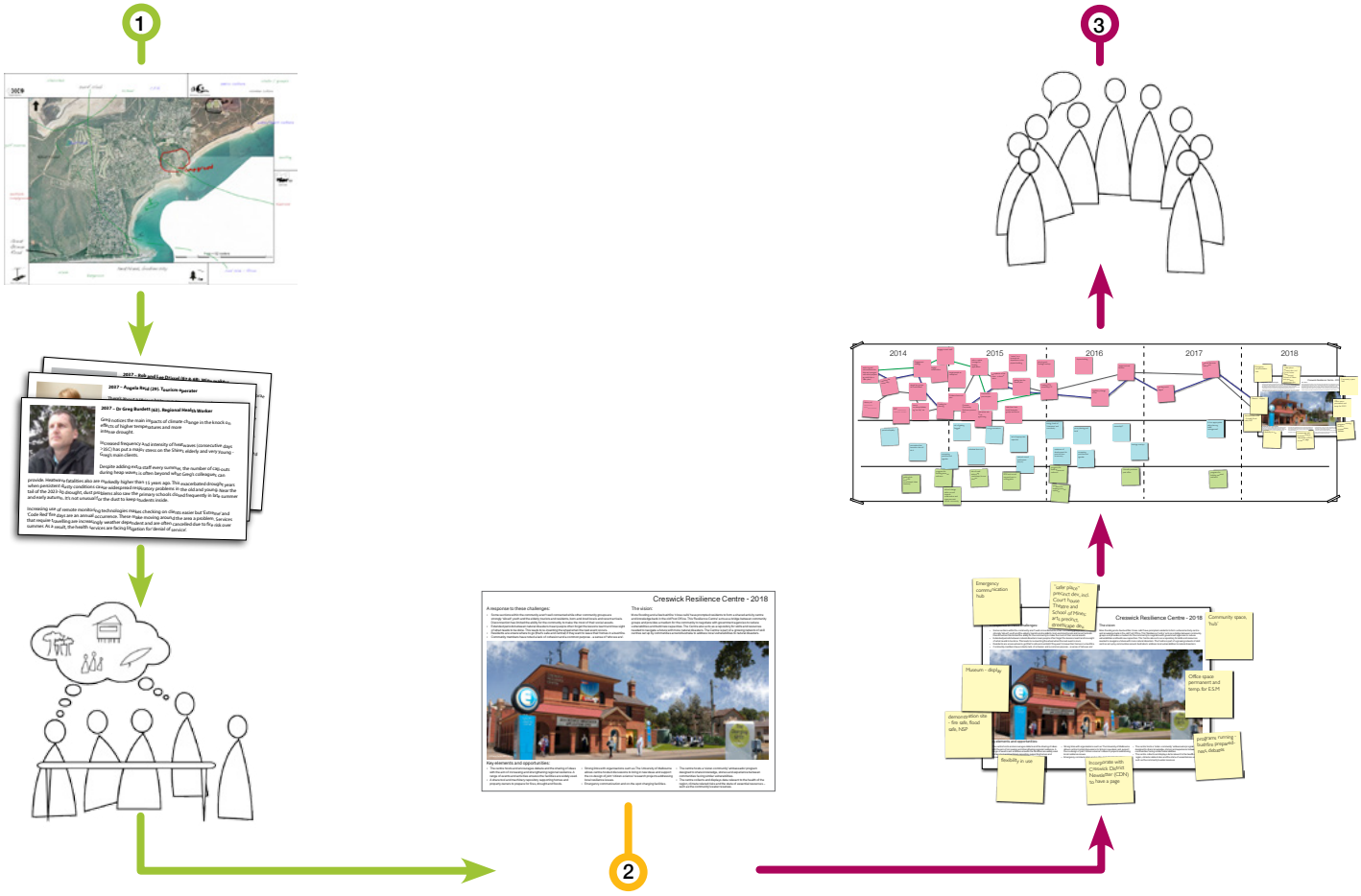

Visions of Resilience

A Workshop Manual

Project Team

Che Biggs - VEIL
Chris Ryan - VEIL
Jessica Bird - VEIL
Michael Trudgeon - VEIL
Rob Roggema - Wageningen University

With specialist contributions from:
Roger Jones - Victoria University
John Martin - La Trobe University
John Wiseman - The University of Melbourne
Martin Brennan - ICLEI

With generous support from Hepburn Shire and Surf Coast Shire.

For enquiries about this report contact
Che Biggs at VEIL: cbiggs@unimelb.edu.au

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Manual structure

This manual has four sections. The first introduces and provides an overview of the manual, its context and two workshop processes. The second outlines the first workshop – a combination of participatory vulnerability assessment and future visioning. The third describes how outputs from the first workshop can be synthesised into coherent visions of resilience (used in the next process). Section four outlines the second workshop – an assessment of pathways and barriers to achieve the visions.

Each workshop process is broken down into key stages and the steps in each stage. Where applicable, each stage is also provided with additional comments, warnings and suggestions for the process facilitators. Any tools and equipment relevant for each stage are also mentioned. Specific tools created for the process must be downloaded from the VEIL website: www.ecoinnovationlab.com/project/visions-of-resilience/

This process was tested in two towns in Victoria and adapted each time. As with any process design, we expect you will consider how to adapt it as well. Your specific goals, operating constraints and the type of participants you involve will be unique. Their influence should be considered for every stage of the process. We also recognise you may use slightly different tools at different stages and change times accordingly. While we encourage you to adapt the process to context, this process manual contains all the essentials. We hope you find the core of the process a good foundation to experiment with. Good luck!

Design-led support for climate resilience

This manual aims to help organisations and communities adapt to future climate extremes. It outlines a process designed to involve community in climate change adaptation planning and to identify novel strategies to build local resilience.

Communities play a limited role in climate change adaptation planning, despite having the majority stake in the results. Many of the adaptation strategies currently considered by local and state government are small adjustments to existing ways of working. They don't reflect the complexity and severity of likely climate impacts. Impacts we are already beginning to see.

Effective adaptation demands a significant change to current thinking and practice in community and government. But significant change is also disruptive. To make adaptation work, affected stakeholders need to know why change is needed. They must also own the goals and trajectory of change. This demands a significant 'opening-up' of existing planning processes – making them more democratic, open to diverse input and transparent about values and assumptions involved. In most instances of institutional change stakeholders need to feel they have helped shape the direction of change before they will own it. With change needed in every town and every region, we require new collaborative decision-making tools to catalyse and support this process.

This manual presents one such tool - a step-by-step workshop process to build local visions of resilience and identify barriers to change. The process can be used to identify local vulnerabilities to climate change and identify ways to build resilience that reflect community values and aspirations. It is intended primarily for a spatially defined area of interest – a town, suburb, city or region etc.

The process was developed as part of a VEIL design-led research project funded by the Australian Government through the Victorian Department of Justice (Natural Disaster Resilience Grant Scheme).

The manual presents two linked workshop processes. The first is a visioning exercise designed to be used by people directly affected by climate change. The main aim of this process is to develop a variety of ideas for local adaptation to future climate conditions. However, it also incorporates an asset and vulnerability assessment to help frame the investigation of adaptation options.

The second process explores pathways and barriers to specific visions of change. It is designed to take selected ideas from the first workshop and identify what the key ingredients and impediments are for implementation. The two workshops can be run up to nine months apart depending on your objectives. For example, you may wish to conduct extensive consultation based on the outputs of the first workshop.

Who can use this manual?

The manual is principally designed for local and regional government. These organisations have the resources and responsibility to lead climate change adaptation. However, with a bit of forethought, any organisation or community of people could apply the processes.

When should you think twice about using this process?

The main caution for any group or organisation thinking of using this process is to evaluate your access to climate change and facilitation expertise. Climate scenarios used in the visioning process need to be based on a sound understanding of environmental systems. It is critical that the stories used are built around an internally consistent set of assumptions about the future and that translation of future conditions into scenario narratives is consistent with current and legitimate research. Of course, there are alternatives to building your own scenarios. Scenarios may already have been built by other organisations and could be adapted (with care!). Alternatively, you could approach specialists for assistance.

Facilitation expertise is also essential. Currently, in Australia, the climate change issue provokes strong reactions in some people. Putting aside the minority of ideologues, climate change is understandably a polarising issue. Exploring local climate impacts and local adaptations requires people to think deeply about what they might lose and what changes they could live with. This can be challenging for anyone. Therefore, the people leading the process need the skills and experience to work through any personal and group dynamics that these issues can trigger. Otherwise you might end up alienating people who need to be part of the solution.

