



ENERGY EFFICIENCY AND SAVING MONEY WHEN DEVELOPING AND RENOVATING

Building a new house or renovating?

Want to save \$\$\$ and create good environmental outcomes?

Read on for three easy ways you can make a difference to the environment and save yourself money.

1. Solar Water Heating.

You can harness the free energy created by the sun to heat your water. Water heating can account for half of your electricity bill. Once installed, a solar water heater can provide you with a plentiful and free supply of hot water and is environmentally friendly. If there is little sunlight, the solar system can switch your water heating to electricity or gas so you are never without hot water.

What are the benefits?

Savings of up to 75% on the hot water bill in summer and up to 45% in winter have been reported by people already using solar systems. The exact saving will depend on the size of the system you install, the number of people in the household, and to what extent electricity and gas prices increase in the future. This is an investment in your property and will likely add value. There is also the knowledge that you are being environmentally friendly and using a renewable energy source rather than fossil fuels. Your local solar water-heating supplier can advise you on your installation options and help you calculate the savings.

What are the costs?

There is an upfront cost of installing a solar system but once the cost is paid off the heating is free. The heating units vary in price but generally range between \$4,000 to \$7,000. The installation cost can be significantly reduced if the system is installed at the time of building or renovation. The size of the system will also have a bearing on cost.

What other help is there?

At the time of preparation of this guide, the Energy Efficiency and Conservation Authority (EECA) has funds available through the Solar Water Heating Finance Assistance Programme for interest free loans to help with the purchase and installation costs of a solar water heating system. Depending on the term you choose, you should be able to borrow all or most of this amount. Contact EECA for detailed information and conditions.

2. Reducing space heating and cooling cost through good insulation and make your home healthier.

Did you know that up to 40% of household energy is used in home heating? Heat goes out through uninsulated ceilings, floors and walls, single glazed windows, open chimneys, and draughts around doors and windows. Cold and damp homes with poor air quality have been linked with respiratory health problems. Most homes built before 1977 were not insulated so if you are renovating a house built before this date there is a very good opportunity to make it warmer, healthier and to save heating costs.

What can you do?

- Insulate walls, ceilings and under timber floors when renovating.
- Install double glaze windows.
- Block draughts around doors and windows.
- Insulate hot water pipes and where appropriate the hot water cylinder.

There is a range of insulation materials available.

3. Reducing space heating cost through good building design

Did you know that you can make significant energy savings by harvesting free energy?

When building a home think about the orientation of the building to north (where the sun shines from). By planning your new home carefully you can harvest 'free' energy, and help to keep your space heating bills to a minimum.

What can I do?

- Discuss with your architect, designer, planner, or builder options for how your home can be positioned on the site.
- Large windows along the northern side of the house let in the sun's free energy and heat into your home.
- Position your rooms strategically so that rooms where you spend the most time are in the best locations for access to the sun.
- Use materials like brick or concrete to store warmth. These are called 'heat sinks' as they soak up warmth and slowly release it later.
- Design eaves, awnings and the location of deciduous trees to provide appropriate shading from summer heat.

Where can I get more information about the matters raised in this guide?

North Shore City Council – Environmental Services.
Energy Efficiency and Conservation Authority (EECA).
Energywise.
Accredited Solar Water Heating Suppliers.
Design matters.
Building matters.

www.northshorecity.govt.nz
www.eeca.govt.nz
www.energywise.org.nz
www.solarsmarter.org.nz
www.greenhouse.gov.au/yourhome/
www.branz.org.nz