

## Appendix 1 - Building Business Resilience Project: Business sector climate adaptation toolkit development and pilot - Project Method

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Created by  **SCIENCE INTO ACTION** with input from  **scientell**  
science, in other words

### Document Control

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8-12-22	0.4	Method updated following pilot interviews and development and testing of Toolkit.
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### Approvals

This document requires the following approvals.

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### CLIENT

South East Councils Climate Change Alliance (SECCCA)

### Audience

The audience for this document is SECCCA staff and sponsors.

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## Project Method

### Project Background

This project aimed to develop and pilot resources for the business sector to help small to medium businesses in the SECCCA region do climate risk assessment, business adaptation and planning.

Small to medium businesses, like all segments of the community are vulnerable to the impacts of climate change. Building on the Small Business Energy Saver Program the project engaged a small number of businesses across 4 to 5 business sectors that are economically important to the SECCCA region to assist them understand their level of vulnerability to climate change impacts, possible scenarios and high-level adaptation options.

The project produced a final report intended to be an easy-to-understand adaptation action planning toolkit for use by other businesses within the SECCCA region and beyond. It also produced 4 'one-pager' case studies about climate change risk assessment and adaptation plans covering each business of the 4-5 sectors involved.

### Project Steps

The project has 12 steps:

1. Complete desktop literature review
2. Do vulnerability assessment
3. Identify broad business sectors
4. Identify candidate businesses
5. Contact businesses for involvement
6. Set up interviews
7. Interview and develop adaptation pathways with SMEs
8. Collate and synthesis findings
9. Create a generic adaptation story for the business sector
10. Do reports and one-pager case studies
11. Review: Check in with businesses & SECCCA
12. Finalise and submit

The steps are detailed below.

## 1. Desktop literature review

The objective of the desktop literature review is to provide a high-level situational analysis of what is known and provide business readers an over-arching summary of four areas (case for preparing for climate change, climate impacts, adaptation tools and business planning tools for climate change) so that they can delve more deeply into a topic if needed.

The desktop review is not exhaustive as there are many resources available. It is a summary that lightly touches on what is likely to be most useful to a business owner (See [Building Business Resilience – Literature Review](#)).

Following the pilot use of the Toolkit with 4-5 candidate businesses decisions were made on the role of the Desktop Literature information in the final Toolkit (and title of the document).

## 2. Vulnerability Assessment

The vulnerability assessment was based on the similar definition of vulnerability as in the [SECCCA asset vulnerability assessment project](#) (see Figure 11 in the final report for details).

We considered four climate impacts likely in the SECCCA region:

- flooding (from any land-based origin – i.e., surface water, rivers etc)
- coastal inundation
- bushfire
- heat/heat stress

With the following conditions:

- In one year – 2030 (with data for 2050 available to show businesses progression).  
The focus on 2030 (with 2050 to show trajectory) is to align with a more tangible timeframe for the planning of a small to medium business. The years 2070, 2100 and even 2050 are a long way in the future for many small business planning horizons. However 2030 is close enough to mean something. Feedback from businesses interviewed supported this decision.
- Based on one climate emission scenarios only: RCP 8.5.  
In the latest IPCC report this pathway has been renamed to SSP5 – Shared Socio-economic Pathway 5. While the name has been superseded, the scenario is still the high to very high emissions pathway and is the one that the global emissions are still on. It is sometimes known as the BAU (business as usual) scenario. We have chosen this as it is the current scenario for emissions and hence the most likely outcome in 2030.
- Using the maximum consensus projection (available in the AVA data).

The Maximum consensus projection is one of the recommended projections by DELWP Climate Change section for when choosing projections for Victoria. While it is more conservative compared to the Hotter-Drier or Warmer-Wetter projections, it is easier to explain to an audience new to climate projections as it is a consensus of several projections.