Visioning workshop process

Aims
The visioning workshop aims to help participants:
- build a shared understanding of the area of interest (AOI) including key assets and vulnerabilities to climate change
- explore a wide range of ideas and strategies for building local resilience.

Summary
This process has 11 stages over two days. By the end of Day 1 participants will have identified and ranked local assets, explored how these are vulnerable to a range of climate hazards and begun to investigate possible responses to build resilience. The second day is framed as 'looking back from the future' and focuses on identifying and prioritising tangible options for building resilience. The process will work well for groups of 15-50 participants. Less than this and you won't get the diversity of opinions needed. More, and you will need to re-work times and structure.

Outputs
- a broad list of local assets, including maps identifying physical assets
- a set of vulnerabilities ranked by participants
- a list of broad adaptation options and detailed descriptions of desired climate adapted futures.

What you need:
- a 3 x 1.5m wall space
- tables to sit 5-8 each
- coloured sticky notes
- coloured pens and markers
- domain & spatial maps, resilience principles, project sheets, wild cards (See website*)
- 3 context specific scenario stories (see Appendix 1)
- tracing paper.

Length of time
Day 1 – (4hrs + 50mins for dinner)
Day 2 – (3hrs + 20mins morning tea)

Before the workshop

In an ideal world, we'd write a whole manual on this stage of the process. Getting the right people involved is half the challenge. We're going to leave that to others with specific skills in this area. However, it's worth bearing in mind that community consultation is often well intended - and badly done. There is a need for more effective engagement processes.

Here are a few key principles and recommendations for you to consider in your preparation and planning. We strongly suggest you seek further advice if you are not familiar with community engagement.

Initial Engagement: Be transparent and personal. You're asking people to give their time to something they don't know. They're more likely to come if they feel interested and safe. Make sure they trust the organisers or know others coming. Personal phone calls and face-to-face time helps! Be open about the issue of climate change but be willing to change your language. People may be more interested in 'building community capacity' or 'preparing for disasters'. Don't get caught in a debate over climate change politics.

Venue: Make it local and make it neutral. Not everyone feels at home in the golf club. Government buildings are rarely neutral space!

Participation: Diversity is key. Getting a representative group and a selection of out of the box thinkers will give you more chance of achieving results that will capture wider interest and buy-in. It's easier said than done! Talk to others in the community who have good connections and are respected.

Facilitators: Not the same as trainers or 'MCs'. A good facilitator will ensure the process runs well and help the group deal with hiccups. This includes working through conflict and strong opinions. It will also help to have someone in each subgroup to keep people on track. In addition to facilitation for the whole group, we used designers on each table (who were familiar with participatory processes and who knew the method) .

Scenario stories: You will need to have a set of scenario stories prepared - see Appendix 1.

Food: Have it! People will be more likely to come if they know they'll get fed. During the process, keep an eye on people's energy and be flexible with the timing of the food. You might need to bring it in early, or you might push it out longer if there's good work being done. We recommend limiting sweet food; people like it but it cuts productivity.

*All specific tools for this process can be downloaded from the VEIL website: www.ecoinnovationlab.com/project/visions-of-resilience

Stage 1: Introductions and framing

Day one – (4hrs + 50mins for dinner)

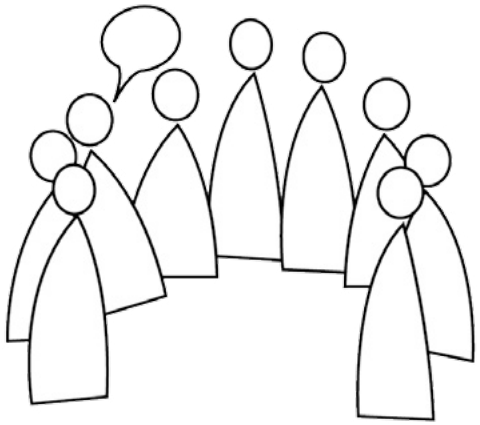
Stage One:

At the end of this stage participants should know each other, know the rationale and objectives for the workshop and the key stages involved. Everyone should also have agreed to work with each other in a respectful and collaborative way.

Suggested time: 40 mins.

What you need:

- visual outline of workshop process



Step by step

A. Introduce the process leaders.

→ *NB: this might be done by a local representative*

B. Outline the rationale and background to the project.

→ *NB: Eg. Refer to manual introduction and project report www.ecoinnovationlab.com/project/visions-of-resilience/. Rationale will be different for each setting.*

C. Explain the workshop process, objectives and intended outcomes.

Essentially, participants need to know they will explore possible impacts from future climate conditions using scenarios and then identify a range of positive adaptation options.

→ *NB: Don't forget to tell participants what will be done with the results.*

D. Personal Introductions.

Everyone introduces themselves and their relationship to the place or region in focus.

→ *NB: one way to introduce external facilitators or specialists is for them to identify one or two things of interest about the town or region – it's a good way to build good will.*

E. Agree on principles for working together.

This is where basic but essential stuff about use of mobile phones, listening to hear, respecting other's ideas, protecting privacy etc. is agreed to. Chatham House Rules might be a good start - participants are free to use information received, but the identity of people involved in the workshop will remain confidential.

→ *NB: This is an essential but often neglected step. Don't forget to tell people about any audio or visual recording and the conditions under which material will be used.*

F. Introduce the area of interest (AOI).

Clarify what the area of interest is and what it does and does not include. Give a brief introduction of the area or aspects of it. Key on-going issues, historical events and important community values may be relevant.

→ *NB: This step could be done together with local government officers or community representatives. You will want to extend this step if many of the participants are external specialists. If most of the participants know the area well, you might want to have a brief discussion to draw out what they know.*

G. Split participants into table groups.

Ideally 5-8 per group, including facilitator.

Stage 2 : Knowing the area of interest

This is where participants identify and prioritise strengths and assets that exist in the (AOI). This could include identifying elements considered key to the town and community's identity.

Suggested Time: 20 mins.

What you need:
For each table group of 5-8 people:
- a domain map (see website)
- a spatial map of the area
- coloured pens and markers.

Step by step

A. Identify Assets.
Beginning with the domain map, groups identify and highlight assets and attributes considered important.

→ *NB: the domains are just to help people avoid missing assets. Begin by populating all segments of the domain map with a few assets to help develop a flow of ideas.*

B. Map Assets.
After a few minutes, use the spatial maps to help identify the assets spatially.

→ *NB: In our workshops we created wide blank margins around each spatial map divided into the key domains. People could then draw on the maps and write down relevant assets around the margins (see Fig. 1).*

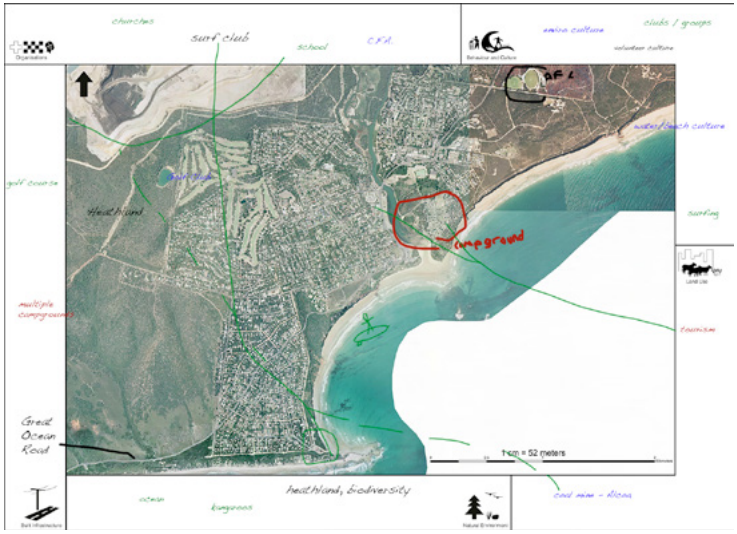


Fig. 1 Asset Map

Facilitator notes:
- Encourage everyone to write and draw on their map and avoid allocating a scribe for each table.
- Encourage participants to be as tangible as possible when recording assets. A clear sign marking "Golf Club" is better than "sports clubs".
- When something can't be mapped spatially, write it in the appropriate margin around the edge of the map.
- Aim to get everything! Don't worry about prioritising assets. The objective is to be broad and inclusive. Contradictions and disagreement is fine, even likely. The domains are also broad, so people might find they disagree on which domain an asset fits into. Don't worry, at this stage, there's no right or wrong. Assets can be represented in multiple domains, although try to limit this.

Stage 3: Exploring climate extremes and vulnerabilities

At this stage participants will begin to explore climate impacts and map possible implications of future climate conditions on the area of interest. By the end each table will have identified key hazards, which assets may be affected, and how they will be affected.

