



Resilient Communities: Learning Guide

This Future Living Skills learning guide covers a two hour group session on “resilient communities”. The activities are staged so that participants can develop skills in identifying issues and planning for social change. Each member of the group should have their own copy of this guide on screen or printed. One person in the session should be responsible for time keeping, to keep activity moving along briskly!

The nature of change

Change is inevitable. Sometimes it can be for good such as improvements in your health and employment; sometimes it can be disastrous such as a flood, major illness or accident. Sometimes the change can be gradual, even predictable, such as population ageing, a trend of increasing petrol prices, or road ‘congestion’ from increased volumes of traffic.

An individual could be strengthened or thrive from change. The term “resilience” refers to the ability to survive and adapt to change so that your life remains manageable and also that the community where you live finds benefit or advantage in the change. For example a city household with two cars might change to owning only one or no car plus bicycles, bus use and car sharing with neighbours, saving money and gaining exercise in the process; and congestion decreases (see our Travel topic for more on this).

Session purpose & outline

The purpose of this session is to encourage you to

- identify possible changes in your and family/friends life
- prepare for those changes, both gradual and emergency
- contribute towards strengthening your own community

The first part of this session focuses on your own household situation. It will help you prepare for an emergency. If you become confident that your own household can cope, then you are more likely to be able to contribute towards your community. The second part of the session focuses on your role in helping your local community to be resilient.

Used within a ‘Future Living Skills’ series, typically as a final session, this puts previous topics into context and also gives users some skills and opportunity to better assist your own communities.

Written for Sustainable Living Education Trust in 2014 by Bill Simpson, with input from Jocelyn Pappriell, Jennifer Kerr and Rhys Taylor. Available from Downloads page at www.sustainableliving.org.nz free within member council districts in NZ.

The group activities (in blue text) are a key part of the learning and make it more fun: you may need to prepare for some of them (especially activity four) by downloading and printing additional material, using the links supplied.

Useful background reading includes our NZ [Introduction to Sustainability](#) (you may have read this before you started the series, but if not, it is relevant here.)



How would you respond to a river flood?



...Or a prolonged drought?



...Or hurricane force winds (satellite photo of Hurricane Katrina at New Orleans)



SUSTAINABLE LIVING – Aotearoa/New Zealand

Natural hazards preparation

Activity 1: What hazards face us locally? (15 minutes total)

Discuss in pairs, to complete answers on each person’s copy of the learning guide (or on plain paper if preferred) For the first five minutes, consider what are the **most likely** three natural hazards which could or do affect your home (or workplace, or church, etc.)? Place in your guess of descending likelihood :

Hazard 1:

Hazard 2:

Hazard 3:

Extend the discussion to which of these natural hazards may be **most damaging** to your home and/or health, and why?

Most damaging?

Least damaging?

Get back together as a group to compare results for five more minutes and record the group’s considered opinion. Is there evidence available to support this group view or are you being over-optimistic about either most likely or most damaging hazards (for example, residents in areas of NZ that are hit by multiple earthquakes often did not rate quakes as most damaging – until afterwards!)

Natural disasters were rated as the top insurance risk in NZ in 2013 according to the industry ([Source link](#)), compared to a ranking of 5th internationally and 3rd in NZ as recently as 2011. Their problem is the frequency of events and the escalating cost, now reflected in steep price rises for cover. Policies have changed too, from full replacement to specified sums, which can easily be lower than full replacement. Slow settlement of claims has affected many households and businesses since the Christchurch quakes. The Earthquake Commission Natural Disaster Fund ([EQ Cover](#)) has been well used, but to have access to cover for its \$100,000 on home and \$20,000 on contents, the household must first have commercial insurance, as they collect the EQ levy of 15c per \$100 insurance cover on the premium.

Examples of [insurance cost](#) of NZ natural disasters included:

June 2014 Severe weather events & floods. \$376million

April 2014 Easter weekend storms \$55m

Feb & March 2014 Canterbury storms \$27m

Oct 2013. Storms nationwide \$12.4m

Sept 2013 Storms nationwide \$12.4m

Aug 2013 Cook Strait earthquake \$16.2m

July 2013. Cook Strait earthquake \$14.9m

Total insurance cost of the Canterbury earthquakes is \$17,000 million

This tiny hazard could bring larger risk. A warmer climate will allow mosquitoes to live in NZ which now carry infectious diseases in warmer Pacific Islands.



What is resilience?