### Three sources of climate impact data were used:

- a. The primary source of the climate impacts was via the projections and data from the [SECCCA asset vulnerability assessment project](#). This is a resource designed for the needs of the SECCCA region councils. While the asset layers were not needed for this project, the underlying climate information was used.
- b. [The climate risk map of Australia](#) created by the Climate Council Australia. The Climate Council's Climate Risk Map of Australia is an interactive map of climate vulnerable places in Australia. The user can enter their suburb or postcode in the search bar in the map to understand risks to homes in the area. Various timelines and climate impacts are available using the RCP 8.5 scenario. It reports the risk to homes in a given area (Suburb, LGA or region) across Australia. When used we applied the "high risk" definition from the website, i.e., *"High risk homes have annual damage costs from climate change and extreme weather equivalent to 1% or more of the property's replacement cost. These properties are effectively uninsurable, as – whilst policies might still be offered by some insurance companies – insurance premiums are expected to become too expensive for people to afford, making insurance inaccessible."* While this resource is focused on risk to homes, the risk applies to any dwelling in the area. More information about the data origins and veracity is available at [Climate Valuation](#) (who created the risk map for the Climate Council Australia).

While the first two were used to identify the areas in SECCCA most vulnerable to various climate impacts, the third was used in the draft, and final, Toolkit as a resource to describe the narrative for climate impacts in the SECCCA region.

- c. The Victorian [regional climate projections for Greater Melbourne](#). This information was specifically developed by DELWP as a tool for understanding Melbourne regional climate impacts. It is the region with the most overlap with SECCCA, covering virtually the full SECCCA region. Building on the maps above, it can be used to understand impacts and plan adaptation actions.

Due to data availability, different sources have been used for different impacts (see Table 1).

*Table 1 – Data sources and metrics for the four climate impacts used.*

Climate Impact	Vulnerability identification approach	Constraints / Metrics used
<b>Flooding (from any land-based origin –</b>	1. Use Climate Risk Map to identify broad areas of greater risk.	1. Use areas with 18% or more increased risk of flooding

i.e., surface water, rivers etc)	2. Use AVA data to narrow down the locations to suburbs / local areas / streets	2. In the AVA use the mapped flooding data (combined riverine and surface-water) – use areas of the highest likelihood of flooding.  <b>Important Note:</b> Flooding maps are currently under data sharing agreements between SECCCA and member councils and is only for internal use for SECCCA projects. These maps were not shared externally unless permission is sought from each corresponding council.
<b>Coastal Inundation</b>	1. Use AVA data	Note these data are based on 2100 sea level rise projections using the IPCC 5 (RCP 8.5) of 82cm (on which the DELWP Victorian Sea Level Planning benchmark of 0.8m is based). They are not for 2030 but show areas most susceptible to sea level rise and storm surge.
<b>Heat / Heat Stress</b>	1. Use AVA data for Heat Stress and Maximum Summer (Dec, Jan, Feb) temperature in 2030.	1. Use areas with the highest two categories of impact (more than 2 added heat stress and more than 2.5 degrees higher temperature).
<b>Bushfire</b>	1. Use Climate Risk Map to identify broad areas of greater risk.	1. Use data for dwellings with a 30%+ increased risk of impact from bushfire in 2030.

Following application of the above criteria, the following areas / suburbs were identified as vulnerable under the criteria in Step 2 and Table 1.

*Table 2 – Suburbs and areas of vulnerability identified.*

<b>Climate Impact</b>	<b>Unprioritized Vulnerable Areas</b>
<b>Flooding (from any land-based origin – i.e., surface water, rivers etc)</b>	Southern Kingston – Aspendale to Carrum and one suburb back from the beach.  Northern Frankston – Seaford;

