

REPORT

'Our City, Our Climate'

Scott Willis and Camilla Cox
October 2018



“After the Copenhagen Conference in 2009, I realised that governments are never going to do it. It’s going to be up to the people, and it’s going to be up to communities. [...] If communities are going to take action, they’ve got to do things together and, there’s a nasty future coming with climate change. The only way we can create a decent future for our children is with community resilience. What’s exciting about Blueskin Bay and the Trust is they’re touching all the bases of what people really need in life: warm, safe shelter, energy, transport, food, and particularly community.”

— Jeanette Fitzsimons, CNZM and Patron of BRCT

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FOREWORD

This report aims to document our vision and the process we went through in engaging the community in climate change adaptation, assist other communities to prepare and adapt, and report to our funder.

Much water has gone under the bridge (and over it, if we count the flooding in Tolaga Bay in June 2018¹ as one example) since our three Dunedin “Our City, Our Climate” workshops on climate change adaptation were held in February and March 2018.

The ‘Adapting to Climate Change in New Zealand’ report (“Recommendations from the Climate Change Adaptation Technical Working Group”) was released on the 24th of May 2018. It is very pleasing to see that its recommendations for adaptation to climate change impacts have been incorporated into the proposed Zero Carbon Bill, currently out for public consultation.

Government now has climate change adaptation in its sights.

The work of government to understand the issues, develop a consensus on the problem and develop plans that can be implemented through government agencies is critically important and yet takes time. Meanwhile, climate impacts continue unabated to affect communities around New Zealand. All around the country, on a daily basis, vulnerable individuals, communities and local authorities are struggling to deal with very challenging situations and complex issues.



BRCT presents this report to The Deep South National Science Challenge² at a time when adaptation has government attention but also while dealing with residents in extreme hardship and in need of assistance. Blueskin resident, Cushla McCarthy who now lives in a bus and garage expresses it clearly:

“In April 2006, the house got flooded for the first time. And I lost a lot of precious items and clean up took over 6 months to complete. When the next big rain came in the same year I rang the insurance company [...]. The following week the company sent me a letter cancelling my policy for no apparent reason, but of course we all know the reason. The house is written off. I can’t sell it. I can’t live in it. I can’t let it. So, at the moment I am currently trying to sell whatever I can in the house that’s worth anything, and ... get it demolished. [...] I’ve still got a mortgage. [...] I’m paying a mortgage on a house that’s not liveable, that I can’t live in anymore”.

¹ <https://www.stuff.co.nz/national/104442700/flooding-turned-a-tolaga-bay-bridge-to-logs-more-heavy-rain-gales-and-even-snow-is-coming>

² See www.deepsouthchallenge.co.nz. The Deep South National Science Challenge’s mission “is to enable New Zealanders to anticipate, adapt, manage risk and thrive in a changing environment”.

The tension between long term adaptive planning and immediate need is acute. As a response to community feedback through these adaptation workshops, and in response to direct community need we have been seeking partners to collaborate on Climate Safe Housing³, one of the most critical needs that emerged from public meetings and from the community. The Climate Safe House project aims to develop housing for coastal areas vulnerable to climate change and aims to implement adaptation planning in practice while presenting combined climate and housing solutions. We acknowledge the expectation both in the community and at local government level that 'others will pay for this'. However we also believe that short term investment decisions must be made to avoid the growth of climate ghettos, as long as options for the future remain open.

My thanks to everyone who has helped out in this journey: the Deep South team, in particular Wendy Saunders, Susan Livengood, Alex Keeble and Joanna Goven; our expert panel of Judy Laurence, Andrew Tait, Michael Goldsmith, Simon Cox, Chris Cameron and David Rees; my colleague Camilla Cox; Martin Kean; and those with whom we had discussions during the preparation of this report, in particular Janet Stephenson.



Scott Willis
Manager of the Blueskin Resilient Communities Trust (BRCT)



Figure 1: The inaugural Climate Safe House planning meeting, March 2nd 2016. Photo BRCT / Louise Booth

³ The Climate Safe House project is about accommodating changes and preparing for managed retreat. Right now we are working with a vulnerable homeowner who is prepared to give up equity in the existing property in return for a warm, safe, efficient transportable eco-home with a low rental. We have some materials and services sponsorship and are exploring other sponsorship potential.

Executive summary

Community-led adaptation workshops

The three “Our City, Our Climate” workshops funded by The Deep South National Science Challenge were designed to develop an understanding, and commitment to, a city focus on collective action for responding to climate change. These workshops, led by BRCT⁴, involved expert presentations on adaptation, climate science, and hazards and provided guidance on adaptive planning. The experts were:

- Judy Lawrence, Co-chair of the Climate Change Adaptation Technical Working Group, presenting on: “Change Ahead – Adaptive Planning”
- Andrew Tait, principal scientist with the National Climate Centre, NIWA, presenting on: “Global & NZ Climate Change Projections”
- Michael Goldsmith, of RiskSeers Ltd, presenting on “Natural Hazards in Dunedin City”
- Simon Cox, principal scientist at GNS Science, Dunedin, presenting on “The Importance & Challenge of Downsizing”
- Chris Cameron, scientist and researcher at the Bodeker Scientific, presenting on “Possible Futures for Dunedin”
- David Rees, co-founder of Synergia Consulting, as facilitator of the workshops.

The presentations⁵, together with the issues identified through the preliminary survey, were

used as a launching point for conversation. They also gave legitimacy to the workshops by giving community access to expertise on climate science, hazards and adaptation. Three workshops do not make for a thorough experience or allow time for collective action to develop, but are more a catalyst for further actions, working towards richer partnerships, greater collaboration and more comprehensive, informed action on adaptation.

Implementing adaptation planning in action

The workshops revealed a strong community desire for more engagement, more community discussion, and more collaborative work to understand options, to develop a vision and to act.

While government is considering how to adopt adaptive planning into policy and build the ‘architecture’ for future adaptation we are also faced with the immediate community need for action to address extreme vulnerability in certain groups and reduce exposure to immediate hazards. The implementation of adaptive planning in practice will help build capacity and resilience as we work to create a social licence for collective action on adaptation.

As a community organisation working at the front-line of climate change impacts, we expect to see decision makers, government agencies and policy makers incorporate and demonstrate the dynamic adaptive pathway planning approach (DAPP). DAPP is an approach that uses adaptive planning to deal with conditions of deep uncertainty⁶. We expect to see greater openness

⁴ The Blueskin Resilient Communities Trust is a charity working on climate change solutions such as climate safe housing see: www.brct.org.nz and www.climatesafehouse.nz.

⁵ The presentations are available online at: http://climatesafehouse.nz/wp-content/uploads/2018/02/Workshop1_8Feb2018_Presentation-Slides-1.pptx.pdf

⁶ See also: <https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/coastal-hazards-summary.pdf>

from local government in respect to creative, short-term action and to embrace community collaboration to enable greater community participation in effective adaptation. We need to think both long term and short term and act simultaneously in both registers. We cannot hope to build resilience through adaptation if adaptation remains a solely desktop issue while climate ghettos emerge.

Community calls for ongoing workshops should be heeded, and demonstration projects that have community support need to be developed.

Acting despite uncertainty

As Judy Lawrence explained in the workshops, “by failing to prepare, [we] are preparing to fail”. By avoiding immediate need, we miss opportunities for learning ‘in the rough’. Climate change brings with it deep uncertainty and increasing complexity. Only one thing is certain: we need to become more adaptive and to embrace risk by learning to work with uncertainty.

All of our human systems are affected by climate change: economy and livelihoods; education; energy; food; health; housing; transport; waste. Our investment in infrastructure whether ‘hard’ (i.e. an electricity network) or ‘soft’ (i.e. the NZ school curriculum) arises out of our complex collective behaviour as social animals in a relatively benign climate. But as Simon Cox pointed out during the workshops, we need to “learn to work with uncertainty” in this new environment of the Anthropocene.

