



Solar City Criteria for Canadian Municipalities

Thesis Summary

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Project Overview

This action research project identifies a ten-point set of criteria to guide Canadian municipalities to become solar cities and improve the environmental sustainability and energy security within their jurisdictions. This project was a three-stage research initiative that involved developing an initial set of criteria based on a review of international models, and then refining the set of criteria during two stages of enquiry. The two enquiry stages were conducted with Canadian solar leaders, representatives from 18 municipalities and members of the public and included one-on-one interviews, surveys and two focus group sessions. This project concludes that there is significant support, from both municipalities and citizens, for the establishment of solar cities in Canada by following the set of criteria identified in this study.

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Criteria for Canadian Solar Cities

After an exhaustive research process that involved interviews, surveys and focus group sessions with people from all across Canada the following is the set of criteria that was accepted by the research subjects and will be the first set of criteria for Solar City designation in Canada.

1. The municipality has a climate change plan with short-term and long-term targets and time-frames in place
2. The municipality has a community energy plan in place
3. The municipality has an energy plan in place for its own facilities
4. The municipality has adopted targets for a proportion of total community energy demand to be met by renewable energy
5. The municipality has established policies and incentives for solar electricity and solar thermal utilization for residential homeowners

6. The municipality has established policies and incentives for solar electricity and solar thermal utilization for commercial ratepayers
7. The municipality has a communication plan in place to build awareness of its renewable energy projects and policies
8. The municipality has established policies for land use planning to promote and encourage energy efficiency
9. Community renewable energy, energy efficiency technologies and green living demonstration projects are developed, supported and encouraged by the city to demonstrate these concepts to the public
10. The municipality has policies in place to encourage district energy projects within its jurisdiction

Study recommendations

Recommendation # 1: That the criteria be accepted by the City of Dawson Creek

The first recommendation is that the list of criteria be accepted by the City of Dawson Creek and that it be presented to the Federation of Canadian Municipalities for adoption as a guide for Canadian municipalities to become solar cities.

During the three stages of this project the list of criteria was developed to reflect the spirit of the international solar city models while adapting to the realities of Canadian industry, municipalities and to the citizens involved in the study. The set of criteria that resulted from this project embodies the creation of a shared vision for developing action plans to make Canadian cities more energy efficient, emit less damaging greenhouse gasses and inspire citizens to get involved and make their communities better places to live. As Kouzes and Posner (2007) suggest, the theory of inspiring a shared vision includes teaching the people affected by the proposed changes about the benefits and enlisting their support. “Leaders breathe life into the hopes and dreams of others and enable them to see the exciting possibilities that the future holds (Kouzes and Posner, 2007, p. 18).”

Recommendation #2: Create a nonprofit to advance the solar city concept in Canada.

Since Canada has no formal solar city or renewable city initiative in place, a nonprofit organization could be formed to lead the initiative and promote solar city to cities across Canada. The organization's goals could include assisting municipalities to meet the criteria to reach the designation of solar city, assist with fundraising and energy planning, provide workshops in communities to teach municipal staff as well as the public about renewable energy technologies and find leaders and champions in municipalities to provide the local leadership to move the initiative along.

In the international literature solar city initiatives are sponsored with funding provided by central governments, as in the case of Australia, or with funding from partnerships with business and utilities such as the city of Hanover, where a partnership between the city and the public utility provides a fund of five million Euros to assist homeowners in improving the efficiency of their homes and for installing solar thermal and solar electric systems to offset fossil fuel energy use. The city of Delft, in the Netherlands is another example. The city initiated a district heating system providing home heating and domestic hot water to 20,000 homes with the energy utility and the municipality sharing in the ownership of the project with the utility owning 97% and the city owning 3% (Covenant of Mayors, 2011). A Canadian solar city nonprofit organization could lead the development of fundraising proposals and search out national funding partners for the initiative.

Recommendation #3: Present the project to the Federation of Canadian Municipalities.

The Federation of Canadian Municipalities (FCM) represents 1,900 Canadian cities and towns all across Canada and "...has been the national voice of municipal government since 1901" (FCM, 2011). The City of Dawson Creek has offered to request that this project and the set of criteria be presented at the annual conference in 2012. Through the Green Municipal Fund, FCM provides funding to three types of environmental initiatives developed by Canadian municipalities including the development of environmental

action plans, the conduct of environmental studies and establishing environmental projects. Grants are available for sustainable community plans, feasibility studies and field tests, while a combination of grants and loans are available for capital projects.

Funding is allocated in five sectors of municipal activity: brownfields, energy, transportation, waste and water (FCM, 2011).

In order to effectively promote the solar city initiative in Canada the FCM must be involved and as a partner in the initiative funding can be accessed for individual communities to create renewable energy projects to meet the set of criteria set out in this study.

Recommendation #4: Create a national municipal solar city committee.

This recommendation also requires the support and involvement of the Federation of Canadian Municipalities, as the committee will be drawn from the FCM membership. The committee would be a volunteer committee and the members would be the leaders from municipalities across Canada. The work of the committee would be to liaise with the nonprofit solar city organization as well as national organizations like the Canadian Solar Industries Association and other national renewable energy organizations. In order to achieve the potential of this project a national initiative is required.