Suggested Time: 55 mins.

What you need:
For each table group of 5-8 people:

- spatial maps with assets from previous exercise
- three context specific scenario stories (see Appendix 1)
- tracing paper
- yellow and pink sticky notes
- coloured pens and markers
- domain map.

Scenario story cards

Step by step

A. Introduce climate change and climate scenario stories. (10 mins)
Provide an overview of what climate change is and the general implications for the region. Emphasise the complexity and overlapping nature of possible impacts. Present the three stories of future climate to all the participants. Describe why scenarios are used, how they were derived and their strengths and limitations.

→ *NB: you may present all the stories together or get groups to read one each. Each table needs one scenario to use in the following steps. For more detail about scenario design see Appendix 1.*

B. Acknowledge reactions. (10 mins)
Allow each group to discuss each scenario story for up to five minutes. The main facilitator should then check in to see how the participants are feeling. Lead a short discussion to address concerns that arise.

→ *NB: At this point, it's important to acknowledge that people may have strong reactions and that this is fine and normal; they might want to dismiss the scenarios or feel scared. Explain that the scenarios are based on a worst-case reading of model projections and why.*

C. Analyse and explore scenario implications. (35 mins)
Allocate one scenario story to each group. Groups begin exploring potential impacts on the assets identified. Use tracing paper over the spatial maps to mark where impacts might occur and which assets will be affected. After about 20 mins, each table should begin to clarify which assets are vulnerable to specific hazards and what the likely impacts are.
Eg. If a main road (considered an asset) is vulnerable to flooding (a hazard), the impacts could include restricted food and fuel supply, temporary isolation and inundation of homes or businesses. In the last 5 minutes, table groups should agree on 4-6 priority assets affected and write each onto a yellow sticky note. On pink sticky notes, groups then write down how they would be impacted.

→ *NB: Make sure intangible assets are also considered. Use the domain map as reference* (see website).

Facilitator notes:

- Asking people to value scenarios they haven't created can be tricky. Its your job to show that scenarios are backed by scientific evidence but also fictional.
- Be aware of participants' reactions to the scenario stories. Fear and disbelief are normal. It can hep to tell people this.
- Depending on the group, the stories and prior history of disasters, you may want to have counsellors available for people to talk to afterwards if needed.

Stage 4: Asset-hazard wall matrix

Participants will complete a matrix of assets at risk and possible impacts.

Suggested Time: 15-20 mins.

What you need:
- a large blank wall space
- blue sticky notes
- pens.

A facilitator will set up the wall into a matrix of assets (X-axis) and hazards (Y-axis). Write the main climate hazards on the blue coloured sticky notes; one per note. These could be flooding, fire, heatwaves, drought, etc. Place these vertically down the left hand side of the wall. Groups put up their pink (impact) sticky notes on the matrix - corresponding to the asset affected and the hazard, as per Fig. 2.

Step by step

A. Groups share priority assets.
Gather everyone around the blank wall.

→ *NB: make sure each table has their 4-6 yellow (asset) and corresponding pink (impact) sticky notes.*

Ask each table to describe their assets. Place a sticky note for each asset along the top of the wall forming a 'Y'axis.

→ *NB: If done quickly, this can be good as a whole group. You will find many of the assets are identified multiple times across groups. This process can help local stakeholders realise what they value in common. Aim to have at least one asset per domain. If there isn't, double check with the group. If there are no priority assets from one or more domains, it's probably something to keep an eye on – it may be highlight an important gap in people's thinking.*

B. Groups share potential impacts.
Once the list of assets is complete, ask one group to put up their pink (impact) sticky notes on the matrix – corresponding to the asset affected and the hazard. Get them to describe each impact briefly. Move on to the next group and so-on.

→ *NB: This process has the risk of being time consuming. Avoid having each group repeat what the others have already described. If possible, make time at the end to discuss what people see and think. This is a good point in the process to have lunch. Emphasise that the next step will be looking at solutions. Take a photo of the results before you change anything!*

Fig. 2. Asset-hazard wall matrix. Impacts are marked by pink sticky notes.

Stage 5: Brainstorming adaptation ideas

A quick brainstorming session to shift participants' thinking from vulnerabilities to solutions.

Suggested time: 15 mins.

What you need:
- domain map (see website)
- pens
- tracing paper.

Step by step

A. Re-group.
People form back into the same small groups as in Stage 3.

B. Use the domain checklist to brainstorm potential adaptation options.
Explain objective and ask groups to target the 4 priority assets they identified in Stage 3. Use each of the domains from the checklist as a prompt to explore different types of strategies. Identify 2-5 ideas per domain using each of the 6 areas as a starting point for reducing hazard risks and vulnerabilities.

- What changes in land use, culture and behaviour, or economic activities, etc., would help address risks and reduce vulnerabilities?

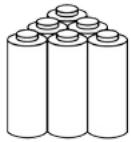
→ *NB: This is a rapid brainstorming session, and the ideas can be as broad and crazy as people like. There are no right or wrong answers, and no bad ideas at this stage.*

Facilitator notes:
- People may find it easier to think in the one or two domain areas they are most familiar with, so make sure they come up with a range across all the domains. Reducing the vulnerability of any asset might require multiple adaptations.
- After Stage 5 is when we suggest a break for dinner. People will have time to discuss the adaptation ideas and reflect on the activities so far. This break also allows people to 'refuel' and approach the next stage with new energy.

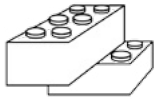
Foundations of resilience


diversity


enhanced feedback


redundancy

adaptive capacity


modularity


impact avoidance

Facilitator note (Stage 6):
- Whilst having lots of proposed ideas is good, there's a trade-off between the number and level of detail. Ideally, each group comes up with around 3-10 core ideas. This process is really about getting people familiar with the principles and starting to expand their own assumptions. The quality of ideas will be much better on Day 2 because people will have had more time to synthesise the information and concepts.

Stage 6: Strategy exercise #1 - resilience

Participants are introduced to a set of guiding principles to help explore and develop a range of adaptation strategies for building resilience.

Suggested time: 90 mins.

What you need:

- design principles
- domain map
- spatial maps.
- tracing paper
- pens

Step by step

A. Introduce resilience principles. (10 mins.)
Present the resilience principles (see website) and use examples to describe how each one could be applied in an adaptation strategy.

→ *NB: It may help to get participants to suggest examples (have some examples in your back pocket just in case). Ask people to reflect on how the principles are different from those used in conventional emergency management and development strategies.*

B. Brainstorm initial strategies and test framing principles. (15 mins.)
Ask groups to select one at risk asset from Stage 3 and spend 5-10 mins brainstorming strategies to build resilience. Start by using 2 or 3 design principles. If the groups have handled this process well, ask them to make the strategies more ambitious - how might they be adapted to mitigate multiple impacts and help multiple assets simultaneously?

→ *NB: Refer groups to the asset-hazard matrix for relevant hazards and impacts.*

C. Deepen strategy exploration. (20 mins.)
Now consider all the priority assets along with their relevant hazards and impacts as a whole. Using each of the domains as a potential starting point for strategy exploration and the guiding principles as a framework, groups should develop a range of strategies – aiming to be as tangible as possible. Get participants to draw on tracing paper over the spatial maps. This helps ground the ideas. Make sure groups are considering which stakeholders would be involved and where aspects of the strategies would see changes on the ground.

→ *NB: People may find it difficult to keep their ideas consistent with the resilience principles, so make sure table facilitators keep asking how the ideas would reflect these.*

D. Evaluate promising strategies. (25 mins.)
When a range of ideas have been identified, use the following questions as a framework to assess and prioritise strategies. If you have time, groups may use each question to rank the strategies on a scale of 1-10. Combine the results to help select priority strategies. Alternatively, (i.e. if you have less time) discuss the merits of each strategy to come to a consensus. Consider the questions as a starting point.

- Over what time-frame would the strategy be effective?
- How would other people in the community respond to the idea? And respond to the result?
- To what degree does the strategy reflect the resilience principles?
- For the strategy to work well, what are people assuming will happen? What else is required? (don't forget factors that may lie outside the area of interest).
- What risks and knock-on effects might the strategy have, where would these impacts manifest on the maps? How could they be mitigated?
- Does the strategy improve the resilience of one asset, while reducing the resilience of another?

Take a moment with each strategy to consider how they could be improved.

E. Share priority strategies. (20 mins.)
The groups then come together again to share their spatial maps and adaptations with everyone.

→ *NB: Make sure there's enough time after all the presentations to gather feedback and insights; what have people learned? What have they struggled with?*

F. Frame the following day.
Remind the participants that they will be returning on Day 2 to look at how the area of interest has changed over 25 years – becoming the resilient place they imagined today.