We need local government to engage, experiment and embrace opportunity to test ideas as much as we need adaptive planning.

Principles we recommend to guide action

As community practitioners working at the flax-roots we understand that the journey will be messy, and that it will be an arduous task to build collective action for responding to climate change, but that is it also necessary to start. We propose a number of principles we recommend as advice to government:

- Embrace risk, and manage uncertainty and experimentation in evaluation of actions (**practice Adaptive Governance**)
- Work with the community sector to build deeper community engagement and create opportunities to share knowledge and build capacity (**invest in Community**)
- Recognise the value of the government as ‘honest broker’ to sponsor and broker relationships across different sectors (**practice good Stewardship**).

Actions we recommend

We recommend, for collective action on adaptation to grow and be successful, and for our communities to continue to thrive in a changing climate:

1. Engaging in immediate actions that are direct, visible and simple to evaluate, including:

- a) Brokering partnerships to deal with housing in flood hazard zones to foster innovation in developing climate safe housing
- b) Investing in Adaptive Planning in practice through providing resources for flax-roots adaptation workshops run on at least a bi-annual basis
- c) Supporting the Climate Safe House project which we are very proud of as a rich collaborative and practical solution and blueprint for action

2. Developing methods to embed adaptive governance into local government to overcome the 'presentist bias'⁷, via:

- a) Establishing a Local Government NZ expert reference group focussed on adaptation and climate science
- b) Instituting regular sustainability audit of local government activity through an independent 'Sustainability Audit Committee' or similar with the role of monitoring progress towards targets and providing advice on policy decisions

- c) Running systems learning workshops in selected local government bodies to build a more nimble and adaptive culture within our public service

3. Support the development and enhancement of Place Based Community Groups with a specific focus on adaptation, via:

- d) Creating a specific funding pool funded by central government in addition to the gambling levy funding for the community sector to provide core funding for Place Based Community Groups and Runaka working on adaptation and/or climate action.
- e) Giving Place Based Community Groups and Runaka access to climate experts to strengthen the flax-roots and unlock the strong local knowledge bases for effective adaptation practice
- f) Evaluating the health and wellbeing of Place Based Community Groups at the flax-roots level, and their impact by maintaining ongoing comparative assessment and contributions of action research.

⁷ Boston, J. 2017. Safeguarding the Future: Governing in an Uncertain World. Bridget Williams Books: Wellington, NZ

The transition to Zero Carbon with adaptation will require active stewardship. While government is actively working on a policy framework, which is a long-term goal, we can also, and must, invest in immediate action (a short-term goal). We need to be flexible and creative as we increase participation and rich engagement in adaptation. We need to act, as well as plan. This approach gives us an opportunity for action learning.



Figure 2: Flooding of Doctors Point Rd, Waitati in 2006. Photo: BRCT / Mandy Mayhem-Bullock

Overview

The Our City, Our Climate workshop series of three workshops was run by the Blueskin Resilient Communities Trust (BRCT) and funded by a grant from The Deep South National Science Challenge. We at BRCT wanted to employ an engaging process to lift the conversation about adaptation and build a momentum for action.

The project aimed to bring climate science to residents and local decision-makers to help them “join the dots” and enable a more coordinated, participatory approach to tackling the challenge of climate change in Dunedin.

Three facilitated workshops were held in February and March 2018. One was with city leaders and two were in communities familiar with increased regular flooding linked to sea-level rise and climate impacts such as increased inundation: Blueskin Bay and South Dunedin. These workshops represented a starting point for dialogue on a complex problem requiring long-term commitment and action⁸.

Before the first workshop, BRCT distributed a survey to ‘City Leader’ invitees to elicit major issues involved in adapting to climate impacts, 14 responses were received from 70 invited participants. David Rees collated responses and

interpreted the following themes relating to climate adaptation from participant feedback:

- The need for community buy-in to adaptation responses is necessary
- Adaptation to climate impacts requires long-term planning
- Working together is essential for success
- The costs of adaptation must be understood, and
- Resistance to change must be recognising and managed.

Each workshop had a series of short presentations from a panel of experts on climate science and its implications for Dunedin.

These presentations, together with the issues identified through the preliminary survey and presented as systems maps, were used as a launching point for conversation.

While there was a clear call from residents in the two community workshops to continue to run and develop adaptation workshops to reach deeper and wider into the community, BRCT has not to date secured any local or central government support or research funding to continue.

⁸ There were 42 participants in the first (‘City Leaders’) workshop, 38 participants at the second (‘Blueskin’) workshop and 47 participants attending the third (‘South Dunedin’) workshop. At the second and third workshops, members of the wider public interested in climate change, members of other communities, academics and local government representatives represented approximately 2/3rds of the participants at each workshop.

“I just need a house that is high enough off the ground, um, that’s not going to get flooded, that I’m not constantly ... everytime it rains I am so stressed I’m having to stay up all night, and monitor the river and the situation around here, to be prepared to move stuff all the time. And, yeah, its not a nice way to be living.”

— *Cushla McCarthy, Waitati resident*

Location

BRCT is a place based community organisation located in Blueskin Bay, Otago. Blueskin Bay is within the administrative area of Dunedin City and sits on the coast north of the urban part of Dunedin City. With its approximately 1000 households and flood prone settlements, Blueskin is the site of flax-roots climate change adaptation managed by BRCT and is a 'hot-house' for the challenges facing South Dunedin with its 4500 households, high proportion of poor quality housing, and social deprivation. Brighton is a

small coastal settlement within the Dunedin City administrative area to the south of Dunedin. In preliminary work (see below) BRCT conducted a survey of residents in Waitati, Long Beach, South Dunedin, and Brighton on climate change issues. The 'Our City, Our Climate' workshops in 2018 were held in central Dunedin, Waitati (Blueskin Bay) and South Dunedin.



Figure 3: Map of Dunedin with Blueskin Bay and selected settlements/areas highlighted. Image: Martin Kean

Process

BRCT worked with David Rees, a founding partner of Synergia Consulting and a highly regarded practitioner of the 'Systems Thinking' approach in preparation for the workshops. David analysed survey feedback, prepared systems maps and facilitated each workshop.

Preliminary work

Community-led efforts to prepare for climate change had begun as early as 2006 in Waitati and had led to the formation of the Blueskin Resilient Communities Trust (BRCT) in 2008⁹.

In 2011 BRCT received a \$5000 grant from the Dunedin City Council to prepare a climate change adaptation plan for the settlement of Waitati. This small grant allowed us to do a simple literature review and conduct a series of interviews in Waitati. Eight community groups were contacted and 17 one-to-one interviews were conducted. We interpreted results from these interviews and identified four main themes:

- 1. Community Participation:** Residents expressed a desire to be actively involved and participate in planning for the future.
- 2. A Connected Settlement:** Residents had a strong knowledge base of the local area and were all very aware of the vulnerabilities of key infrastructure to adverse events and climate impacts. In addition, residents talked about the importance of connections between Blueskin settlements, rather than between Waitati and Dunedin central city.
- 3. An Informed Community:** Residents wanted to be kept informed about the implications of climate change and the likely climate impacts for Waitati.

- 4. A Resilient Community:** Residents were very aware of the limitations of local authorities in crisis situations and in dealing with extreme adverse events. They identified a need to develop greater capability and capacity to manage such events locally.

A draft Adaptation Plan emerged out of this process. While there were never the resources to complete a thorough process of community engagement on adaptation, we were able to propose a staged approach and proposed detailed plans for the sectors of 'Food' and 'Energy'. Critically, these were two areas of action that BRCT had taken the lead in or contributed to significantly.

