

# Committee of the Whole

## Solar Thermal District Energy Feasibility Study

*Proposed Submission to the FCM's Green Municipal  
Funds for Study Assistance*



**Mr. Bruce Ander**  
*Markham District Energy*

Delivering a **Sustainable** Energy Future

**March 8, 2005**

# Agenda



1. Purpose
2. Background
3. Solar Thermal Project
4. Funding Partners
5. The Study
6. Capital Funding

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# Purpose



## 1. Information for Council regarding a proposed Feasibility Study:

*Study the technical & economic feasibility of a solar thermal district energy project for a residential development in the Town of Markham.*

## 2. Advise Council of the timing & conditions of the funding request from the Town's Sustainability Fund for \$25,000 or 25% of the proposed Feasibility Study Budget.

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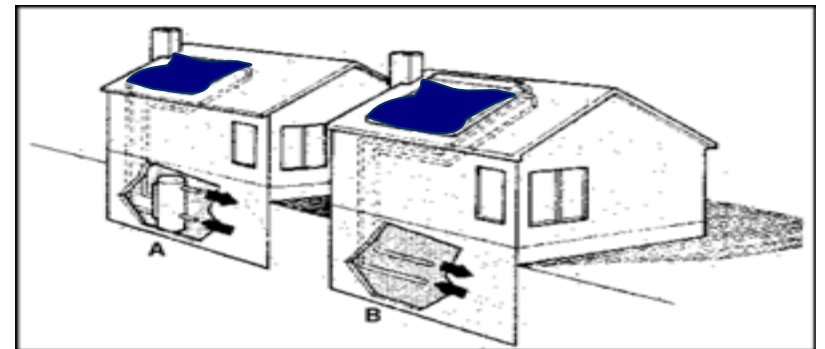
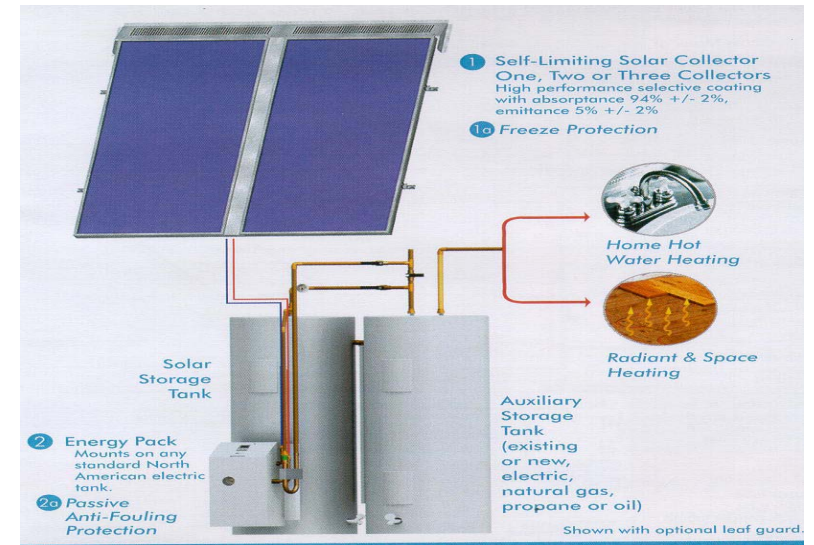
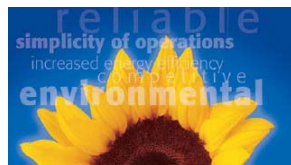
# Background



- ❖ Early discussions held with the FCM during Erin Shapero's FCM Study Tour in Sweden August 2004.
- ❖ Meetings held with FCM's Green Municipal Funds (GMF) representatives in December 2004 and February 2005
- ❖ \$100,000 Feasibility Study proposed to report on a potential Solar Thermal District Energy Project that could connect to the Times Development's project north of Leslie/Bayview/ETR407

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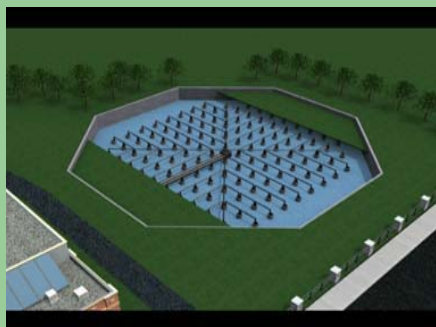
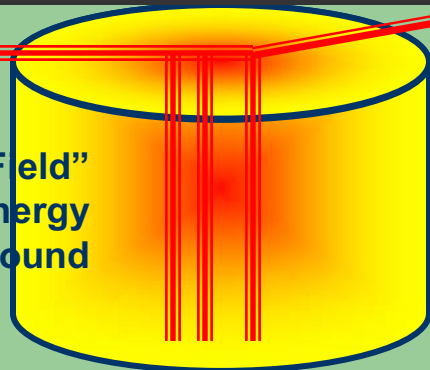
# Typical Solar Application



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The “Borehole Field”  
to Store Energy  
Underground



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# The Study Scope



1. Estimate residential development heating & cooling demand & loads for a section of the Times Development west of Leslie (1000 mid-rise units + 150 town-homes).
2. Screen concepts & identify options.
3. Develop system conceptual design.
4. Estimate system implementation costs.
5. Perform economic analysis.
6. Develop recommendations.
7. Issue Report.

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# Budget & Timing



**Not to Exceed \$100,000**

**In order to proceed this year, Markham must submit its Intent to Apply to the Green Municipal Enabling Fund (GMEF) prior to March 31, 2005.**

**The GMEF will also pay the Municipality up to 10% of the Study Budget to prepare the GMEF Application.**

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# Funding Partners

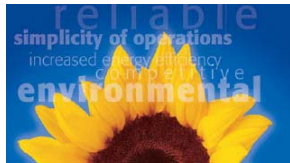


1. FCM Green Municipal Funds 50%
2. Times Development 25%
3. Town of Markham 25% from the Town's Sustainability Fund:

**Note:** On February 9, 2005 Markham's Energy Conservation Office (ECO) proposed a number of programs to Powerstream to be funded from their Provincially approved & funded Conservation & Demand Management (CDM) Plan; including this Solar Thermal Study. If approved, Markham ECO would then reimburse the Town's Sustainability Fund.

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## Capital Funding?



### Federal Government:

1. Renewable Energy Deployment Initiative (REDI) funds solar heating capital projects.
2. Clean Fund (\$1 Billion) to fund energy projects that lower greenhouse gas emissions.
3. FCM Green Municipal Funds

### Provincial Government:

1. PST Exemption on solar & district energy infrastructure.

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Markham District Energy

Times Development

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