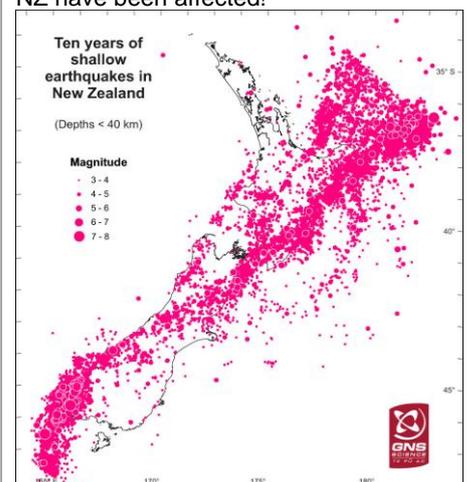
Transition Network in the UK describes it as: “the capacity of a system to absorb disturbance and re-organise while undergoing change, so as to still retain essentially the same function, structure, identity and feedbacks.” For people it involves flexibility, adaptation, adjustment and being able to imagine different future circumstances in order to plan for these.

Their principles are:

1. Positive future visioning
2. Trust good decisions based on good information
3. Be inclusive and open
4. Share and network
5. Build skills for resilience
6. Transition is needed in worldview as well as actions
7. System approach, many actions needed to fix a broken system
8. Work at the appropriate level for each issue (subsidiarity)



For live, recent and historical info on earthquakes, volcanoes and tsunami in NZ see the [Geonet website](#) The map below was displayed on their site in 2014: cumulative locations of shallow earthquakes since 2004. Many parts of NZ have been affected!





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Activity two: Are you prepared? (allow five mins)

Individual activity this time. Refer to the hazard which you, after hearing the group's views, rated as 'most likely' above. Score your answers to the questions with 0 for "not at all prepared", through to 5 for "very well prepared".

| QUESTION | SCORE (5 max) |
|---|------------------|
| 1. Do you and your household have a written action plan for coping with emergencies? | |
| 2. Has your household discussed and agreed upon 'in event of emergency' contacts? | |
| 3. Do you have a store of clean water for each person in your household (3 litres per day for each person for 3 days) | |
| 4. Do you have food (tinned and/or dried) to feed everyone in your household for 3 days? | |
| 5. If the main electricity supply failed in winter, could you keep your household warm? | |
| 6. Does everyone in your household know how to turn off the gas, water and electricity supply to your house? | |
| 7. Do you have a first aid kit and does someone in the household have the skill to use it confidently? | |
| 8. Do you have a "get away kit" ready for an evacuation (with essential documents, warm clothes, food, spec's and medical items)? | |
| 9. Is the petrol tank in your vehicle usually kept at least 2/3 full? (Or if no car – you have a bike?) | |
| 10. Do you have a torch beside your bed, and a portable radio, both of these with spare batteries (or solar and/or dynamo powered)? | |
| 11. Are you in a Neighbourhood Support group or similar and have everyone's contact details? | |
| TOTAL (from maximum 55) | |

Get together with the same partner you had for Activity 1. Discuss your poorest responses and how you can improve your scores, discuss specific actions you can take in the next month to improve (examples: buy torches & batteries, fill clean-water containers and gather items for first aid kit).



Tanya shows us her **get away kit**. This includes water, canned food and can opener, copies of essential documents, dynamo torch/radio, blanket, etc.



Displaced family after the Christchurch earthquakes using a pram to carry some essentials to their new shelter (Photo Tanya Jenkins)



Graham's wood stove was useful when power cuts followed the quakes (but he had to check the chimney for safety first)



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Activity three– MY EMERGENCY PLAN (10 Mins)

Complete this basic action plan for your own household, and then keep it for reference.

My name

Date drafted / / & to be revisited:

The natural hazards which are most likely to damage my home or prevent me from getting home are these;

1

2

3

In the next two weeks I need to take these actions so that I am better prepared for such emergencies:

1

2

3

4

5

6

Over the next 6 months I need to take these further actions:

1

2

3

4

In the [districts section](#) of the Sustainable Living website you will find a page link for each member council district or city. On each you'll find a section about community resilience with some information about local hazards, responses and sources of information. Ask one of the group to look in advance and/or provide an on-screen internet link to the relevant district or city page at the session, so that you can see what is provided and where to make further information enquiries. If you want a guest speaker from or have questions to ask Civil Defence in any other part of NZ, use this link to [CD contacts](#) to find the nearest office.

You are not alone in the need to be prepared and because others are potential helpers in an emergency (and you for them), it is good that they are well prepared too. They will have access to different skills, equipment and facilities, so that your combined resources may be



If you'd like to make a more complete action plan, involving the whole household, there is a four page template available from the downloads area (Community resilience tab) at our website

[Household preparation](#) advice from Greater Wellington Council (PDF)

[Households Booklet](#) from Ministry of Civil Defence and Emergency Management (PDF)

How to make [an emergency toilet](#) (PDF)

Earthquake Commission resources on [quake-preparing your home](#), includes some short videos.