In 2016-2017 BRCT received \$14,000 from the Otago Community Trust and later \$20,000 from the Dunedin City Council for our work on adaptation to climate impacts. We surveyed 60 households across communities in Dunedin exposed to flood risk (Waitati, Long Beach, South Dunedin, Brighton) and conducted interviews with 20 householders in at-risk zones. In addition a number of Cosy Homes Assessments were completed for homes in the flood hazard areas to assess quality of housing and exposure to risk. The summary of this research is found in appendix 1. We found that most homes in the survey area had poor structural and/or thermal properties, that most people surveyed were not individually preparing for climate change although 72% of those surveyed had some concern about what climate change might mean for their property (26% slightly concerned; 21 % moderately concerned; 17% concerned; 8% very concerned). See Figure 3 on the previous page.

⁹ For a history of the development of local climate action and the Blueskin Resilient Communities Trust, see the 'Blueskin People Power: A toolkit for community engagement' report (<http://www.brct.org.nz/assets/BRCT-publications/BRCT-Toolkit-for-Community-Engagement-small.pdf>).

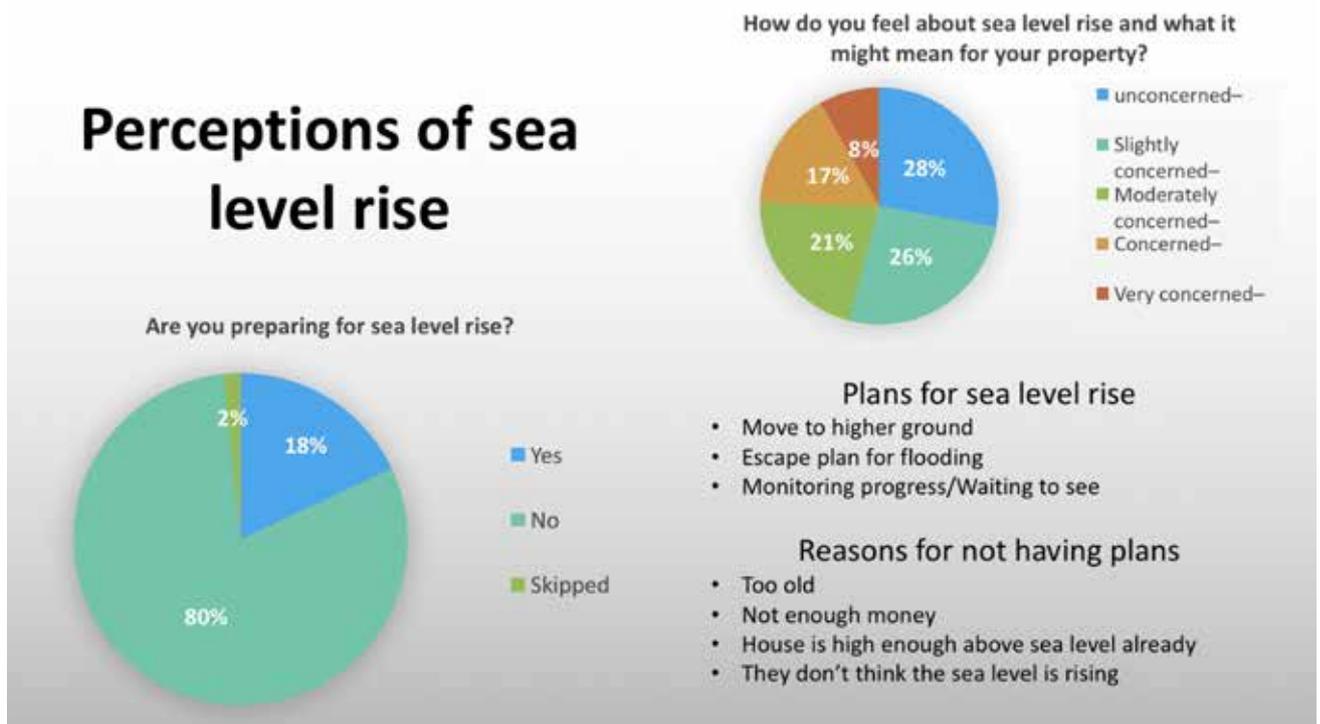


Figure 4: Responses to questions 5, 6 & 7, sample size 60 residents. Image: BRCT / Rachael Laurie-Fendall

Only 17% responded that the issue of sea-level rise was being adequately addressed by local and central government and a solid 55% said that it was clearly not being adequately addressed by local and central government.

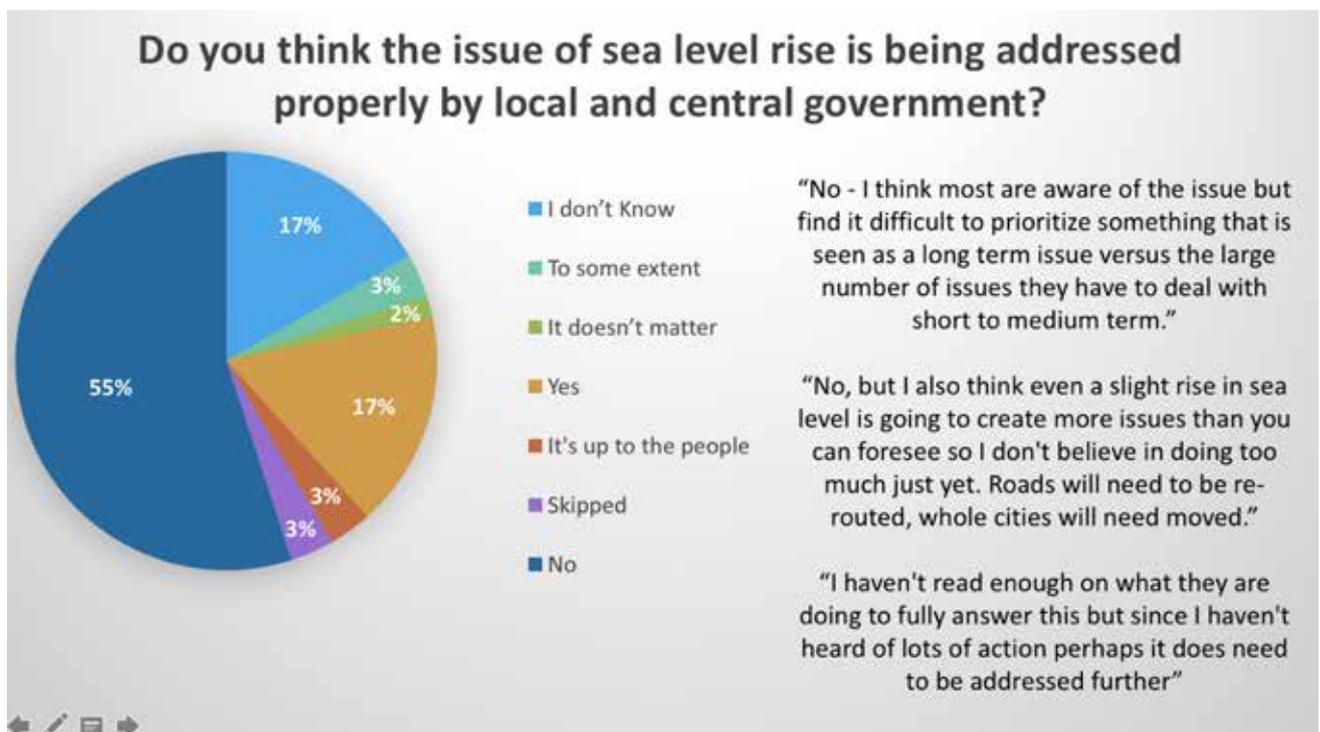


Figure 5: Responses to question 8 (sample size 60 residents) & selected quotes from interviews (20 completed). Image: BRCT / Rachael Laurie-Fendall

A number of responses were gathered about possible solutions ranging from 'more information' and 'managed retreat' to 'community planning', 'more infrastructure' and 'rates' to pay for adaptation. The report on the qualitative interviews has not yet been published.