	<p>Greater Dandenong – Dandenong south; Bangholme</p> <p>Port Phillip – Port Melbourne; South Melbourne, Albert Park</p> <p>Cardinia – Dalmore; Koo Wee Rup</p>
<b>Coastal Inundation</b>	<p>Areas near the intersection of Kingston, Frankston and Greater Dandenong.</p> <p>Port Phillip – the whole LGA</p> <p>Southern areas in Casey Adjacent Southern areas in Cardinia</p> <p>Bass Coastal Shire Council – Inverloch &amp; Cowes</p> <p>Mornington – Inland from Capel Sound – between Rye and Rosebud.</p>
<b>Heat / Heat Stress</b>	<p>Port Phillip City Council – Southern/Eastern areas</p> <p>Kingston – Heatherton, Moorabbin, Chelsea Heights.</p> <p>Bayside – Brighton East, Hampton East</p> <p>Greater Dandenong – Lower half</p>
<b>Bushfire</b>	<p>Northern sections of Cardinia and Casey from Gembrook through Cockatoo to Emerald.</p>

### 3. Identify business sectors

The process of identifying the business sectors to be included in the pilot involved the following criteria and steps:

- This project uses the [Australian Bureau of Statistics \(ABS\) definition](#) of SMEs as follows: a small business is an actively trading business with 0 to 19 employees and a medium-sized business as an actively trading business with 20 to 199 employees.
- To understand which business sectors have the highest sectoral importance to the SECCCA region, data was gathered from Economic Development teams at each SECCCA member council on SMEs. The type of data gathered included ‘business sector by economic value’ and ‘business sector by number’ to each LGA.
- EcoDev data was tabulated on both metrics and analysed using pivot tables to identify the commonalities across the SECCCA region in terms of value and number. A decision was taken to exclude the “Agriculture, forestry & fishing” sector in the SME Pilot as this sector is more advanced in adaptation action planning than others. For more information please visit <https://agriculture.vic.gov.au/climate-and-weather/policy-programs-action#h2-3>

- Use <https://business.gov.au/planning/industry-information> definitions the broader sectors to narrow the types of businesses (see Table 3) .
- In some cases, business sector categories were combined (as per Table 3).

*Table 3 – Examples of the types of businesses in each sector.*

<b>Business Sector</b>	<b>Scope</b>
<b>Building and Construction</b>	<ul style="list-style-type: none"> <li>• trades people providing services direct to consumers</li> <li>• trades people providing services to other building and construction businesses and government</li> <li>• businesses providing small and large construction services to individuals and government</li> <li>• businesses engaged in large construction projects</li> <li>• businesses engaged in infrastructure project</li> </ul> <p>The scope of work carried out includes:</p> <ul style="list-style-type: none"> <li>• residential and non-residential construction</li> <li>• renovations and extensions</li> <li>• building structure services</li> <li>• installation services</li> <li>• heavy and civil engineering</li> <li>• land development</li> <li>• site preparation</li> </ul>
<b>Retail &amp; Wholesale industry</b>	<p>The retail industry includes traditional sales outlets for consumers and business as well as online retailers and commission-based selling. Businesses include:</p> <ul style="list-style-type: none"> <li>• electrical, electronic and whitegoods</li> <li>• floor coverings, furniture and housewares</li> <li>• food and grocery</li> <li>• fuel</li> <li>• hardware, building and garden supplies</li> <li>• motor vehicles, trailers, parts and accessories</li> <li>• clothing and footwear</li> <li>• personal accessories</li> <li>• pharmaceuticals and cosmetics</li> <li>• recreational goods</li> <li>• textiles</li> <li>• books, magazines, papers and office supplies</li> </ul>
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>• food processing and manufacturing</li> <li>• beverages including brewed and bottled drinks</li> <li>• textiles, leather, clothing, footwear and accessories</li> <li>• wood products</li> <li>• pulp and paper products</li> <li>• printing including small and large production runs</li> <li>• chemical manufacturing and processing including fertilisers, pesticides, pharmaceutical, medicinal, cleaning products, toiletries, cosmetics, photographic and explosives</li> <li>• metal and plastics manufacturing</li> </ul>



