



# The Neighbourhood Solar Project

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# Our Objective

Take a concrete social action to reduce our environmental footprint in a way that:

- (A) Involves community and is inclusive
- (B) Acts as a model for other groups and individuals
- (C) Is financially viable by being self-sustaining so that we do not place a financial burden on the congregation
- (D) Provides an opportunity to educate others about environmental issues
- (E) Takes advantage of incentives and financing options made available by the city of Toronto and province of Ontario.

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# The Strategy

- People: put together a strong green team
- Financial:
  - Cost \$220K
  - (49%) 20yr Interest free loan (Toronto Green Energy Fund)
  - (51%) 20yr debentures from community (5% interest)
  - Income: 20yr Feed In-tariff contract 24.6 Kw @ 71.3¢/kwh
    - Generates approx. \$20000/year
    - Cost approx. \$13000/year
- Communication:
  - Town hall meetings with congregation
  - Promotion
    - 2-page brochure to describe the initiative
    - Leverage the internet to sell debentures
    - Get media and other orgs (e.g., OSEA) to help
- Legal : good legal support is a must

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# Our Brochure

## Reducing our ecological footprint

 A project reducing 73 megawatt hours of clean

### Invest in Solar Now!



### Greening our corner of the world



We live in a time of global warming and are witnessing the beginnings of environmental changes which may soon be irreversible, putting our survival and that of other life forms on our planet in peril. The evidence is now overwhelming that the burning of non-renewable hydrocarbon fuels is at the root of this impending crisis.

As members of the Neighbourhood Unitarian Universalist Congregation, we have a responsibility to help resolve these problems, as we are able. Fortunately, the government of Ontario has recently increased its subsidies for power generated from renewable sources. This makes it feasible for us to generate electricity from solar panels on the roof of our church.

We also intend to conserve energy by insulating the roof of our building, retrofitting our lighting and electrical controls and taking other measures to reduce consumption.

By doing these things, we can create a model for other organizations to follow, contribute to the greening of our local economy, and put into practice our 7th Unitarian Universalist Principle: "To promote and affirm the interconnected web of existence of which we are a part."



### The Neighbourhood Solar Project



We will be installing a photovoltaic (PV) system with a total power capacity of 20.91 kW on the south-facing roof of our church.

There will be 100 Sanyo PV modules, with a capacity of 200 watts each, grid tie inverters to link the system to the electronic grid, and SolarVu software to monitor the operation and output of the solar array. The electricity produced will be sold at the renewable energy feed-in-tariff (FIT) rate of 71.2 cents per kilowatt hour, guaranteed by the Ontario Power Authority under a 20-year contract. (We will continue to buy power for our own use at the standard rate, currently about 12 cents per kWh).

The solar array can be expanded to 43 kilowatts in the future, if desired. The modules are guaranteed for 25 years, but could last as long as 50. Solar photovoltaic energy systems require little or no maintenance other than an annual inspection and cleaning.

Total installed cost will be about \$220,000.

### Invest – Here's How!

#### Each of us can play a part!



You can help to ensure the success of this ground-breaking initiative with your donations and investments.

Half of the \$220,000 cost of the installation will be covered by an interest-free loan from the City of Toronto. The other half will be raised through donations and the issuing of debentures to friends and supporters.

We are issuing 110 debentures for \$1000 each at 5% interest paid annually. They can be held for up to 20 years, but NUUC reserves the right to redeem them at any time prior to maturity by paying the principal back to the holder, together with any interest owing.

If you wish to further support our solar initiative, you may also choose to donate the \$1000 principal to NUUC at some time prior to maturity in return for a receipt which will qualify you for an income tax credit. With the interest you will already have received, and the income tax credit you will receive for donating the principal, you can give \$1000 of support to this project at little or no cost to yourself.

Loans and debentures will be paid back from the proceeds of our sales of solar electricity to the grid.

To make a donation, purchase debentures or get more information, contact our church office at 79 Hawatha Road, Toronto ON M4L 2X7, (416) 686-6809 or [office@nuuc.org](mailto:office@nuuc.org); or talk with the Chair of our Greening Committee, Rick Salay, at (416) 686-4173 or [rsalay@nuuc.org](mailto:rsalay@nuuc.org).

Global warming is a huge problem, but it is not insurmountable. This is an opportunity to take concrete action right now in your community!



Printed on 100 % post-consumer recycled stock.

