well-planned and economically balanced neighborhoods. Creating such neighborhoods takes careful planning and attention. Therefore, GMHF put together a guide to create neighborhoods that will ultimately have reduced costs while increasing value.

In 2001, there was book that was written in support of buildings safe, decent and affordable neighborhoods. The book is titled: BUILDING BETTER NEIGHBORHOODS: CREATING AFFORDABLE HOMES AND LIVABLE COMMUNITIES, by Greater Minnesota Housing Team Fund and Cermak Rhoades Architects Team.

This website contains:

- A brief explanation of each component of Building Better Neighborhoods: Site Selection, Lots, Streets, Homes and Landscape
 - o Each section contains Strategies to Reduce Costs
 - o Each section contains Strategies to Add Value
- An assortment of Home Plans from 2002, 2005, and 2008
 - o Most homes contain construction documents
- A photo gallery of BBN developments
 - o Contains simple design considerations
- List of Resources

DATABASE OF STATE INCENTIVES FOR RENEWABLES AND EFFICIENCY

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

This website is a huge benefit to many organizations including local governments, state governments, non-profit developers, for profit developers, residents, and many others. The website is a database of all the incentives in each state for renewables and efficiency. You are able to search by state to find certain incentives that are specific to each state. Each state will also show the federal incentives that are available to the resident of the state. You can narrow your search down to residential incentives also. This will help when trying to get potential homebuyers to UMore Park. Each incentive is broken down into a quick overview and a summary. They also include a contact for each incentive.

ANNOTATED BIBLIOGRAPHY

For More Information on Researched Websites

UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

<http://portal.hud.gov/portal/page/portal/HUD>

The HUD website will be very beneficial to the UMore Park Team. HUD's programs will be able to help both developers and homebuyers invest in an affordable green home within UMore Park. Some of the different departments that will be especially helpful will be the community development and planning, the housing department, and sustainable housing and communities. HUD is an organization that will indefinitely be around for the duration of the project. They will be able to offer different incentives throughout the 30-40 years. That is why an ongoing partnership with the Department of Housing and Urban Development is so important.

*Energy Efficient Incentives in
Affordable Housing*

Developer to Homebuyer

*Rosemount Planning Commission
October 26, 2010
Leslie Theiste*

UNIVERSITY OF MINNESOTA
Driven to Discover™

Objective:

The objective of this project was to research different ways to incentivize developers and potential homebuyers to invest in a green, affordable home and move to UMore Park.

Suggestions for the Future

- **More investigation needs to be done on how to educate developers and homebuyers**
- **Continue to be involved with the community and hold focus groups to determine the needs of the potential buyers**
- **Work in partnerships to create incentives for homebuyers to get into affordable, green homes**

Developer

- **How do we incentivize developers?**
 - **Financial Incentives**
 - **Marketing Advantage**

Developer

Financial Incentives

Many financial incentives available for developers to cut development costs.

Examples:

- Xcel Energy-Renewable Development Fund Grants
- Sustainability Training Grants
- Solar Energy Sales Tax Exemption

Developers need to be informed of these incentives and how they will benefit from them.

Developer

Marketing Advantage

“For both owner occupied and rental housing, lower energy and maintenance costs, as well as, healthier sustainable construction can be a marketing advantage.” –CSBR, Minnesota Sustainable Housing Initiative

- Important for developers to understand the needs of the consumer when marketing new developments
 - Lower Energy and Maintenance Costs
 - Healthier Homes
- Developers need to find a way to educate homebuyers in a way that will most benefit the consumer

Homeowner

Focus Group Findings

Payback is the most important thing to the consumer when buying a green home

- Financial Incentives
 - Energy Cost Savings
 - Healthy Home Benefits
- Focus Group held July 22, 2010 at the Dakota County CDA
- Wants a dollar value on potential savings- monthly, yearly, and for the life of the appliance
- Do not want to have a manual to read in order to be educated on green features in their new home

Homeowner

Financial Incentives

Many incentives available for people already in homes in order to upgrade to sustainable features.

Examples:

- **Centerpoint Energy-Residential Energy Efficiency Rebate Program**
- **Home Energy Loan Program**
- **Energy Efficient Mortgage Program**

Need to find ways to incentivize potential homeowners to buy a green home.

Homeowner

Energy Cost Savings

- **Many tools are available for homebuyers to estimate energy savings**
 - **Energy Savings Calculator, Buisness.gov**
- **Most payback for appliances is under five years, less than the average amount of time in a home for a first time buyer**

Homeowner

Health Home Benefits

- **Healthy home benefits apply to appliances, paints, sealants, ventilation, and even materials.**
 - **Appliances-** provide special rinse cycles to maintain sanitation
 - **Paints and Sealants-** many are offered with low- or no-volatile organic compounds.
 - **Ventilation-** help reduce moisture and mold in high moisture rooms
 - **Materials-** new stainless steel products are easier to clean

Questions or Comments?