Workshop Preparations

In the lead-up to the first “Our City, Our Climate” workshop (‘City Leaders’ workshop) a survey was sent out to those invited to the City Leaders workshop (appendix 2). Our intention was to focus not simply on generating ideas, but also on building some capability to use a systems thinking approach and using this new understanding to develop innovative ideas collectively in the short time available in the three workshops. We expected to be able to anticipate the shape of some potential collective ideas through the pre-survey to assist with the delivery of identifiable outcomes, such as a potential consensus on climate safe housing action.

The survey had two purposes. First, to capture peoples’ ideas about the issues facing a collaborative response to climate change. Second, to understand the causal chain between the factors driving these issues through to the consequences of the issues being successfully addressed, or not.

Fourteen responses to the survey were received and analysed by David Rees. By undertaking a cluster analysis of the key ideas and the causal logic, responses were grouped into five key themes:

1. The need for community buy-in to adaptation responses is necessary
2. Adaptation to climate impacts requires long-term planning
3. Working together is essential for success
4. The costs of adaptation must be understood, and
5. Resistance to change must be recognising and managed.

In the first and second workshops, the five key theme ‘maps’ were used as resources alongside the scientific presentations and briefing papers. Prior to the workshops the coordination with the

expert team involved planning approaches to delivering the climate science in a manner that made the science approachable and meaningful for workshop participants.

Target Audience

Effective climate action will require a joined-up approach. We purposefully prepared a workshop by invitation for ‘City Leaders’ (the first workshop) seeking representation from significant city institutions and organisations who are responsible for policy, budgets and research or have influence, as well as industry such as the insurance industry, the building supply sector, the local Chamber of Commerce, the Office of the Parliamentary Commissioner for the Environment and Members of Parliament. The purpose behind this decision was to open up doorways into collective action on adaptation with people holding the purse strings or able to influence action and to interest them in the subsequent two community workshops. We titled it a ‘City Leaders’ workshop as we particularly wanted to attract those who considered themselves leaders and decision-makers.

The subsequent two community workshops were by open invitation and not limited to local residents. We held them during the day in the working week which was practical for our expert presenters.

Advertising was wide and through social media, local radio, local newsletters and through community networks. We anticipated that, by advertising through existing community networks, we would have a large proportion of already engaged residents participating and this appears to have been borne out, at least in the first community workshop. For the third and final workshop held in South Dunedin we sought greater diversity by contacting local high schools and using more diffuse community networks channels with assistance from Nick Orbell, community advisor at the Dunedin City Council.

City Leaders Workshop (#1)

The purpose of the City Leaders workshop was to develop an understanding and commitment to a city focus on collective action. Matters explored were:

- the climate challenges facing Dunedin
- the consequences for Dunedin of addressing these challenges successfully – or not
- why collective action is needed to address these challenges successfully
- the benefits of collective action, and
- what would be required to sustain collective action over time.

The 42 attendees included representatives from local and central government, the business sector representatives (including the insurance sector), Iwi, NGOs, the research, health, law and education sectors and the Office of the Parliamentary Commissioner for the Environment. There was strong engagement from those present and a clear desire to address the very complex issues that climate change presents.

It was accepted that failure to address these challenges would impact our ability to maintain social and economic wellbeing and would increase inequality in our city.

Attendees generally agreed that we need a city vision for climate change adaptation, and expressed a need for planned action towards positive goals rather than piecemeal reactions as events occur.

There was a call for more interest, assistance, and guidance from central government, including in relation to some legislative limitations on the ability of local bodies to act. However, there was also affirmation by City Council staff of the steps already taken in Dunedin and a desire to build, and generate more, momentum.

A general call for better communication around climate change was made, to help people understand why actions were being taken and try to empower their engagement in future conversations about adaptation and in city decision-making processes.

Attendees agreed that leadership is critical and that next steps need to be made collaboratively across agencies, sectors and communities: no one organisation can fix this, we have to do it together. An additional point discussed was whether it was **stewardship** that was needed rather than leadership in the traditional sense. Stewardship places greater emphasis on sustainability and long term interests as well as the interests of current generations, and as such it was suggested as an alternative goal or requirement for those involved in climate change adaptation.

As part of the workshop process, BRCT filmed interviews with a number of workshop participants to document outcomes. These film clips have been used to develop a short film on adaptation¹⁰. At the conclusion of the City Leaders workshop a discussion on climate change adaptation with Mayor Dave Cull, Andrew Tait (NIWA), Chris Cameron (Bodeker) and Scott Willis (BRCT) was recorded for community radio¹¹.

¹⁰ <https://www.youtube.com/watch?v=YkXHhSM8XNs&t=121s>

¹¹ <https://www.oar.org.nz/event/our-city-our-climate-our-future/>

Blueskin Workshop (#2)

The second workshop in Waitati was held the day after the City Leaders workshop. Waitati is the hub settlement of Blueskin Bay and a large part of the settlement is located on an alluvial flood plain, which is subject to flooding after extreme weather events. The settlement is vulnerable to sea level rise and extreme events associated with climate change.

We timed the second workshop to swiftly follow the first workshop in order to be efficient in cost and resources. However, this did present logistical challenges, in that we had little time to reflect on the first workshop and make modifications to the workshop agenda. In addition, the daytime scheduling meant we attracted only those people who could and would take time off work or were not constrained in some way by employment.

As with the 'City Leaders' workshop, in the Blueskin workshop there were short expert presentations followed by facilitated workshopping. The 38 attendees were not all from Blueskin Bay. Attendees represented Blueskin residents, Dunedin residents concerned about climate change and professional participants (academic participants and a Regional Council staff member). At the afternoon tea break and after the expert presentations, a number of attendees left the workshop to return to work and did not participate in the facilitated workshopping.

The facilitated workshop began with the expression of themes from the City Leaders workshop and additional themes emerged. Most expressed was a call for action. As one group put it: "*Less Hui, more do-ey!*" Participants voiced a wish to see action plans developed by the City Council with measurable actions and timelines with specific dates for action.



Figure 6: Waitati Workshop on "Our City, Our Climate". Photo: BRCT / Scott Willis.

Several participants wanted more assistance from local government agencies in order to build capacity and increase local resilience in crisis situations. One suggestion was that help be given via rates relief to get rain water collection tanks installed to improve local resilience in the event of disaster. Another suggestion from one group was a call for Council or Civil Defence to install a local tsunami warning system, which was no doubt related to the recent memory of the tsunami risk residents experienced as a result of the 2017 Kaikoura earthquake (tsunamis are not a result of climate change but do require an organised community response). Others wanted assistance to develop local disaster response plans for whatever eventuality. Many residents seemed interested in simple practical actions and noted the need for local and regional authorities to work together where responsibilities abutt or overlap so that coordinated and coherent attention is given to issues like increased extreme run-off, flood mitigation, and crisis management.

In addition to the call for preparing for crisis situations however, others sought a city-wide vision to focus action and encourage proactive adaptation. On this note the workshop expressed a first iteration vision for climate change adaptation: *“Dunedin is a compact, carbon-neutral, sustainable city with resilient townships”*. This vision statement directly relates to, and builds on, the vision

from the Spatial Plan (*“Dunedin Towards 2050: A Spatial Plan for Dunedin/He mahere Wahi ki Otepoti*). However, there was acknowledgment of the need for more work towards achieving a vision, and a specific call for the voices of young people, who were largely absent from the meeting, to be sought out and included. Participants saw this workshop as a starting point only, with more and ongoing engagement required.