→ *NB: You may ask participants to think overnight about how this process of change has taken place.*

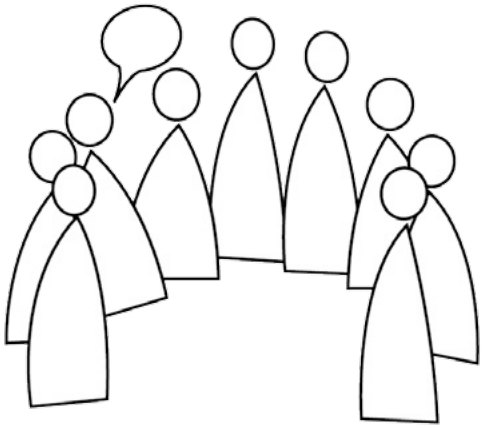
Stage 7: Process review - day 2

Day two (3hrs + 20mins morning tea)

Stage 7:
As a whole group, review insights from the previous day.

Suggested time: 15 mins.

What you need:
- all participants.



Step by step

A. Welcome and group discussion of previous day's results. (15 mins.)
After welcoming everyone, lead a discussion about people's feelings, thoughts and insights from the previous day. Re-visit some of the key themes from the adaptation strategies presented on the previous day. Ask people:
- What key assumptions were made? Would they reconsider these?
- What weaknesses do people see in the strategies so far?
- What vulnerabilities haven't been focused on?
- Are there any key assets or hazards that weren't covered from the previous day that people feel are important?

B. Explain process for Day 2 and review climate scenarios. (5 mins.)
Explain the objective and focus of Day 2. – to look back from the future (in 25 years) and explore what changes have taken place. Firstly, exploring broad patterns of change and then considering the tangible steps and ingredients of that change.

→ NB: in our workshops we used the humorous scenario that all participants had been transported overnight to a point 25 years in the future (while retaining their youth).

C. Divide participants into groups.
Ideally 5-8 people per group, and different combinations from the day before.

Stage 8: Strategy exercise #2

In small groups, participants look back from 25 years into the future to explore how the area of interest has changed to make it more resilient to climate extremes.

Suggested time: 50 mins.

What you need:
- scenarios
- tracing paper
- resilience principles
- wild cards
- pens.

Step by step

A. Introduce scenarios again – to frame the historical perspective. (10 mins.)
Re-read or present the scenarios used on the previous day.

➔*NB. You may want to do this using the present tense - as if descriptions are of current conditions (in the 25 year future).*

B. Review assets, hazards and impacts. (5-10 mins.)
Briefly discuss the key risks and priority assets at risk.

➔*NB: this is particularly critical if new people are involved.*

C. Frame and explore historical change.
Ask the groups to consider that despite the challenges just described, the area of interest is thriving and highly adapted to changing circumstances. Task each group with exploring and recording what changes have been made over the last 25 years. Allow participants to start where their imagination takes them but refer back to the resilience principles and the domain map (see website) to work systematically through the local implications of the adaptations described.

➔*NB: Groups might find it easier to describe the changes from the perspective of a fictional resident in 2037 – highlighting each of the domain areas where adaptations have been made. If time permits, select a wild card (see website) from the deck and discuss what effects it would have on the assets and possible adaptation strategies.*

Facilitator note:
- Framing this exercise as an imaginary 'looking-back' might seem strange but will help participants explore the possibility of change more easily. It helps to disconnect participants from their current roles and perspectives and encourages them to be more creative and explicit about the norms and assumptions they project onto images of the future.

Stage 9: Mapping ingredients of change

A deeper, more tangible exploration of the adaptations explored in Stage 8; participants move from general ideas to how they would be implemented as specific projects.

Suggested time: 70 mins.

What you need:

- project sheets (see website - also see Fig. 4 for an example)
- pens.

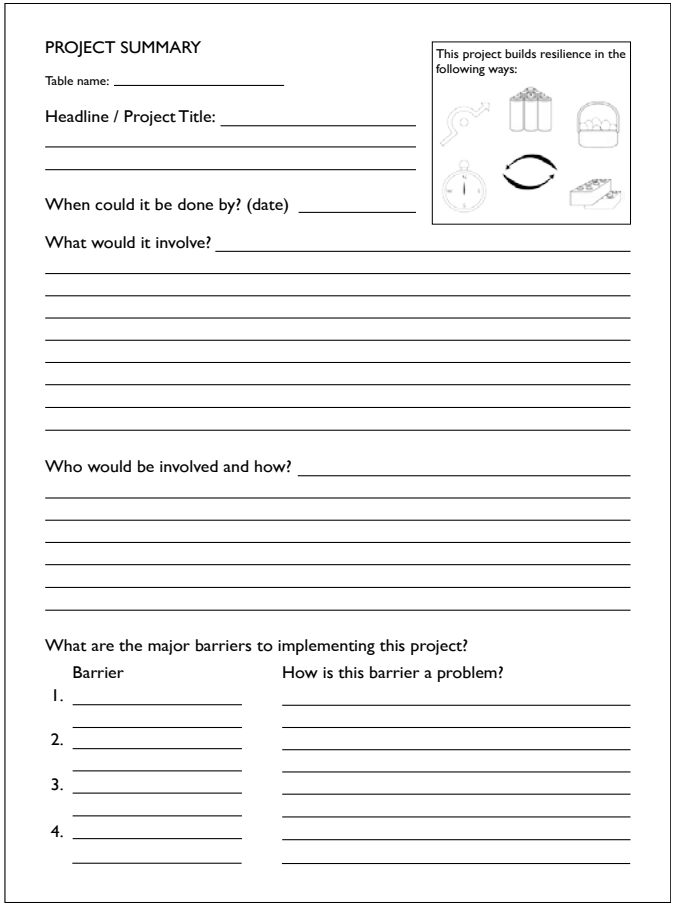
Step by step

A. Narrow scope and select projects.
(5 mins).
Each group is to choose a small number (2-4) of discrete interventions that were imagined in Stage 8. Interventions should reflect the scale of ambitions expressed in Stage 8 but be coherent and specific projects. The groups may split into groups of two or three to focus on one project each.

B. Explore 'Adaptation Projects'. (25 mins).
Small groups are to explore the tangible (what, who, how, when) aspects of the projects and changes proposed. Outcomes should be consolidated onto the A4 'Project Sheets'. These sheets can be used as a structure for discussion.

→ *NB: Make sure there is time (eg minimum 5 mins.) for participants to reflect on what would prevent the projects succeeding. Add these to the 'Project Sheets'.*

C. Share results with the whole group.
(40 mins).
The groups gather together to share summaries of their projects with all the participants.



PROJECT SUMMARY

Table name: _____

Headline / Project Title: _____

When could it be done by? (date) _____

This project builds resilience in the following ways:

What would it involve? _____

Who would be involved and how? _____

What are the major barriers to implementing this project?

	Barrier	How is this barrier a problem?
1.		
2.		
3.		
4.		

Fig. 4. A suggested project sheet.

Stage 10: Imagining the future

Participants imagine news headlines from the future that describe aspects of the projects and strategies they have been exploring.

Suggested time: 20-30 mins.

What you need:
- paper
- pens.

Step by step

A. Headlines. (10 mins)
Participants work individually to think-up three fictional future news headlines describing an aspect of the adaptation strategy or project developed.

B. Share headlines. (10 mins)
Participants read one headline aloud to the group. Repeat until everyone has read each of the headlines.

Facilitator note:
- This may appear glib but it's a positive and humorous way to end the process. It allows people to give their individual perspective and can capture the 'essence' of people's hopes and fears.

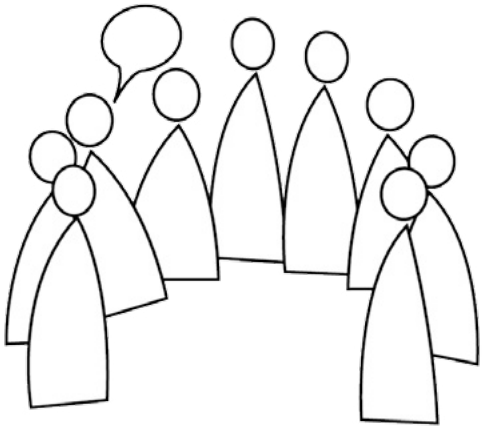
People will enjoy making up headlines

Stage 11: Time to debrief

Thank yous, and review the day - invite participants to give feedback on the process and suggest how it could be improved.

Suggested time: 15 mins.

What you need:
- Something to capture feedback (whiteboard or butchers' paper for example).