Marilyn made and stored jams and preserves at home- very useful when supermarket supplies were interrupted and a good use for surplus garden or bulk-bought fruit , and they taste good!

An A-Z of the Trust's member districts and cities at December 2014 is: Auckland, Central Otago, Christchurch, Dunedin, Invercargill, Lower Hutt City, Marlborough, Timaru, Wellington and Waimakariri. Others are joining soon.



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considerable. Resilience is a community characteristic not just a household or individual one.

Group activity four: Building a sustainable community.(allow 30 minutes)

In preparation you need to download, print and cut up multiple sets of the resilience game cards, available from the same [downloads area of sustainableliving.org.nz website](http://sustainableliving.org.nz) as this learning guide.

To Play: Break into small teams of 3 or 4 people, each person in the game representing a 'sustainability coordinator' for a local neighbourhood of a dozen or so households, and lives within 30 minutes walk of the other neighbourhoods represented in the team. Each team uses one set of shuffled cards, most of which is dealt out randomly to participants, with just a few held back – these are given to another team, unseen by the donors. Another team may then donate your team a few cards, also picked at random. This creates your starting set of skill resources and assets.

The game scenario:

1. Imagine that after a major disaster (such as an earthquake or tsunami) the one NZ oil refinery at Marsden Point is closed down and will be closed for 3 years while it is rebuilt. Petrol will be imported directly from other refineries will be three times the current price in consequence.
2. Visualise the cluster of households that are your closest neighbours (maximum of 12 households). Each person in the team is the sustainability coordinator for their cluster of households.
3. Plan what you will need in your community to get you through the next few years. Take a few minutes for this stage of the activity. Feel free to discuss your needs within your team and try to distinguish long and short term priorities. Allow 10 minutes.
4. Within the team you then barter to get access to resources. Record the nature of your exchanges within the sub group on a piece of paper: what assets or resources are in most demand, which ones can be exchanged or loaned and on what terms? Allow 10 minutes for this. You can make two visits to a second team to seek an asset or skill resource from there – as they may have been dealt different resources? If you feel you need more rules for this game or to create extra cards then add them, according to what is appropriate from knowledge of your own area of NZ.
5. Come together as the full learning group and compare notes between teams. What happened and did you assemble what you needed? What were main differences between short and longer term priorities? What was missing from the game's card set and should be added – you can if you wish email the Trust with suggestions: write to rhys@sustainableliving.org.nz

You may like to follow up this activity by viewing a 2 minute animated slide sequence by Rachel Roddam from Transition Network about moving away from oil dependence ([on YouTube](#))

Climate change adaptation

Not all changes are sudden – it's possible to have a slow emergency.

This [five minute video](#) from California shows a neighbourhood becoming more resilient in the face of climate change and quake risks.

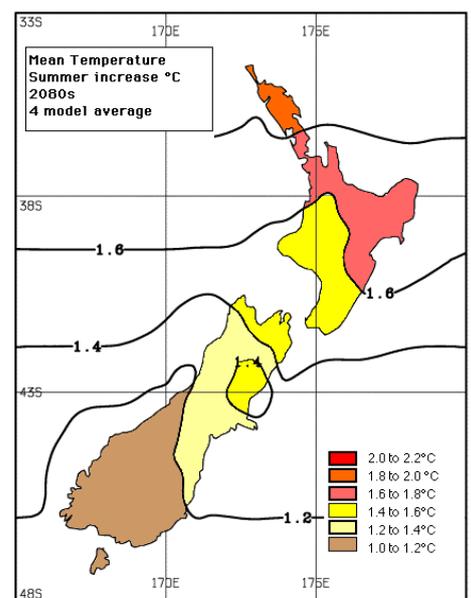


Marsden Point with an oil tanker berthed

Notes on the scenario:

Sudden fuel price hikes could be caused by geo-political events as well as natural hazards.

Fuel is needed to transport goods to supermarkets, coal to power stations, resources to factories. Oil derivatives are also a major ingredient in agricultural inputs of fertilizers, pesticides and herbicides, plastics, paints, fabrics, road surfaces and many other common products. Some oil is used in 'peak load' power generation, so domestic electricity supply could be affected. (And similarly electrical power can be lost by a variety of causes, including winter weather storms, although probably for shorter periods of interruption than in this oil scenario).