It was clear at this workshop that local residents recognised the need to prepare, adapt or to protect the community. What was less clear was how widely the distinction between occasional inconvenience, short term problems and permanent change was appreciated or understood. No clear solution was arrived at, but the importance of the community values and infrastructure such as the library, the hall, school and shops, was recognised, and it was acknowledged that many of the challenges residents currently face will become more pronounced as climate impacts intensify.

The implications of the increased exposure to hazards as a result of climate change goes beyond the risk of flooded community infrastructure and housing. It also exposes residents to threats that can increase a sense of vulnerability and this was expressed at the workshop.

“Couple of hundred yards down that road is the swamp, we call it. They’re the hill people up there. They’re the smug ones. They’re all looking down on us. But this is where the heart of the community is. It’s where the hall is, the bar, the nursery. All the businesses are down here. The school’s down on the flat too. Everything is down here. And some people want us to move.”

— Gerry Thompson, Waitati resident

South Dunedin Workshop (#3)

The third and final workshop was held in South Dunedin, which has seen significant flooding events in the last three years.



Figure 7: A car powers through floodwaters in South Dunedin during the June 2015 floods. Photo: RNZ / Ian Telfer

South Dunedin is a large, diverse community that includes many elderly and many low income residents. There is a lot of rental housing in this area and it occupies a large flat area of land that has been reclaimed and built up for housing and development over the past 100 years from tidal flats, salt march, low dunes, marshy wetlands, lagoons and water-ways. It is a “porous, sandy environment”¹². A great deal of South Dunedin is within the tidal range, by which we mean that ground water levels respond

to tides. In fact some land is below the level of high tide, which makes draining this area very difficult¹³. In South Dunedin, the ground water rises twice a day in conjunction with the tides. The Otago Regional Council has produced some excellent explanatory resources on the environmental history and characteristics of South Dunedin in relation to climate change¹⁴. The South Dunedin workshop followed a similar format to both previous workshops with one significant change. Rather than using the ‘issues maps’

¹² See Dr. Sharon Hornblow: <https://www.youtube.com/watch?v=N0cOfCa-diE&t=24s>

¹³ See Dr. Sharon Hornblow: <https://www.youtube.com/watch?v=N0cOfCa-diE&t=24s>

¹⁴ Ibid, and <https://www.youtube.com/watch?v=UFtOrNQOG54>, and <https://www.youtube.com/watch?v=uw1hg40pqaA>

developed in workshop #1 as the starting point we developed issues maps with the participants on the day. Following the scientific presentations participants were split into smaller working groups and asked to discuss three questions:

1. *Reflecting on your own knowledge and the presentations you've just heard, what do you consider to be the 3-5 biggest issues facing South Dunedin in relation to climate change?*
2. *What would be the consequences of these issues being addressed successfully?*
3. *What would be the consequences of these issues NOT being addressed successfully?*

The results of the discussions were written up on large sheets of paper, displayed on the wall and then discussed as a whole group.

Following these discussions, participants were then asked to:

1. Brainstorm potential actions to address the issues you raised in the previous session. Use a blank sheet.
2. Pick the **'top 5'** and write each on a post-it note.
3. Put them on the large sheet of paper provided in a position that you think reflects how big an impact it could have and how easy or hard it would be to implement (groups were provided with a template that had a 2 x 2 matrix reflecting level of impact and ease of implementation).

47 people¹⁵ attended this workshop and, while some left towards the end of the workshop session, we were able to distribute feedback

forms to many participants at the conclusion of the workshop, the results of which are included in appendix 3.

The most dominant theme was the great importance and value of community, closely followed by enabling/providing adaptive housing. Participants expressed some fear that decision makers might not necessarily value the community or recognise its importance in the lives of the people living there. The need to protect that value, especially when so many residents are economically vulnerable, was repeatedly voiced. A related theme was the need to hear the voices of the people who could not or would not attend the type of workshop we held. Calls were made for different approaches to engagement to empower local residents and to enable and value their participation. While there were school and university student participants at this workshop, they were still outnumbered by those over 65, so a similar need exists to find ways to connect with younger citizens. Those present were positive about the workshop, but emphasised the need for more engagement with a wider audience.

As in the other workshops, there was a call to start working on a vision, and then implementing it. Group members noted that there are challenges in such a process, but also noted that the benefits of creating and implementing a vision based on community values would be significant. This workshop also raised the question of possible engineering solutions and whether and how engineering solutions might be part of the larger, longer term response to climate challenges. It was recognised that infrastructure is an essential part of any community and it needs to be maintained to retain its effectiveness.

¹⁵We did not identify affiliation either by suburb or profession however we did ask all those from South Dunedin to identify themselves by raising their hands and we counted about 15 people. During the workshop it became clear that some residents were from nearby suburbs and did not identify as being from South Dunedin.

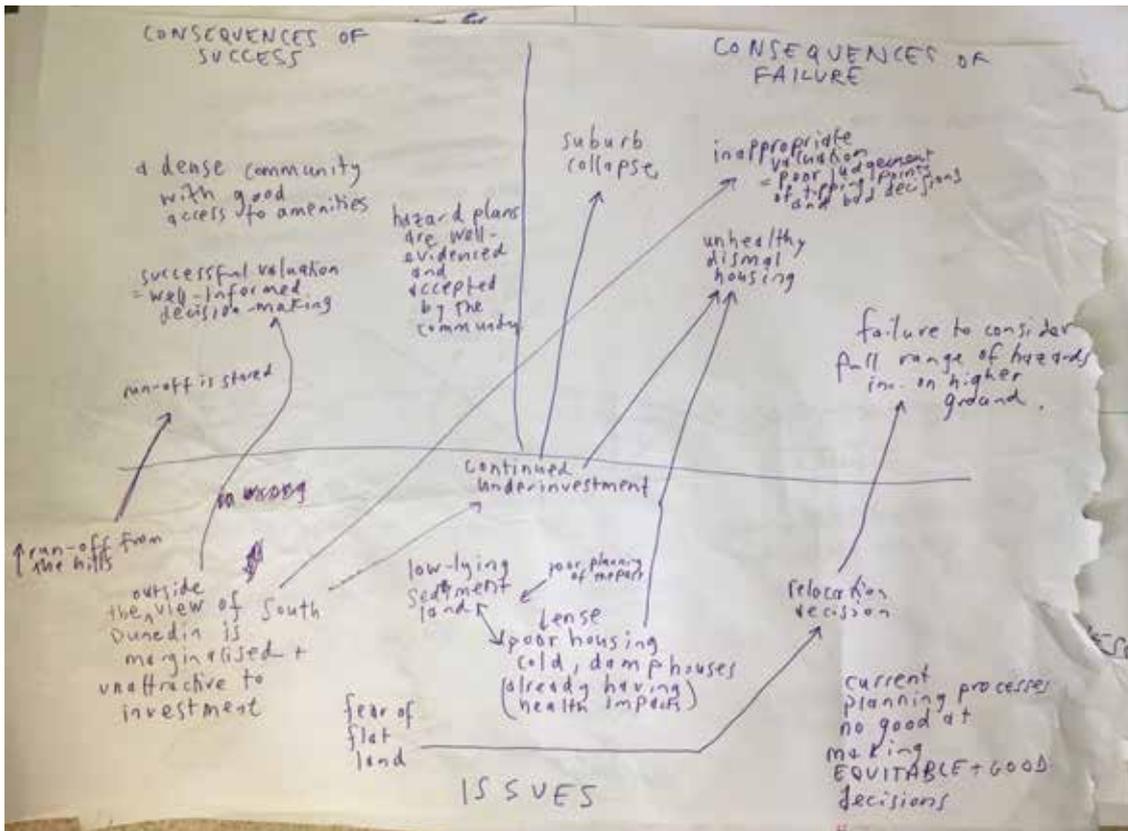


Figure 8: Group Workshop Sheet 1, South Dunedin "Our City, Our Climate" workshop. Photo: BRCT / Scott Willis