Step by Step

A. Thank yous and next steps.
Give an outline of how the results will be used. Thank people for their time!

B. Feedback on the process.
- How do people feel about the process?
- What did they like about the process or get out of it?
- What didn't they like?
- What suggestions for improvement or difference are there?

→ *NB: allow time for participants to comment or ask further questions if necessary.*


Anglesea Lake Walk
1hr return
© Damien Armellin, 2012

Synthesis of visions

Aims
To consolidate and synthesise outputs from the visioning workshop into a set of coherent 'glimpses' of the future such as visual images and narratives.

Summary
Depending on the outcomes of the visioning workshop you may simply want to take the ideas in the project sheets and use these as the basis for developing visions. However, you may wish to conduct some kind of synthesis. For example, there may be opportunities to consolidate similar ideas or projects into one vision. Alternatively, you may choose to emphasise some aspects of the ideas to reflect particular local issues or opportunities. If so, use the following process outline as a guide. It is designed to cluster many related ideas into distinct adaptation strategies and to make it easier for non-participants to imagine and depict those strategies as stories or visual imagery.

Outputs
A collection of coherent visions of the future reflecting outputs from the visioning workshop.

What you need:
- outputs from the visioning workshop
- project team
- artists or visualisers.

Length of time
4hrs + breaks (this does not include time needed to write or draw any vision – this can take days)

Stage 1: Synthesis of outputs

Capture, cluster and summarise all the results that will inform the visions.

Step by Step

A. Summarise assets and vulnerabilities.
Draw on all the outputs including the spatial and domain maps to capture all assets and vulnerabilities. Include results of Day 1 – even those produced prior to any consolidation.

B. Identify priority assets and vulnerabilities.
Review what the workshop participants identified as priorities. There may be some important insights and issues missed as people were forced to narrow their focus in the visioning workshop.

C. Identify adaptation themes.
Look for the common ingredients, values and ideas that people have identified as part of creating a more resilient future. Make these explicit. Use the contextual framework (see Fig. 5) to capture a complete (systemic) understanding of what participants have proposed. You may need to take participants ideas to a deeper level to identify what a particular adaptation strategy would mean for people's behaviours, norms or worldviews.

→ *NB: Identifying themes in Fig. 5 will help create visions and narratives that are internally coherent but that also resonate with participants' values and perspectives.*

Stage 2: Create vision skeletons and narratives

Build stories around the themes identified in Stage 1.

Step by Step

A. Select the key messages.
Decide on the key adaptation concepts you want to convey. Choose a coherent set of aligned ideas that show how the future in the AOI would be different (and more resilient).

B. Select a point of reference.
How do you want people to see and understand the future? If the key changes in one vision involve physical assets, these assets may need to be the focus of the vision. You may want to show a before and after image. If the adaptations imply behavioural changes, then consider a 'user' perspective; perhaps there is a journey or activity that can be shown from the angle of a fictional resident.

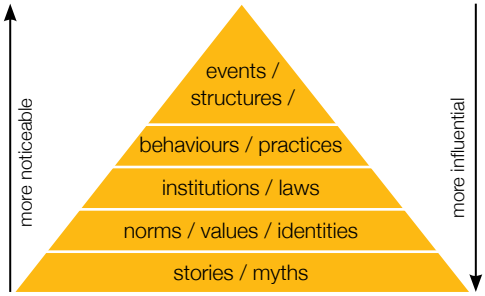


Fig. 5. Contextual framework.

Stage 3: Define scope for visions

Define the key ingredients and limits of what will be included in the visions. Essentially this involves creating a 'brief' for each vision. Use the following ingredients as a guide.

- **Vision date** – projected year by which the vision will have been realised. Usually between now and 25 years time, depending on the scope of the climate scenario and scale of the vision.
- **Vision concept** – a brief description of what each vision should show and what it is aiming to convey.
- **Key elements** – critical functions, features or agents involved.
- **Justification** – which issues or opportunities the vision responds to.
- **Effect** – how the concepts portrayed in the vision address vulnerabilities and resilience.
- **Framing for visualisers** – for example:
  - *critical ingredients* - Eg. Any particular features or perspectives
  - *stylistic aids* - Images and photos can really help
  - *a description* of the desired end result
  - *narrative* – if a story will go with the images, make sure this is written first (but expect to adapt it to the image).

Facilitator notes:

- The last steps of Stage 3 will probably take a number of iterations to get the narratives and visions right. Don't get caught up creating highly detailed life-like images of a concept. Think of the visions as 'glimpses' of the future. Give people enough to spark their imagination but don't complete the whole story for them. Also, the more detail you give, the more likely people will get caught up weighing up the logistics of what they see rather than the concept it represents.
- Remember that the audience for the visions may be wider than your participant group. They will need to understand the context of the visions and why they were proposed. In some cases, this context may need to be described and tailored for each vision.

Pathways & barriers workshop process

Aims
To explore pathways for turning visions of resilience into reality; to identify enablers, barriers and leverage points that will be influential in this process.

Summary
This workshop involves three core processes: exploring possible decision points and conditions that can enable each vision; identifying challenges and blockages to these enabling conditions; and identifying leverage opportunities or ways to overcome problems. Each stage builds on the previous, with the final stage allowing participants to share the stories of change they have created. The process is set out so small groups (5-8) explore one vision of the future each. The number of visions and people should reflect this ratio.

Outputs
A timeline of change and a thorough exploration of key factors that can support or undermine future visions.

What you need:
- vision posters (derived from the vision workshop process)
- sticky notes (yellow, pink, blue, green)
- pens and markers
- a timeline for each vision marked on butchers' paper or a wall (see Fig. 6 on following page).

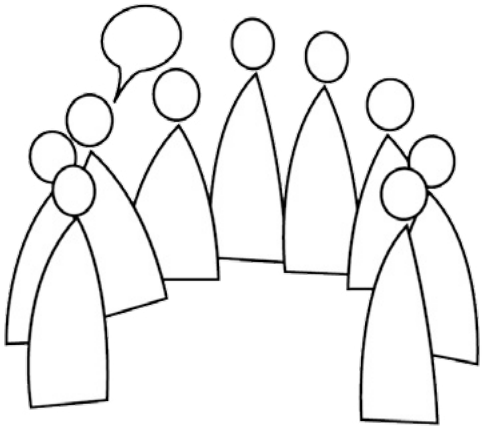
Length of time
Maximum 5 hours with breaks – expect longer if you have more than seven visions or 40 people.

Stage 1: Introductions and framing

Explain the reasoning behind the project, outline what the day will achieve, and set principles for working collaboratively. Introduce the project process and what the day will involve.

Suggested time: 30 mins.

What you need:
- chairs in a circle.



Step by Step

A. Introduce the process leaders and facilitators.

B. Outline the rationale and background to the workshop.

C. Personal introductions.
Everyone introduces themselves, their relationship to the place or region in focus or their connection to a relevant agency.

D. Agree on principles for working together.
For example: participants are free to use information received, but identity of people involved in workshop remain confidential, turn off mobile phones, important to have respect for each other and the community's ideas.
→ *NB: This is an essential but often neglected step. Don't forget to tell people about any audio or visual recording and the conditions under which material will be used.*

E. Frame the day.
Ask participants to see themselves as a special task force given the job of advising local stakeholders and state agencies about how best to enable community-led resilience.

F. Explain the days objectives and intended outcomes.
Participants will identify and prioritise barriers and opportunities to achieving community-led resilience building strategies. Describe how the workshop fits into any broader project.
→ *NB: Explain what will be done with the results.*

G. Introduce the process.
Outline the range of visions developed from the visioning workshop with the community. Briefly describe the visions used in this workshop. Lead the group in a brief mock-up of the workshop process using an example vision.
→ *NB: We used the example vision of achieving 100% renewable energy in Australia by 2050.*

H. Divide participants into table groups.
Ideally 5-8 participants per group. Allocate a vision per group.
→ *NB: You can also ask people to choose a vision that matches their interest or skill set.*

Facilitator note:
- Be clear if you need particular people exploring a particular vision.

Stage 2 : Owning the vision of the future

Each group becomes familiar with the vision they'll be working with for the rest of the workshop.

Suggested time: 20 mins.

What you need:
- yellow sticky notes
- pens
- a vision and vision description per group
- wall space or a long table per group set up with a vision timeline (has in Fig. 6). Divide timeline for each vision into 3-5 equal blocks of time between 'now' and the vision realisation date.

