

# Saving Energy





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Many New Zealand businesses can save up to 20% on their energy bill, simply by being smarter with their energy use.

More than just switching off lights and equipment at the end of the day, your business can make real energy reductions by implementing an energy saving programme.

With a bit of planning, managing your energy use can be easy and inexpensive. In fact, you can get started straight away! Taking the time to develop and put in place a long-term programme will ensure the benefits keep increasing.

This resource sheet will help you:

- **Measure the amount of energy your business uses.**
- **Create an energy efficiency policy.**
- **Gather handy tips on reducing your energy use.**
- **Learn about other businesses that have made a difference.**







How can I find out how much energy my business uses?

Ask your electricity supplier to provide you with a graph of your energy use against previous periods. Some suppliers already include this information on their power bills. You can chart your own energy use and costs using an Excel spreadsheet like the sample to the right:

While your energy bills give you a good overall picture of your energy use, conducting an Energy Audit will identify specifically where the energy is used. This will help you identify potential areas for savings.

You could start with a basic walkthrough audit looking for areas of energy waste. Remember, most of your energy is being consumed by lighting, heating and ventilation, and electronic equipment. If your business is a high energy user, you might need a qualified energy auditor. They can help you find cost-effective ways to reduce your energy use. Learn more from [EECA](#).

Energy usage chart

Month	Energy Bill (\$)		Energy Bill (kWh)	
	Year 1	Year 2	Year 1	Year 2
Jan	230	220	1357	1240
Feb	210	230	1211	1305
Mar	240	210	1420	1164
Apr	250	240	1487	1366
May	285	270	1729	1566
Jun	350	305	2181	1799
Jul	375	295	2350	1726
Aug	370	345	2308	2158
Sep	295	360	1778	2153
Oct	315	320	1912	1878
Nov	275	285	1629	1638
Dec	240	250	1382	1400





How do I create an energy efficiency commitment?

Here is a copy of the SBN Energy Efficiency Commitment. Feel free to use it when developing your own framework. Get your team on board and encourage them to make personal commitments to cutting their energy use.

Aim	To reduce overall energy use by 10%
Actions	<div><div>1.</div><div>Measure energy related carbon emissions (if you have multiple offices, do this for each one).</div></div> <div><div>2.</div><div>Ensure our energy provider is committed to renewable energy options.</div></div> <div><div>3.</div><div>Practise low cost energy saving actions, and record and review these practices every six months.</div></div> <div><div>4.</div><div>Where possible, install energy efficient equipment/ practices.</div></div> <div><div>5.</div><div>Remind staff of our energy policy, and encourage them to be smart energy users.</div></div>
Record & report	Provide all energy data to your accounts team so they can record and store data on your intranet. Record all energy data in the <u>Climate Action Toolbox</u> carbon emissions calculator. This will help track reduction progress and identify further actions to help reduce energy-related emissions.
Personal action	For example: <i>I will ensure my computer monitor is switched off when I leave the office at the end of the day.</i>







## What else can I do to reduce energy use in my business?

If you're working in an office, here are the places to start:

### 1. Regular maintenance

Tune-ups can be done at little or no extra cost, as they involve changing existing equipment rather than buying new things. Make one staff member responsible for your tune-up plan.

### 2. TVs and computers

Switch off TVs, computers and monitor screens when not in use, or install timers to switch them off automatically. This saves energy and prolongs the life of your equipment.

### 3. Insulation

Install ceiling and floor insulation in areas you heat and cool. Repair seals on external doors and windows. Wrap your hot water boiler and piping with pipe lagging.

### 4. Lighting

Install movement-sensitive sensors or timers to ensure lights are only on when needed. Switch off after hours, leaving only enough to ensure security. Switch to LEDs, and use natural light.

### 5. Windows and skylights

Make the best use of natural light by opening blinds and installing skylights.