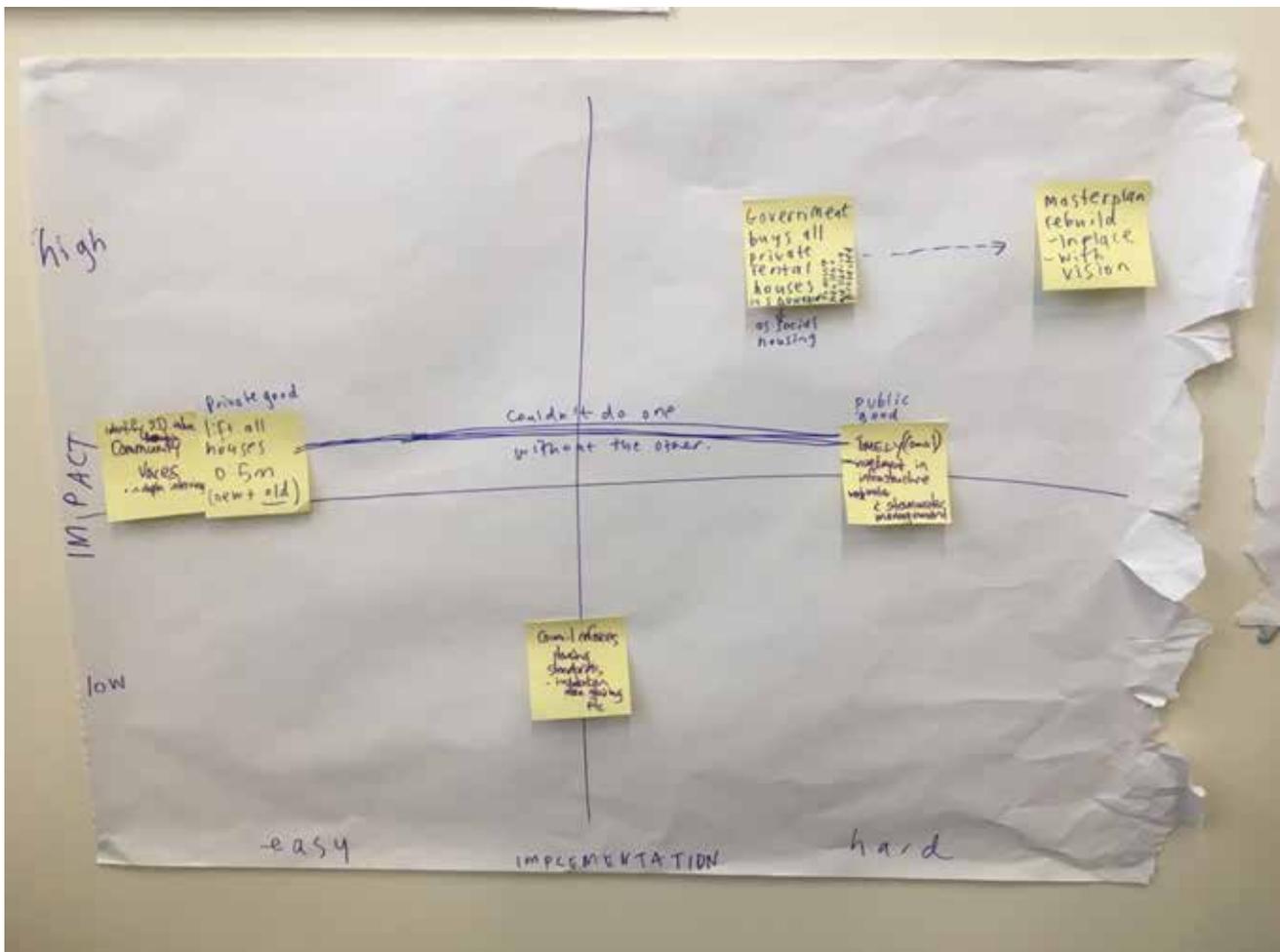


Figure 9: Group Workshop Sheet 2, South Dunedin "Our City, Our Climate" workshop. Photo: BRCT / Scott Willis



Figure 10: Climate Safe House Design Exhibition February 2017, Gallery on Blueskin. Photo: BRCT / Scott Willis.

“It is not just a technical challenge, or a physical challenge. It's also an emotional, spiritual, cultural challenge to feel powerful enough to do something or to feel able to understand the issues.”

— Alex Keeble, The Deep South National Science Challenge

Outcomes

The themes from all three workshops were relatively consistent. There was positive engagement with the process and willingness to participate in this early step towards climate change adaptation in Dunedin.

There was a common appreciation of the goal of these workshops and an eagerness for the process to be continued with further workshops and to include a wider range of participants, and to be inclusive of agencies, sectors and communities.

There was recognition in all of the need for leadership or stewardship, and for collaborative planning and action to enable progress, as well as calls for national guidance and support, and for both national and local action.

There was some frustration at all sessions at the slowness of government to take steps to reduce carbon emissions, avoid creating new hazards, and mitigate impacts. At the community workshops people wanted action *now*.

There was a clear strength of interest in adaptive, or climate safe housing.

Vision was called for at all workshops – as representing something positive to work towards rather than constantly responding to crises. ‘Community’ was a common theme, deeply expressed at both community meetings. However ‘community’ was not defined. It is clear nevertheless that the value the idea of community represents is very important and must be central to any discussion about future actions or responses.

The workshops overall were well received. They brought parties together to begin conversations and build relationships. They showed there is a need for this kind of open consultation process that focuses on listening and sharing so that next steps are understood, and hopefully supported, by those affected.

The expert presentations were equally well received and participants generally welcomed their brevity and focus. We are confident that a shared understanding was achieved and that part of that understanding was an appreciation of the complexity of the science of climate change and the degree of uncertainty as relates to localised areas. Some participants were concerned that the climate science may have been portrayed with not as much urgency as the situation requires.

We identified three principles to guide action as recommendations to government:

1. Embrace risk, and manage uncertainty and experimentation in evaluation of actions (**practice Adaptive Governance**)
2. Work with the community sector to build deeper community engagement and create opportunities to share knowledge and build capacity (**invest in Community**)
3. Recognise the value of the government as ‘honest broker’ to sponsor and broker relationships across different sectors (**practice good Stewardship**).

“We are responding to something that we know is going to happen at some speed and [we need to] start to give some clarity around options”

— Sue Bidrose, CEO, Dunedin City Council

Lessons and Limitations

While all workshops were well attended and enabled discussion, we had hoped for somewhat larger turnouts. We were also disappointed that no elected members of the Otago Regional Council (ORC) attended the “City Leaders” workshop, although the ORC was well represented by directors and staff. Due to a scheduling issue Dunedin City Councillors also had to leave the workshop partway through the interactive session and therefore did not gain the full value from the workshop. This scheduling and participation issue will always be present for representatives from our important institutions and suggests that, for future events and workshops, greater preparation and development time is anticipated and resourced.

Many interested professionals, in particular city council staff, attended our community workshops but community members (and in particular, young people), could have been better represented. The lower than expected turn out of community members suggests that we may need to schedule workshops at different times of the day and run more workshops in both day and evening or at the weekend. In addition, we may need to do much more preliminary work to encourage community participation. It is likely that community participation will be increased when there are more workshop opportunities in both day-time and evening and on different days of the week.

The workshop participants all agreed that a collaborative and inclusive approach was necessary. This point was particularly strongly articulated at workshop #3 (South Dunedin). Running the workshops over a morning or an afternoon only presented time limitations, both for developing a collaborative approach and for enabling a cooperative process. Participants wanted ongoing opportunities to engage and participate in a workshop environment. Yet to increase collaboration, allow wide and rich

participation, and to ‘normalise’ adaptation planning, more resource and time will be required.