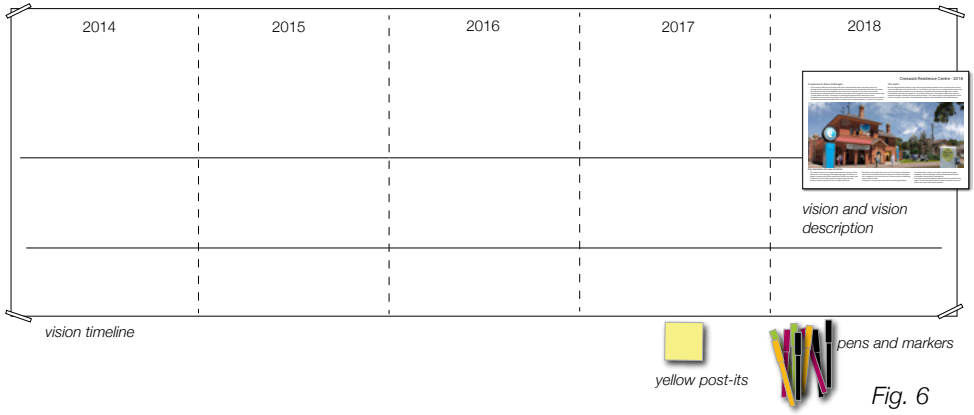


Fig. 6

Step by Step

A. Get familiar with the visions.
Each group reads the description of the vision they have chosen.

B. Build on the visions.
Groups take the basic concept and add details that help them feel the vision is more realistic. Any additional 'elements' should be agreed on as a group. Groups write these on yellow sticky notes and place them at relevant points around the poster, as in Fig. 7. The fundamental idea of the vision should not be changed.

→ *NB: Groups don't need to flesh out the visions in a highly detailed way, they just need to feel the concept is real and makes sense. Not knowing the context of the vision should not be a barrier to this process.*

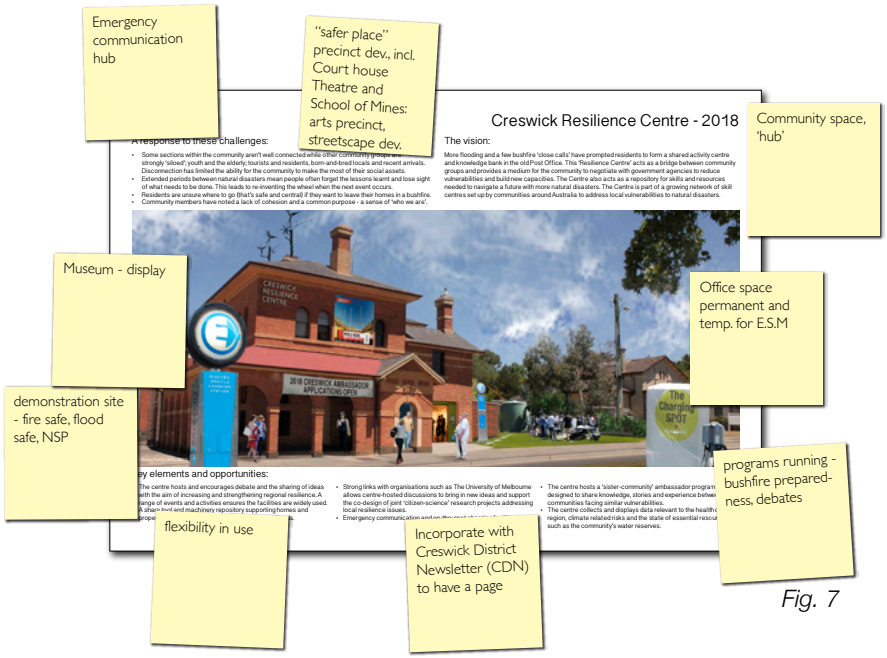


Fig. 7

Stage 3: Exploring the preconditions

Groups identify and explore multiple pathways to each vision and identify 'preconditions' along those pathways.

Suggested time: 35 mins.

What you need:
- pink sticky notes
- pens
- vision timelines laid out as at the end of Stage 2.

Step by Step

A. Clarify process.
Working back in time (from the vision date to present) groups identify 'preconditions' - essential ingredients, tasks or resources; agreements necessary for the vision to be realised.

B. Identify preconditions.
Each group writes down preconditions on pink sticky notes and positions these on the timeline adjacent to the vision. Different preconditions will be necessary at different stages, and may be dependent on each other. For example, if the vision is dated 2030, the first task is to identify preconditions from 2026-2030. The group then explores conditions in period 2022-2026 that are essential for those defined in 2026-2030 and so on. Use the 'Preconditions checklist' (see website) as a prompt.

→ *NB: Expect preconditions to double-up, cluster and require multiple rearrangements.*

C. Identify plausible pathways.
Once the whole timeline is populated, groups discuss and agree on possible pathways (linking preconditions) from 'today' to the vision. i.e., what steps follow on from each other? This may require some repositioning or clustering of the pink sticky notes. Mark possible pathways with a pen.

D. Identify most likely pathway.
Ask groups to identify and highlight the most important 'make-or-break' preconditions along pathways and which pathway they believe is the most feasible overall.

→ *NB: This process is just to narrow the focus for the next stages. You don't need to identify a single pathway if you have more time.*

The results from steps B, C and D should look like Fig. 8.

Facilitator notes:
- Agreeing on the most feasible pathway may be difficult. If so, explore why. From what perspectives are people looking at the pathways? Eg. What stakeholders are seen as the main drivers of the process? Make these assumptions explicit.
- If time permits, ask groups to discuss how they feel about what has been identified. What assumptions do the alternative pathways rely on? What are the most important preconditions?

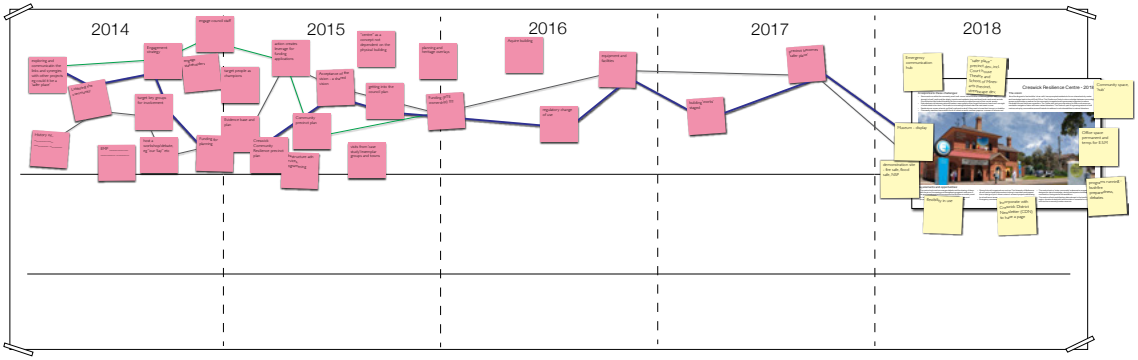


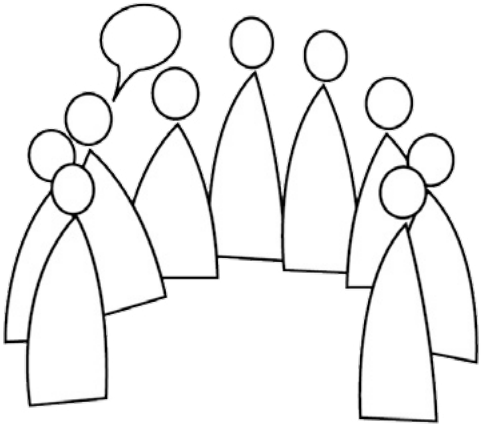
Fig. 8.

Stage 4: Sharing insights

Groups come together to share insights and discuss the pathways and preconditions to their visions.

Suggested time: 25 mins.

What you need:
- all participants.



Step by Step

A. Share pathway stories.
Each group describes their vision, the possible pathways to achieving the vision and the critical 'make or break' preconditions.

B. Discuss insights.
As one whole group, discuss what patterns, surprises and assumptions are appearing.
- What reactions do people have to the vision?
- What do people think of the feasibility of the pathways defined?
- What differences of perspective came up when looking at the preconditions and pathways?
- What do people think lies behind these differences?

Stage ⑤: Exploring barriers

Back in groups, participants identify the barriers that could undermine the key preconditions identified in Stage 4.

Suggested time: 30 mins.

What you need:
- blue sticky notes
- pens
- vision timelines laid out as at the end of Stage 3.