Projected average summer temperature increases by 2080 across NZ, from climate modelling. (Up by two degrees in Northland; up over one in Fiordland. East becoming dryer in consequence.)



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Adapting to climate change may become one of these. Globally the air, sea and land *average* temperature is rising, driven by the accumulating greenhouse gases in the world's atmosphere. Change is fastest near the poles. In particular, the air is able to carry more water vapour and energy as it warms. Prevailing summer westerly flows bring increased rain to west coasts and hot dry winds in the lee of the mountains to the east – which means summer drought. There will still be a pattern of cooler southerly flows following the westerlies and generally strengthening wind speeds may mean that more winter blizzards and rain storms reach NZ from Antarctica, so wet winters may follow summer droughts. These changes will be significant within one generation, scientists tell us.

Activity five: Use the 'climate change impacts map' (*could be colour-printed, viewed on-screen or projected*) from the downloads area of SL website, to identify predicted changes in your part of NZ, with option of breaking into teams again for up to 10 minutes to discuss expected impacts and responses **at household level**.

It is harder to influence district, national and international actions – but on this topic they are clearly needed at all levels. Future Living Skills encourages you to think globally and act locally, as an active citizen.

What are the most likely physical and/or social impacts of climate change that will have an impact in the next decade beyond individuals, **within the local community**? Across the District, perhaps in farming or other industry, energy supply, local government and community services? These could be physical changes in transport or bridge building, higher river stop-banks; or they may be social changes such as the opening or closing of a major industry, or relocation of coastal homes? Over time there are also expected changes in health such as insect-borne diseases and changes in the age structure – more local elderly, and/or more migrants arriving from Pacific islands and Australia?. Changes may bring opportunities, so we are not just looking at threats here. Take 10 or more minutes to discuss, if time is available. Share your ideas with the larger group. Consider what could indicate 'successes' in adaptation to climate change, a decade ahead?

You may be better equipped to respond to a changing climate after completing this Future Living Skills series of eight topics: you'd know about water use efficiency, perhaps rainwater collection, about food growing and about home heating and cooling through design and relevant actions. You may also be more ready to reduce your own carbon emissions, which are contributing to the planet warming: relevant topics include transport choices, energy efficiency, composting and waste minimisation and food choices.

Developing an action plan

Activity six. Make a note on the next page of four or more actions that you (with partner and children, if appropriate) could take in the next six months to better adapt your home and lifestyle to expected climate change impacts and then four to reduce your household's carbon emissions.

With atmosphere warming comes sea warming, and warmer water expands, with additions to it from ice melting in glaciers and Greenland and Antarctica, so the average sea level rises. It's up 20cm since 1900 says a [new report](#) in 2014 from NZ Parliamentary Commissioner for the Environment, and a predicted 30cm more by 2050, threatening low-lying coastal buildings and infrastructure.

Source of the NZ climate change map graphic, available also at our downloads page, is [Ministry for the Environment](#).

NZ science information on climate issues available from the [Royal Society](#) (PDF) from [Engineers for Social Responsibility](#) (PDFs) and from the [NIWA](#) website.

Beyond the political parties (from which we remain independent), groups focussed on NZ's responsible role within the world on climate change issues - both our own emission reduction and adaptation within a warmer Pacific - include:

- [350.org](#).
- [Oxfam NZ](#)
- [Greenpeace](#)
- [Ora Taiao](#) (climate & health)
- [Wise Response](#)
- [Environment and Conservation Organisations](#) (ECO network)

Speakers about climate change are available in NZ through a [climate leaders programme](#) inspired by former US Vice President Al Gore whose film *An Inconvenient Truth* has been widely viewed: get it on DVD at libraries.

But why do we need to take action on climate change? How risk averse can we afford to be? Is the risk of no action greater than the risk of taking action? [Stimulate the discussion](#) with this 10 minute video from a science teacher based in USA.



SUSTAINABLE LIVING – Aotearoa/New Zealand

CLIMATE ADAPTATION My Four+ actions

EMISSION REDUCTION My Four+ actions

Issues identified for our wider community: is there anything that this learning group can go on to do after this learning series, together? Do we need to learn more on some particular topics; or to lead action by example - visible in the media - or encourage community and policy action by speaking and writing to others?

A study in Tasmania found that of 426 people who said they'd **like to reduce their carbon emissions**, some actions were easier to tackle than others. Less than 20% had been able to reduce transport energy use by walking, cycling, or using public transport, whilst over 55% had been able to improve efficiency through ceiling, window or hot water pipe insulation. For more on **why people did not take action, despite their concern**, [read here](#) and think about how you would address the identified barriers to change.