Clearly, participants want ongoing opportunities to engage and participate in a workshop environment. However we have not been able to secure funding from sources other than The Deep South National Science Challenge to continue with ongoing adaptation workshops, despite applications to other funding bodies. We therefore confront the risk that the momentum catalysed and built upon through these workshops may stall.

We see the resourcing issue for climate change adaptation engagement as a serious limitation. While the community (i.e. BRCT) initiated nature of this workshop project is something that we and participants saw as a strength, community organisations seldom have ‘soft’ resources, (i.e. additional staff time and discretionary budgets,) to add to specific project funding. The flax roots approach with its strong knowledge base needs to be married with resource to be truly effective.

At the outset of planning and preparing these workshops, we aimed to link in with the Dunedin City Council’s Long Term Plan (LTP) preparation in an attempt to get adaptation funding high on the agenda. In hindsight, we needed to kick start conversations with our local authority much earlier when staff were working on project areas to include within the LTP. As it was, while public submissions supporting greater climate action were plentiful during the LTP public consultation process, it would have been more effective to work hand in hand with Council at a preliminary stage. BRCT’s own submission sought specific funding for climate change adaptation based on feedback from the workshops (see appendix 4), but our request was unsuccessful. Timing therefore presented a limitation, which could be overcome through developing a stronger relationship with Council and through running rolling workshops.

As Judy Lawrence has pointed out, to date government has approached climate impacts reactively rather than proactively managing risk. She says: “We need to do more, earlier, and take action to reduce risks and build resilience in our changing climate”¹⁶. The ‘Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Working Group’ report¹⁷ recently released makes a number of key recommendations split into ‘foundational

actions’ and ‘immediate actions’. This report is very thorough and the recommendations, if adopted, will be effective. However the report assumes a top-down approach which can be alienating to parts of society and can disenfranchise local small-scale efforts which are a place for experimentation and innovation. A potential limitation is our weak community sector, poorly resourced and often ill-equipped to partner with central and local government for effective action.

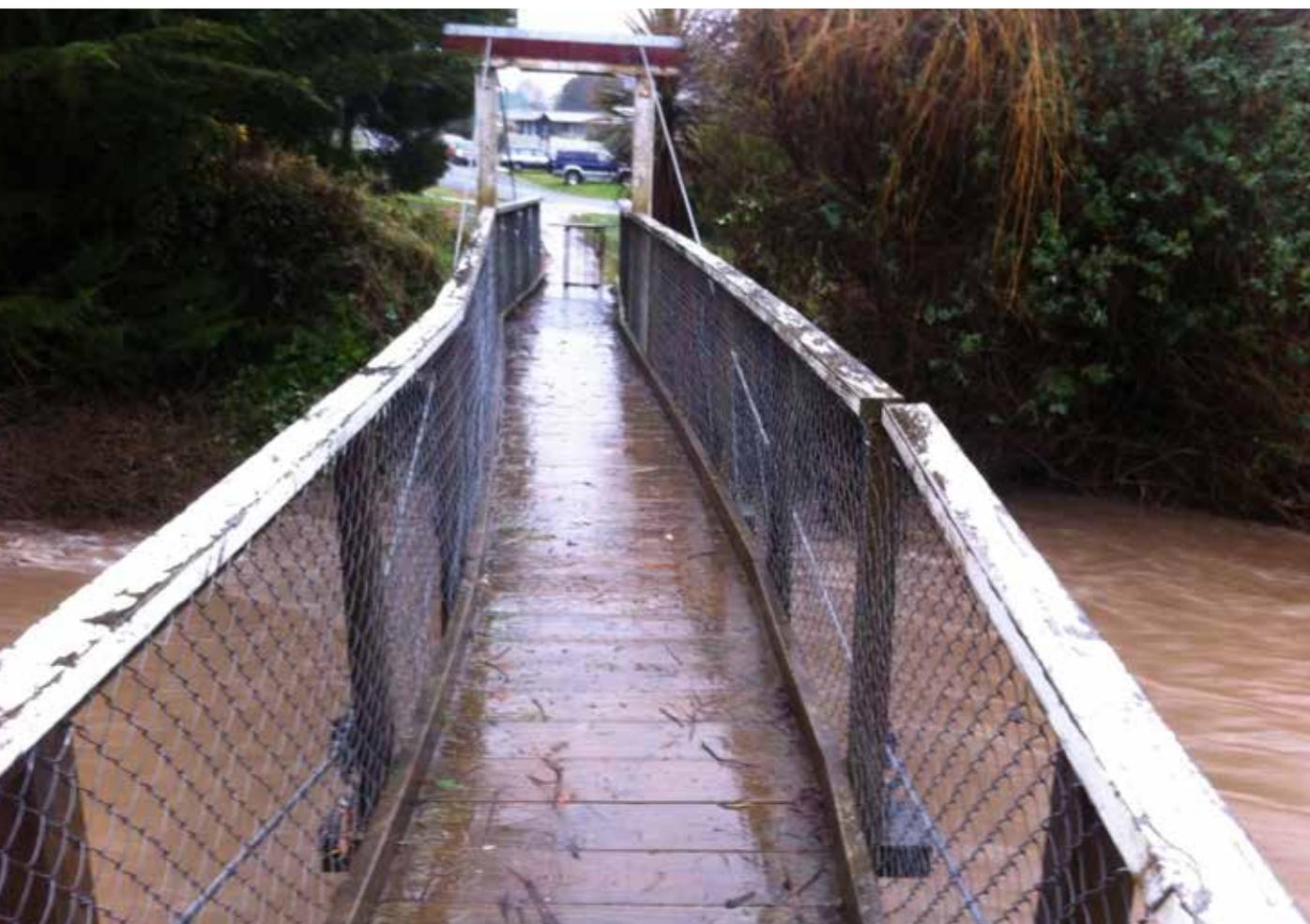


Figure 11: Erne Street foot bridge (Waitati), damaged after the 2017 floods. Photo: BRCT / Scott Willis

¹⁶ Lawrence, J. 2018. Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Technical Working Group (Executive Summary), pp. 7. MfE

¹⁷ Ibid

“If the sea comes up, you either try to defend against it, or you leave. Those are the only two options in the end. So as we go forward on that we need to understand exactly what we’re facing, both on cost and on social upheaval going through both of those options. My feeling is that we have not explored them as openly with the communities as we could. We often hear the cost of defending but we haven’t heard any of the cost of moving yet.”

— Jim O’Malley, Councillor, Dunedin City Council

Next steps

These workshops revealed a community desire for more engagement, more community discussion, more collaborative work to understand options, to develop a vision and to act.

Community action can deliver solutions locally and stimulate action in government agencies. But community action is limited by 'cake stall' resourcing while government has the resources. Action from central or local government can make a significant difference for vulnerable communities, with good planning and implementation. But it is the community sector which has the knowledge base and good access to community networks. The question therefore is how to marry interests and ensure the community sector can have access to expertise and resources, while central and local government and government agencies can accurately target resources and ensure efficient delivery with access to community know-how.

Climate change is here. It is happening now and its impacts are already making life difficult for the most vulnerable. It is easy for individuals, whether community members or community leaders to feel overwhelmed. Action helps break feelings of helplessness and helps galvanise positive action. It is with this in mind that we propose the following approach which assumes a willing partnership between government and the community sector:

1. Engaging in immediate actions that are direct, visible and simple to evaluate, including:

- a. Brokering partnerships to deal with housing in flood hazard zones to foster innovation in developing climate safe housing
- b. Investing in Adaptive Planning in practice through providing resources for flax-roots adaptation workshops run on at least a bi-annual basis
- c. Supporting the Climate Safe House project, of which we are very proud, as a rich collaborative and practical solution and blueprint for action.