	<ul style="list-style-type: none"> <li>• machinery and equipment manufacturing including parts</li> <li>• furniture manufacturing</li> <li>• household goods production</li> <li>• any manufacturing of a whole or partial product</li> </ul>
<b>Professional, scientific and technical services industry</b>	<ul style="list-style-type: none"> <li>• scientists</li> <li>• accountants</li> <li>• advertising and marketing specialists</li> <li>• lawyers and solicitors</li> <li>• vets</li> <li>• management and other consultants</li> <li>• photographers</li> <li>• architects</li> <li>• engineers</li> <li>• computer system designers</li> </ul>
<b>Rental, hiring and real estate services industry</b>  <i>Note: while initial planning was to combine Real Estate with Professional services (above), both sectors were interviewed separately in the project.</i>	<ul style="list-style-type: none"> <li>• The rental, hiring and real estate services industry includes businesses providing a diverse range of rental services to individuals, other businesses and organisations.</li> </ul>
<b>Health care &amp; social assistance</b>	<ul style="list-style-type: none"> <li>• This sector comprises both public sector and private sector operators. It includes all the services offered by hospitals, specialist medical services and many other allied health services, such as dental, optometry and ambulance services, as well as hospitals, GPs and aged and childcare services.</li> </ul>

**When choosing the final priority five business sectors for the pilot, the single metric of economic value was used. The business sectors with the highest economic value to the LGA were chosen.**

In some cases, business sector categories were combined (as per Table 3).

#### *The five final priority business sectors*

1. Construction
2. Manufacturing
3. Health care & social assistance
4. Retail & Wholesale
5. Professional, Scientific & Technical services
6. Real Estate and Rental (this sector was added when volunteer businesses could not be found for both the Construction and Health care & social assistance sectors).

#### 4. Identify candidate businesses

To clarify and manage the scale of possible climate impacts and types of businesses, some criteria have been created to focus the assessment of impacted businesses to contact for involvement. To identify the candidate businesses the process is:

1. Identify the area's most vulnerable to climate impacts in the SECCCA region (from Step 2)
2. Overlay priority business sectors (from Step 3)
3. Apply criteria for final choices of business to approach to be involved in the pilot.

Pilot Businesses Criteria:

- a. Climate Vulnerability – they are in an area identified as vulnerable to one of the four climate impacts in Step 2.
- b. Sectoral Importance to SECCCA region – as identified in Step 3.
- c. Location
- d. Interest in being involved

More detail for each of the criteria follows:

##### Climate vulnerability

This is defined as climate impacts on the SECCCA region based on 2030 using the business-as-usual trajectory (i.e., RCP 8.5). Four climate impacts are being considered: flooding (any origin – i.e., surface water, rivers), coastal inundation, fire, and heat/heat stress. See the project step 2 for details.

##### Sectoral importance to SECCCA region

This is being considered in two ways: What sectors are the most valuable to the region in economic terms (i.e., total value)? What sectors are represented the most in the SECCCA region (i.e., total number of individual businesses)? Data sourced from the nine SECCCA Councils due to their access to LGA level economic development data. The initial five business sectors being considered are those more likely to contain small-medium enterprises (SMEs) compared with larger businesses or industries, i.e., hospitality, retail, professional services, light manufacturing, tourism/recreation. See Step 3 for more detail.

As discussed in Step 3, Agriculture, Forestry and Fishing is not being considered as there has been more adaptation planning done in this sector due to the relationship it has with water, and hence it is considered more matured in adaptation planning. Mining has not been considered, for similar reasons, and the fact that the businesses are rarely an SME.

##### Location

The intention is to spread the four or five interviews across the geographic area of SECCCA, rather than clump them into one or two Council areas. While all 9 council areas cannot be covered, variable climate impacts in the region suggest that geographic spread is be important (and possible). There are some assumptions based on current knowledge that some sectors are more likely to be impacted by some climate changes, for example flooding risk for light manufacturing as those businesses are often on

‘cheaper’, lower lying areas. The pilots involved a business type or and climate impact that is present in all SECCCA Councils.