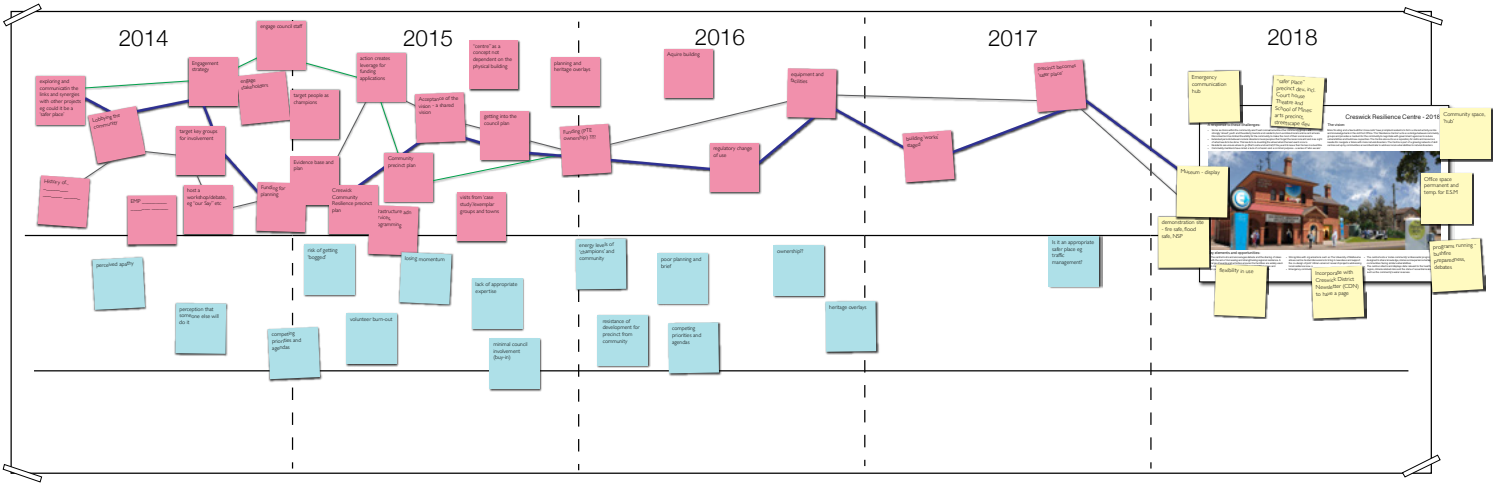
Step by Step

A. Select pathway.
For example, the pathway considered most feasible.

B. Propose barriers.
Groups start with 'key' preconditions (identified in Stage 3) and propose relevant barriers; factors that could undermine, delay or prevent a precondition from being realised. Write these barriers individually on blue sticky notes and place under the precondition/s in question (as in Fig. 9). Continue identifying barriers to other preconditions along the pathway and if time permits, explore barriers to other pathways.

Facilitator notes:
- There are no rules about what barriers people can and can't identify but move the group on if they are dwelling on something for too long.
- Use the 'Topology of barriers checklist' (see website) as a guide to help identify potential barriers.

Fig. 9.



Stage 6: Identifying leverage opportunities

At this stage groups explore ideas for overcoming the barriers identified or opportunities to work around them.

Suggested time: 30 mins.

What you need:
- green sticky notes
- pens
- vision timelines laid out as at the end of Stage 5.

Step by Step

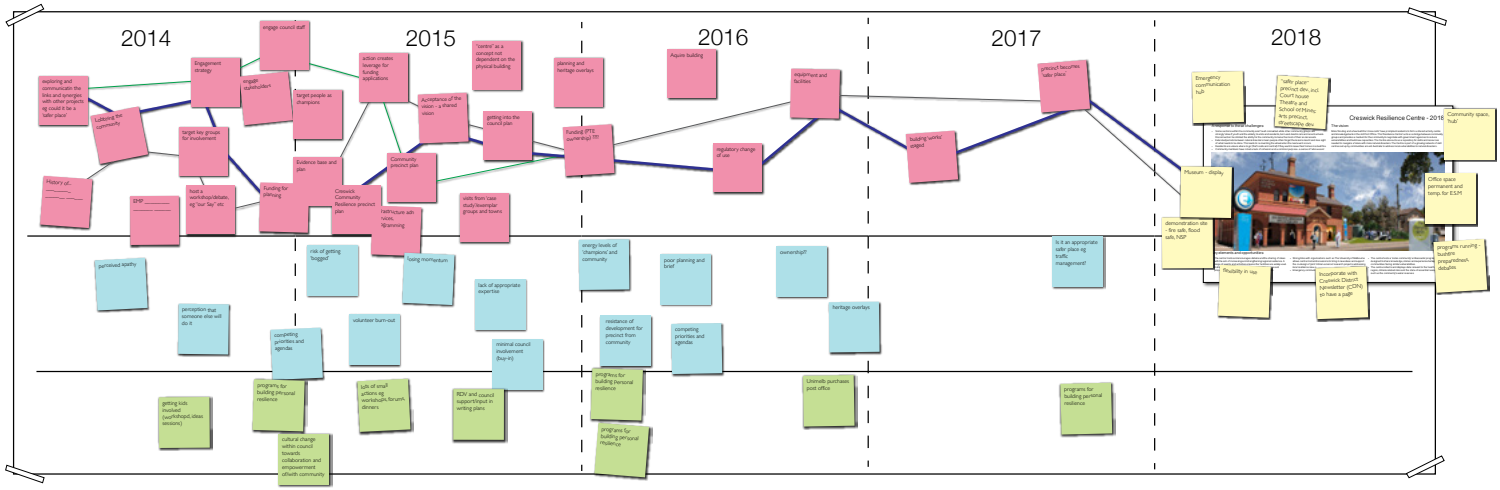
A. Explore leverage points.
Groups start by reviewing the 'key' preconditions (identified in Stage 3) and explore the barriers that relate to these. Ideas for overcoming, reducing or working around these barriers are written on green sticky notes and places below the corresponding barriers (as in Fig. 10).
→ *Use the 'leverage opportunities checklist' (see website) as a prompt.*

B. Identify agents of change.
Groups identify which stakeholders might be best positioned to help overcome the barriers, applying the strategies identified in step A.

C. Explore alternative pathways if there is time.

Facilitator notes:
- Remind participants they have been asked to take on the role of a task force advising stakeholders and government agencies about how best to enable community-led resilience.
- Some barriers may be realistically impossible for people at the community level to overcome. For example, barriers created in the distant past or at a distance; constitutional laws for example. Take these barriers and stick them to the top of the sheet aligned with where they were. You might want to review the assumptions behind these 'too hard' barriers later.

Fig. 10.

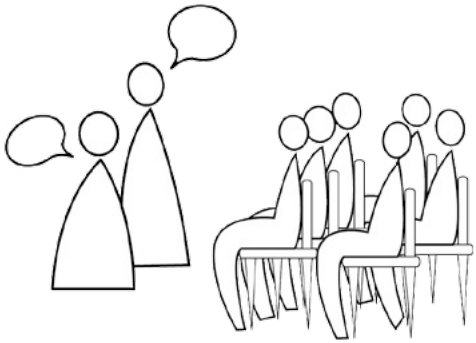


Stage 7: Storytelling

Groups synthesise the pathways they have created into a story of change and share this with the other groups.

Suggested time: 50 mins.

What you need:
- paper
- pens.



Step by Step

A. Story preparation. (15 mins).
Each group prepares a story describing the journey of change that resulted in the vision being realised.

→ *NB: We suggest groups look back in time from a point 10 years after the journey is complete. Some of our groups talked as a grandparent to a grandchild, a community group to a local school and a local to a newcomer.*

B. Story sharing. (15 mins).
Each group has three minutes to tell the story of how things have changed, problems were overcome and the vision achieved.

C. Discuss. (20 mins).
Open up for discussion.
- What barriers and opportunities came up more than once?
- What leverage opportunities would give the largest impact across all pathways?
- What other leverage points could be used?
- What did participants learn?

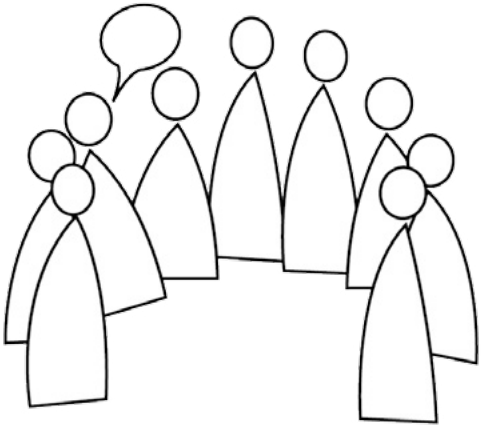
Stage 8: Time to debrief

Thank yous, and review the day - invite people to comment on the process and suggest how it could be improved.

Suggested time: 15 mins

What you need:

- butchers' paper or a whiteboard to record comments as they are made.



