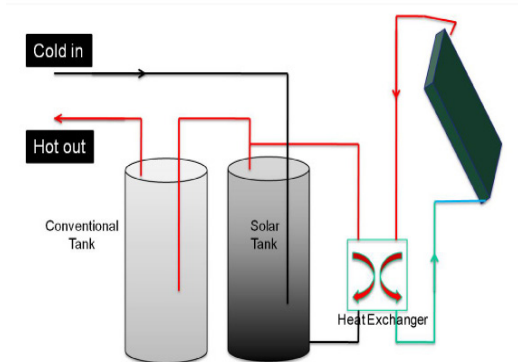


ecoENERGY Retrofit Program

This federal government grant program begins with an on-site assessment of a home's energy use by a certified technician. The homeowner learns where they are losing the most energy, what kinds of retrofits are available to fix this, and how large a grant is offered to make changes. Augmenting conventional domestic hot water systems with a solar domestic hot water system that meets federal standards can provide you with **\$1250 grant**. This amount will be matched by the Home Energy Retrofit Program of Ontario, which represents a total grant of **\$2500**. *(NOTE: These grants are now available only for homeowners who had their preliminary energy audit booked by April 1, 2010).*



Typical SDHW installation with a conventional water tank as a backup heating unit.

Disclaimer: The information presented was believed to be accurate at the time it was collected. SWITCH does not guarantee the accuracy of any information contained herein. SWITCH shall not be liable in any way for any damages or adverse consequences sustained as a result of performing or not performing any action based on the information herein.

Resources in Eastern Ontario

EcoACTION *Natural Resources Canada*

(solar retrofit grants)

www.ecoaction.gc.ca/grantsrebates-subventionsremises/Index-eng.cfm

Ministry of Energy and Infrastructure of Ontario

(solar retrofit grants)

www.mei.gov.on.ca/en/energy/conservation/homeenergyon

Amerispec (Energy evaluations)

www.en.amerispec.ca
1-800-263-5928

Energuy Canada (Energy evaluations)

www.energuycanada.ca
888-442-9577

Enwise Building Science (Energy evaluations)

www.enwisebuildingscience.com
1.877.484.7285

George Knight and Jason Alford

(Home Energy Auditors)
Serving Quinte and Prince Edward County
613-885-2319 (SWITCH member)

Greentech (Energy evaluations)

www.greentechservices.ca
1-877-876-6555

Hearthmakers Energy Co-op (Energy evaluations)

www.hearthmakers.org
613-547-8122 (SWITCH member)

Nationwide Energy Advisors (Energy evaluations)

www.nwea.ca
1-888-477-9979

Quantum Renewable Energy Inc (Energy evaluations)

<http://www.quantumenergy.ca>
(613) 546-2326 (SWITCH member)



SWITCH

The Sustainable Energy People

Solar Domestic Hot Water for the Ontario Home



SWITCH—The Sustainable Energy People

info@switchontario.ca 613-547-6700
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Please send your feedback on this document to:
info@switchontario.ca

Une version française de cette brochure est disponible à:
http://switchkingston.ca/files/brochure_sdhw_french.pdf



Overview

Fossil fuels are being consumed at an ever increasing rate, and greenhouse gas emissions threaten the planet. One solution to these problems is the increased use of renewable energy sources like the sun. Since some 20-30% of the average family's household energy is spent on hot water for showers, washing, dishes and cleaning, there is a significant potential for savings in this area.

Solar Domestic Hot Water (SDHW) systems:

- Provide more than 50% of the energy used each year for hot water
- Reduce the impact of increases in energy prices
- Require very little maintenance and have a life expectancy of 20 years or more
- Allow owners to contribute directly to a healthier planet
- Offer a visible sign of a high level of responsibility, environmental awareness and commitment.
- Can be purchased or rented



Frequently Asked Questions

Energy Digest section of SWITCH web site available via: switchontario.ca/wiki-sdhw.html

Technology

There are two main types of solar collectors used in Canada for generating heat for domestic hot water: 1) glazed flat plate collectors, and 2) evacuated tube collectors. Both have their advantages and disadvantages. Solar collectors of both kinds (normally mounted on the roof) convert light into heat using a black absorber behind a tempered glass cover. The collected energy is then transferred to a heat transfer liquid (in Canada this is a food-grade glycol solution) which carries the energy through pipes to heat up domestic water contained in a storage tank.

A SDHW system requires very little maintenance. The heat transfer fluid must be checked every 3-5 years to be sure that it is still in good condition. The solar storage tank must also be checked occasionally, including flushing the tank and checking the sacrificial anode which protects the tank from corrosion. The panels do not need to be cleaned as rain will do this. A monitoring device can be added to SDHW systems to determine their performance; data can be displayed on the web if desired.

How big is it?

A SDHW panel averages 2.5 m². For a typical family of 2-6 people, a two-panel system is recommended. Panels can be added or taken away to suit larger or smaller applications. Pipes connect the panels to the hot water storage tank, but take little space.

Is a conventional hot water tank required ?

A conventional hot water system (tank or instantaneous type) is still needed. SDHW systems are normally installed as pre-heaters, preheating the cold water that supplies the conventional water heater. When the sun is strong and plentiful, the solar system produces all of your hot water; when there is less sun, the conventional water heater acts as a backup system.

Choosing a contractor

Choosing a contractor should not be based only on the lowest cost. For example, roof penetrations are normally required and it is important that this work be done properly. See our suggestions on the Energy Digest section of SWITCH web site (*see the link under Frequently Asked Questions header*).

Reduce your environmental footprint

The benefits of using SDHW increase with the rate of hot water consumption. For example, a 4 person family using electricity for heating their water, consuming about 280 litres of water per day at 60°C: by using a 2 panel SDHW system, assuming that electricity is produced by a coal-fired plant, they reduce their CO₂ emission by 2.2 metric tons per year and save over \$400. In the case of a 9-unit apartment building using a total of 1,500 litres of hot water per day at 60°C, installing a 9 panel SDHW system would reduce its annual CO₂ emission from coal-generated electricity by 18.6 metric tons.