### Interest in being involved

SMEs are very busy. Hence businesses with a history of involvement in sustainability programs with SECCCA are deemed more likely to be interested in climate adaptation planning. In that light, initially businesses that have previously been involved in a program like the small business energy saver program with SECCCA were prioritized. Businesses were be short-listed based on this history of involvement.

Following exhausting that source, likely businesses in the priority areas were identified via google and cold-called. SECCCA staff made cold calls to potential businesses that fit the criteria. This was be done with input from the relevant Council officers for businesses in their LGA.

## 5. Contact Businesses for involvement

Based on the criteria in Step 4 above, SECCCA project officers directly contacted businesses to enrol them in the business climate adaptation pilot. A short flyer (see Appendix 2 – One pager and Letter of Consent) outlining the project objectives and outcomes was prepared and shared with interested businesses. It outlined the potential benefits to the business, primarily which is a free and comprehensive climate adaptation action plan developed for their business.

## 6. Set up Interviews

Businesses who agreed to participate were provided with a short consent form (see Appendix 2 - One pager and Letter of Consent) outlining what will be done with their data and information and asking them to agree to their (de-identified and generalized) information being used to create a generic case study for business adaptation for their sector for use in the final products. No individual participant business will be identified by SECCCA or councils unless they agreed to be identified. Some businesses may choose to identify their involvement for business or other purposes.

The interview process involved 2 steps:

- A. The business was sent the Draft Small Business Climate Adaptation Toolkit two weeks prior to the interview and be asked to review the toolkit (and complete as much as possible).
- B. Via the SECCCA project manager, business contact details were provided to *Science into Action* who made a time for a Zoom or Teams online session with each business owner. This session took up to 1-2 hours in duration.

## 7. Interview and review adaptation toolkit with SMEs

*Science into Action* led the interview and discussion with SMEs piloting the Draft Small Business Climate Adaptation Toolkit for between 1 and 2 hours.

The purpose of the interview was twofold:

- Assist the business owner to complete the Draft Small Business Climate Adaptation Toolkit

- Review the toolkit, the process to use it and learn any lessons to improve the Draft Small Business Climate Adaptation Toolkit from the business owner.

The questions in the interview were designed to gain feedback on the draft Toolkit from the businesses.

The draft Toolkit followed the following framework:

[The final Toolkit and case studies are available here.](#)



**Figure 1:** The small business climate resilience process.

## 8. Collate and Synthesis Findings

On the basis of the feedback from interviewing the four businesses using the Draft Small Business Climate Adaptation Toolkit and reviewing the business owner reflections from using the tool, the findings and feedback were collated and synthesized.

The findings were added to a final report on the project, including recommendations for the next steps for SECCCA to consider.

## 9. Create a generic adaptation story for the business sector

From the information given by the four business owners a short (“one-pager”) adaptation case study was created for a generic business in that sector. This did not identify the business from which the information came and is generic to any business in that sector in the SECCCA region (or beyond).

## 10. Do reports and one-pagers

Final drafts of the Small Business Climate Adaptation Toolkit, the four to five one-page case studies for use in promoting the toolkit to businesses, and a short (<10 pages) report for SECCCA/DELWP on the project process and outcomes were created. The third document includes lessons learned about the project, a general sense of the projected cost of adaptation to the sectors and any recommendations emerging from the project.

This step involved input from the team at [Scientell](#) for design and editing.

## 11. Review: Check in with businesses & SECCCA

Following designing the businesses involved were offered an opportunity to view the two draft documents for any final comments or reflections. Simultaneously all three draft documents were reviewed by SECCCA. Each recipient had 3-4 days to complete their reviews.

## 12. Finalise and submit

Following feedback, the documents were finalised for use and submitted to SECCCA. At this point they can be used to document findings and recommendations for replicating and scaling project to other businesses and locations.