Step by Step

A. Thank yous and next steps.
Give an outline of how the results will be used.
Thank people for their time!

B. Feedback on the process.

- How do people feel about the process?
- What did they like about the process or get out of it?
- What didn't they like?
- What suggestions for improvement or difference are there?

→ *NB: allow time for participants to comment or ask further questions if necessary.*

Process summary - visioning workshop

This 11 stage process runs over two days. Stages involve reflection, analysis or generation activities. Total time: 4hrs + 3hrs (excluding breaks)

reflection

analysis

generation

40 mins

1

Day 1: Introductions and framing

20 mins

2

Mapping identity, strengths and assets

55 mins

3

Exploring climate extremes and vulnerabilities

20 mins

4

Asset-hazard wall matrix

15 mins

5

Brainstorming adaptation ideas

90 mins

6

Strategies for building resilience

15 mins

7

Day 2: Process review

50 mins

8

Looking back on future change

70 mins

9

Mapping ingredients of change

25 mins

10

Imagining the future

15 mins

11

Time to debrief

Process summary - pathways & barriers workshop

This one day process comprises eight stages. Stages involve reflection, analysis or generation activities. Total time: 4hrs (excluding breaks)

reflection

analysis

generation

30 mins

1

Introductions and framing

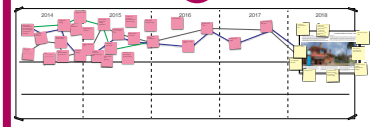
20 mins

2

Owning the vision of the future

35 mins

3



Identifying preconditions and pathways

25 mins

4

Sharing insights

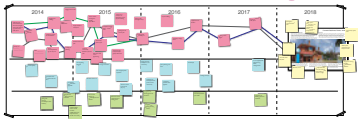
30 mins

5

Exploring barriers to change

30 mins

6



Exploring leverage opportunities

50 mins

7

Storytelling - looking back on change

15 mins

8

Time to debrief

Appendix 1: Scenario creation

Here we outline the process by which the scenario stories first used in Stage 3 of the visioning workshop are built. Be warned - it's not a neat process and there are compromises to make.

Overview
The process translates quantitative and qualitative information into a single 'worst case' future climate scenario. The scenario is worked into three first person perspectives about living 25 years in the future.

Preliminaries
We assume you know your area of interest (AOI) and the future date of interest. This method is intended for an area smaller than state scale and a time frame of between 15 and 30 years. You could adapt it to suit different scales but this will substantially affect the time and resources involved.

Stage 1. Site assessment

Develop an understanding of the AOI, i.e. town, suburb or region. Use interviews with residents and council officers, published material and field trips to identify:

- what people do (for work and leisure)
- what's important for people individually
- what the community values
- how the community sees itself
- known vulnerabilities, hazards and risks
- significant historical events

Stage 2. Character identification

Identify a range of representative character types. These are fictional identities that are reflective of the population and that allow you to describe a broad set of experiences through their eyes. Narrow down the characters to the three that allow you to describe a diverse and complex range of living experiences. For one workshop we chose a retiring viticulturist, a small business owner with kids, and a young surfer.

About scenario methods
Scenario methods vary, a lot. The process we describe is influenced by the authors' research on scenarios for climate adaptation and VEIL's Eco-Acupuncture program involving scenario and future visioning processes. While there are many (often contrasting) ways to generate and use scenarios, there are also basic 'don'ts'. We suggest you look at some of the many books on the topic.

Stage 3. Climate data collection

Gather climate projections relevant to the area of interest and your future date. Typical sources should include peer-reviewed literature, model projections, meteorological records and published reports. Remember that all the data used to form the base climate conditions should be from consistent climate models. Don't mix projections from models using different assumptions.

In our process, CSIRO provided a series of alternative model projections for rainfall, heat-waves and sea level-rise. Because these only had outputs relevant to 2020 and 2070, we had to make a linear interpolation (far from perfect) to estimate values for 2037. In addition, we increased the most extreme values by 20% to create our worst-case.

Stage 4. Data interpretation

Translate relevant climate projections into a plausible set of extreme climate conditions, including weather events. Different types of data will require different methods. For example, clear numerical figures like heatwave days may require no change. Factors, like sea level rise, may require a little adaptation to convert into erosion rates or storm surge heights. More complex secondary or tertiary phenomena such as bush fires, storms and impacts on ecosystems will require more work and creativity to convert broadly described trends into something that relates to a particular location. Remember, even where temporal and geographically relevant data exist, there is no clear way to interpret what they mean for any location. Four more days of extreme fire danger per year may mean more fires, but over any 10 year period, it may not - or it may mean one catastrophic fire that prevents follow-up fires for another 15 years. Will it mean the fires are more likely to threaten previously safe areas; will it shape people's behaviour? Answering these questions will come down to personal interpretation, knowledge of the area and knowledge of climate impacts. How realistically these stories appear will depend on your creativity, writing skills and presentation style.

For many impacts there won't be clear implications. You will have to use artistic licence. For example, we wanted to convey how climate change was likely to affect an important heathland (an area of nationally significant biodiversity). We couldn't find anyone with relevant knowledge. We drew on published literature showing that small bird populations were expected to be

affected by climate change and data showing declines attributed to drought in some areas of Australia. We also drew from research papers showing that changing seasons would affect the time of plant blooming (but how much was unclear). Our final story described particular birds disappearing and a local wild flower festival being moved a month earlier. In time, we might find these stories substantially under- or over-estimate change. However, in the absence of definitive research, we felt the potential lack of accuracy was outweighed by the reality that climate change will affect subtle factors that contribute in important ways to the local community. An accurate depiction of the sentiment and magnitude of change is most important, prediction is impossible.

Stage 5. Story framework

Imagine the local climate and weather conditions through your characters' eyes. We used mind maps to explore a range of experiences. For example, it was clear the surfer was more likely to experience climate change impacts on the ocean (eg. beach erosion, impact of rising seas on reef breaks and effects of acidification). The viticulturist was more likely to see changes to land management practices caused by drought and heat-waves.

Check your stories with people familiar with the climate science and the local environment. Eg. Catchment management agencies might be able to tell you the dynamics of local rivers.

Stage 6. Story presentation

We did this in two ways. One involved turning the descriptions of local climate impacts into interviews with three characters. The interviews were scripted, filmed and shown to the participants at the workshop. A second, simpler method involved creating small 'reflections-on-life' story cards for each character. The cards were given to each group in the visioning exercise. The second process was easier but not as engaging.

Why only one climate scenario?

Most scenario-method research and practice emphasises using multiple scenarios. Multiple scenarios force decision-makers to consider and plan for different possible futures and helps make plans more robust to alternative contingencies. Using only one scenario might seem like breaking the rules, but in this context there are good reasons.

The process is designed to explore the implications of 'worst-case' climate conditions in 25 years. It therefore makes no sense to explore milder climate changes as well. While there is an argument that climate change in 25 years may be worse than models project, it's unlikely we could clearly convey different local living experiences in a world warmer by a difference of 0.2°C. There are too many other uncertainties and variables. It might be possible to convey numerically; say in the number of heatwave days per year. But to convey the living reality of a novel future to 'lay participants', the method relies on descriptions more than figures. Furthermore, using multiple first-person perspectives of a single climate scenario still enables you, the process designer, to articulate contrasting conditions. You can still force participants to explore multiple weather dynamics. We feel this approach can better convey the breadth and complexity of interacting climate conditions in the visioning workshops. Remember, there is nothing stopping you developing multiple scenarios in this method.

A note on data accuracy

Climate projections are not predictions. They derive from complex models that (like all simulations) contain multiple assumptions, fuzzy representations of natural dynamics and many knowledge gaps. On one hand it's the best information we have. Models are rigorously tested and calibrated with recorded data, so it's critical you base your stories on what data exists. On the other hand, models are not prophesies and involve major uncertainties. Expect to find gaps you need to fill yourself. But be warned, if you are transparent about this (as you should be), people may question or dismiss the results. In our experience some people have problems with whatever future scenario you develop. Uncertainty in climate models causes some people to dismiss their validity altogether. For others, any numerical output is gospel, no matter the uncertainty. At the end of the day, neither perspective is 'right' or 'true'.

If you get into arguments about scenario accuracy, remember; ultimately you are trying to convey complex, uncertain information so people can relate to it. People don't relate to numbers. As long as you're not combining data from different models, your scenario is based on a consistent interpretation of model projections, and your future is internally consistent – accuracy is a moot point. We don't know what conditions will be like! That's why we are turning to scenarios for help.

Victorian Eco Innovation Lab (VEIL)

Faculty of Architecture Building and Planning
Melbourne School of Design
Buidling 133
University of Melbourne
Victoria, Australia, 3010

www.ecoinnovationlab.com

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