### 6. Photocopiers

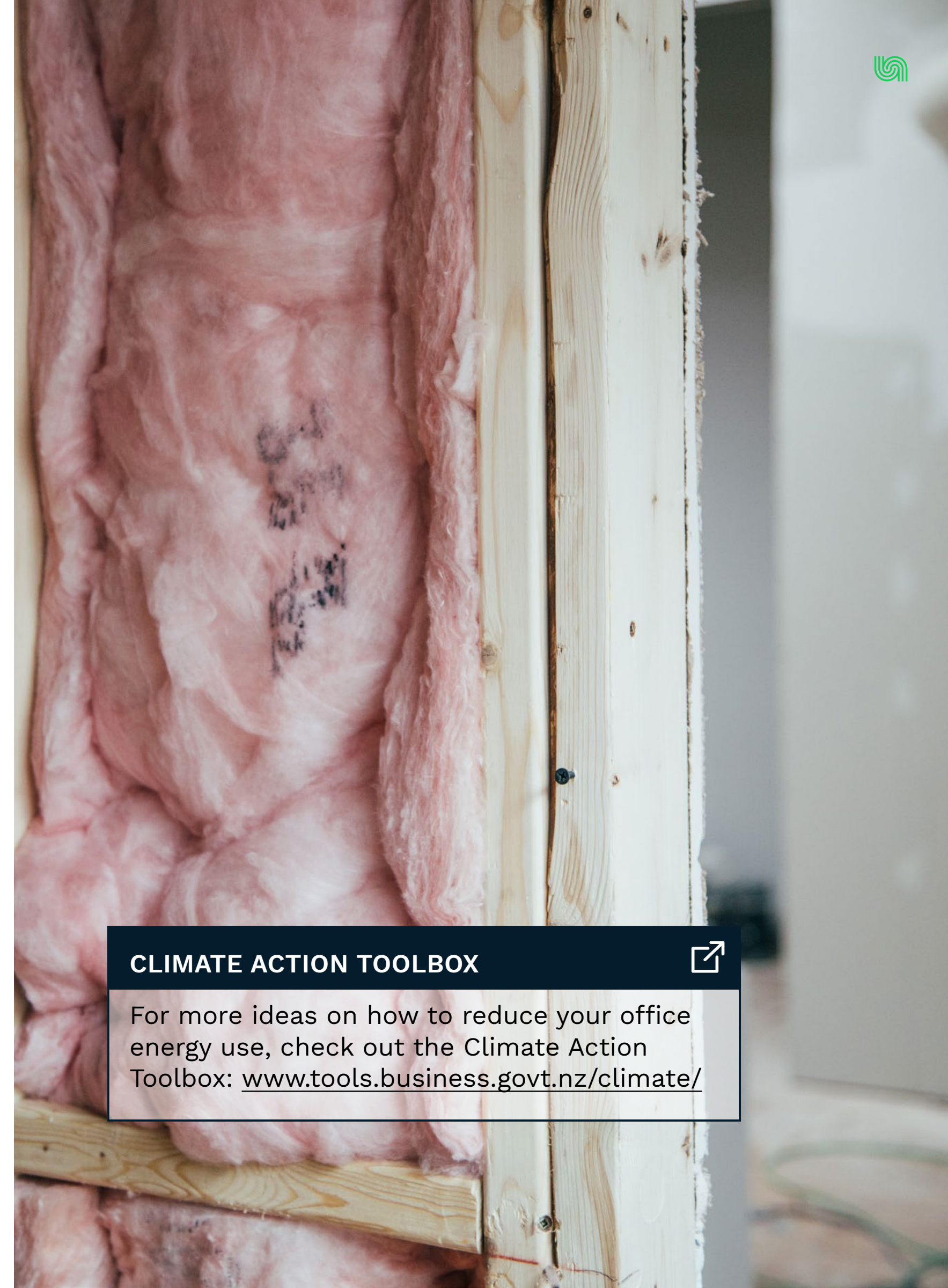
Switch off office equipment when not in use, or use power-saving features.

### 7. Kitchen and staff facilities

Regularly check staff facilities like ovens, fridges and pipes for leakage and ensure temperatures are set for safety and efficiency. After hours, ensure lights and equipment are turned off where this doesn't affect safety.

### 8. Heating and cooling

Check the settings in your office, and tune it to suit the spaces you have.



#### CLIMATE ACTION TOOLBOX



For more ideas on how to reduce your office energy use, check out the Climate Action Toolbox: [www.tools.business.govt.nz/climate/](http://www.tools.business.govt.nz/climate/)



## Reducing energy at industrial sites

Small industrial sites have additional areas where energy savings can be made. They include:

### 1. Chillers and refrigeration

If your business has high cooling costs, efficient refrigeration can yield major savings. Food retailers and meat processors use about two thirds of their electricity for refrigeration. In the wholesale food sector, that figure can be more than 85% of total energy use. Save 15% through changing to efficient use and maintenance, and save 40% of energy used by upgrading, replacing and rationalising equipment.

### 2. Compressed air

About 85% of energy used to run an air compressor turns into heat. Explore ways to use this waste heat, like ducting hot air from cooling vents to working areas and using a heat exchanger to heat water.

### 3. Motor drives and systems

Service gearboxes regularly and replace standard V-belts when required, bypass soft starter units and install high-efficiency motors.

### 4. Fan systems

Investigate variable speed drives (VSD) and isolate circuits when not required.

### 5. Boilers/process heat

Regularly tune boilers (6 monthly) to maximise efficiency. Investigate opportunities to recover heat, and options for switching to wood energy.

#### CLIMATE ACTION TOOLBOX

For more ideas on how to reduce energy use at your industrial site, check out the Climate Action Toolbox: [www.tools.business.govt.nz/climate/](http://www.tools.business.govt.nz/climate/)





# Resources

Check out the [Climate Action Toolbox](#) for step-by-step guides on ways your business can reduce its energy use. Use the free online Toolbox to make a plan to reduce emissions across all areas of your operations.

For more ideas on how your business can reduce its energy use, check out EECA's [Gen Less tool](#) for a range of good, practical suggestions.

Use the NABERSNZ [assessment tool](#) to get an idea of your premises' energy performance against other businesses. The tool scores you on a 6-star scale.

The New Zealand Green Building Council's [Green Star](#) is an internationally-recognised rating system for the design, construction and operation of buildings, fit out and communities. Green Star is a tool to support stakeholders in the property and construction sectors to design, construct and operate projects in a more sustainable, efficient and productive way.

Use the [Circular Economy Directory](#) to find organisations that can help with your energy solutions.



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# Case studies

Check out these case studies on reducing energy use.

## AUT University

AUT University has introduced significant energy efficiency initiatives to reduce energy consumption, energy costs and CO<sup>2</sup> emissions. It has set an ambitious target of reducing CO<sup>2</sup> emissions by 50% by 2025.

## Auckland District Health Board

Auckland District Health Board has collaborated with EECA on a new energy policy: 'Energy 50/50'. The target is to reduce energy use by 50% and produce 50% of energy requirements through on-site renewable energy by 2030.

## Camp Glenorchy Eco Retreat

Camp Glenorchy Eco Retreat was built to be energy efficient in both water and room heating, using highly specialised systems. It is pursuing Net Positive Energy status, meaning it produces more energy than it consumes.

## Watercare

Watercare is aiming for energy self-sufficiency at its Mangere and Rosedale water plants by 2025 through radical process innovation. This requires a fundamental change in treatment processes so they use a lot less energy.

## TransNet and Reid Technology

TransNet and Reid Technology have worked together to create a new office and warehouse for TransNet that can be run wholly off grid, thanks to an innovative solar battery generator system.



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