# The Debenture Contract

**NEIGHBOURHOOD UNITARIAN UNIVERSALIST CONGREGATION**  
(Incorporated under the Ontario *Corporations Act*)

Name of Debenture Holder: \_\_\_\_\_ (the **Debenture Holder**)

Principal Sum: \$ \_\_\_\_\_

Date of Series B Debentures: January 20, 2010

Due Date of Series B Debentures: January 20, 2030 (the **Maturity Date**)

**SERIES B TERM DEBENTURE**

**1. PROMISE TO PAY**

For value received, **Neighbourhood Unitarian Universalist Congregation** (the **Congregation**) acknowledges itself indebted and promises to pay, in Canadian money, to the Debenture Holder, on the Maturity Date, the principal amount of \$ \_\_\_\_\_ (the **Principal Sum**) and to pay interest on that amount as hereinafter provided, all of the foregoing upon and subject to the terms and conditions hereinafter set forth.

**2. CONDITION**

- 2.1 The Congregation's obligation to pay interest under this Debenture is conditional upon:
- the Congregation entering into, by the 31<sup>st</sup> day of May 2010 (the **Condition Date**), a Feed-in-Tariff contract (**FIT Contract**) with the Ontario Power Authority for the installation and operation of a solar photovoltaic system at the Congregation's premises located at 79 Hiawatha Road, Toronto, Ontario; and
  - the Congregation receiving subscriptions for the total amount of the Series B Debentures (defined below), namely, in the amount of \$110,000.00.

- 2.2 If the Congregation will not have entered into a FIT Contract by the Condition Date or if the Series B Debentures are not fully subscribed by the Condition Date, then the Congregation must

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# Debenture Sales



- Investors from all over Ontario (not just Unitarians)
- Raised \$117K in 2 months and we had to turn people away!
- Lesson: people want to support green energy projects like this

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# Groundbreaking Ceremony



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# Before



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# After



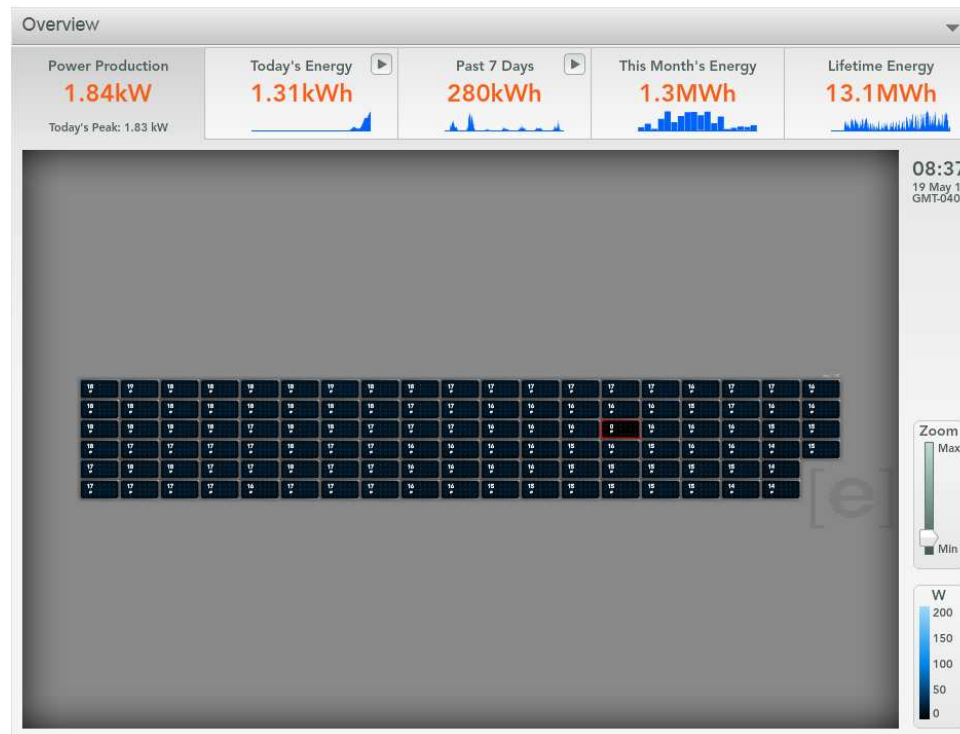
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# Rear View



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# Realtime Online Monitoring



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# Environmental Impact To Date (Since Sept. 30, 2010)



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# Lessons Learned: Success Factors

- A strong green team passionate about the cause
- Government financial programs
- Debenture strategy for community involvement (vs.co-operative models)
  - debenture model is a "light-weight" approach to participation without a large commitment requirement.
- Committed congregation
- OSEA (Ontario Sustainable Energy Association) membership
- Good relationship with a contractor

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## Lessons Learned: Things to consider

- ◉ Working with government takes time!
- ◉ Use your social networks
- ◉ Don't forget other costs:
  - ◉ E.g. tree trimming, permits, insurance, legal, postage, issuing T5 slips, etc.