2. Developing methods to embed adaptive governance into local government to overcome the 'presentist bias'¹⁸, via:

- a. Establishing a Local Government NZ expert reference group focussed on adaptation and climate science¹⁹
- b. Instituting regular sustainability audit of local government activity through an independent 'Sustainability Audit Committee' within local government or similar with the role of monitoring progress towards targets and providing advice on policy decisions²⁰
- c. Running systems learning workshops in selected local government bodies to build a more nimble and adaptive culture within our public service.²¹

¹⁸ Boston, J. 2017. *Safeguarding the Future: Governing in an Uncertain World*. Bridget Williams Books: Wellington, NZ

¹⁹ See 'Action 13: Establish a centralised service to provide expertise to local government for risk-based decision making', pp.41-42 in "Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Technical Working Group", May 2018.

²⁰ Local Sustainability Audit Committees would be informed by the Independent Climate Change Commission, when it is established.

²¹ See 'Action 14: Build capability and capacity in climate change adaptation across central government agencies' pp.42-43 in "Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Technical Working Group", May 2018 for guidance on how local government as well as central government might assess need and prepare to build capacity.

3. Support the development and enhancement of Place Based Community Groups with a specific focus on adaptation, via:

- a. Creating a specific funding pool funded by central government in addition to the gambling levy funding for the community sector to provide core funding for Place Based Community Groups and Runaka working on adaptation and/or climate action²²
- b. Giving Place Based Community Groups and Runaka access to climate experts to strengthen the flax-roots and unlock the strong local knowledge bases for effective adaptation practice²³
- c. Evaluating the health and wellbeing of Place Based Community Groups at the flax-roots level and their impact by maintaining ongoing comparative assessment and contributions of action research.²⁴

Meanwhile, BRCT will continue to seek resourcing to give effect to the voices heard in this workshop series. Through the Dunedin City Council's 10-year plan process, BRCT encouraged the Dunedin City Council to support community dialogue and place-based groups like ours to energise and resource flax-roots action. The Dunedin City Council has now established a fund for Place Based Community groups and it was opened for applications in August 2018.

Ideally the next step for BRCT is to find resourcing to continue the momentum of the workshops with more innovative and inclusive community engagement to bring people together. Place-based events like street parties, presence at community events, and seeking one on one conversations with those affected who might not otherwise be heard would ideally be undertaken, as part of a rich community engagement process.

As concrete action, and in response to real community need, we are now working with industry, local government and educational institution partners on the Climate Safe House project . We heard the call for action loud and clear and engagement on adaptation is much more powerful when aligned with action. Our larger aim is to develop housing for coastal areas vulnerable to climate change and to implement adaptive planning in practice. Communicating the issue of adaptation is much more effective if in step with innovative solutions. Partners and sponsors, including BRANZ, Formance, Enphase, Fulton Hogan, Trenzhomes and the Dunedin City Council have offered materials or services as we prepare to build the first Climate Safe House.

The Climate Safe House project is our flax-roots community project, managed by BRCT to develop housing in areas vulnerable to climate impacts. The project is about making changes to prepare for managed retreat. Right now we are working with a vulnerable homeowner who is

²² See, for example, 'Action 11: Commission Mātauranga Māori-led measures that reflect cultural impacts of climate change and are developed and managed by iwi/hapu' pp.38 in "Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Technical Working Group", May 2018.

²³ See 'Action 10' pp.37 in "Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Technical Working Group", May 2018 for guidance on support for climate change adaptation. We recommend local expert teams be established to deliver locally appropriate expert information.

²⁴ Evaluation of the effectiveness of Place Based Community groups in delivering adaptation action could be done under 'Action 3: Developing a national methodology and framework for assessing climate change risks and vulnerabilities and develop nationally-consistent datasets', pp 25-26 in "Adapting to Climate Change in New Zealand: Recommendations from the Climate Change Adaptation Technical Working Group", May 2018

²⁵ See: www.climatesafehouse.nz

prepared to give up equity in the existing home in return for a warm, safe, efficient transportable eco-home with a low rental. We will transfer private risk to a collective solution of Climate Safe Housing. The new replacement home and the risk becomes community owned and managed. When the time comes, Climate Safe Housing will be relocated away from the flood hazard. We aim to develop a transferable model of Climate Safe Housing. We intend through the Climate Safe House project to build adaptation awareness for our community and decision makers.

Currently we are seeking further investment and/ or sponsorship of the project to maintain momentum and allow the first build. The first build will be a public build process to stimulate innovation in smart builds and to create greater social licence for action on adaptation. It presents a solution that we expect will be able to be replicated all around the country.



Figure 12: Flooding in the settlement of Long Beach, Blueskin Bay, 24th July 2017. Photo: Alfie West.

“I see in a lot of places in a long period of time that there’s going to come a time when the younger generation will say “you knew about this and you didn’t do anything. And you could have, but you didn’t. Through inertia, inaction or lacking in moral courage, whatever, you didn’t do anything and look what you’ve left us”.

— Participant 5, Waitati

About the authors

Scott Willis is the Manager of the Blueskin Resilient Communities Trust, where he works on climate solutions and oversees Trust operations. Scott was the Project Manager for the workshops and is the lead author on this report.

Camilla Cox provides Policy Support at the Blueskin Resilient Communities Trust and has previously worked for the Parliamentary Commissioner for the Environment. Camilla worked with Scott on this report and contributed to the analysis.

Acknowledgments

The Our City Our Climate workshop series was run by the Blueskin Resilient Communities Trust, funded by The Deep South National Science Challenge, and supported by the Deep South National Science Challenge, including Alex Keeble, Wendy Saunders, Susan Livengood and Joanna Goven; experts David Rees, Judy Lawrence, Simon Cox, Andrew Tait, Michael Goldsmith and Chris Cameron; the Otago Polytechnic and Dunedin City Council; and NGO's, Wise Response, Sustainable Dunedin City, Forest and Bird, Generation Zero and Our Climate Declaration. Thank you to all who participated for being part of this project including Janet Stephenson and the Deep South team for peer review and comments and thank you to Martin Kean for design and formatting.

The Blueskin Resilient Communities Trust is a charitable community organisation creating local climate solutions together with partners.

www.brct.org.nz

www.climatesafehouse.nz

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Appendices

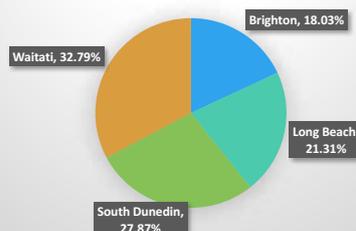
- Appendix 1:** Summary of Preliminary Research
- Appendix 2:** Survey Questions for 'City Leaders'
- Appendix 3:** Workshop Survey Responses
- Appendix 4:** BRCT's submission to the 2018 Long Term Plan
-

Appendix 1:
Summary of Preliminary Research

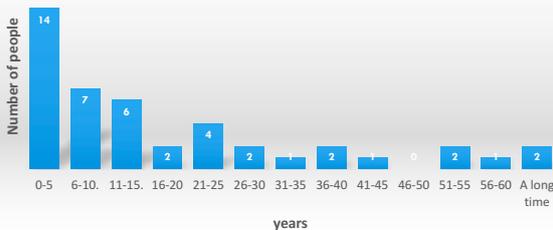


SURVEY RESULTS

Response locations



How long have you been living in this community?



WHAT DO YOU LIKE ABOUT LIVING IN THE COMMUNITY?

LONG BEACH

- THE SEA
- LOVE THE COMMUNITY
- PEACEFUL/QUIET
- THE LIFESTYLE
- ACCESS TO THE CITY
- THE ENVIRONMENT

WAITATI

- THE COMMUNITY/PEOPLE
- THE BEACH
- THE ENVIRONMENT
- THE DIVERSITY OF PEOPLE
- SEMI-RURAL LOCATION
- QUITE AND RELAXED
- ACCESS TO AMENITIES
- LIFESTYLE

SOUTH DUNEDIN

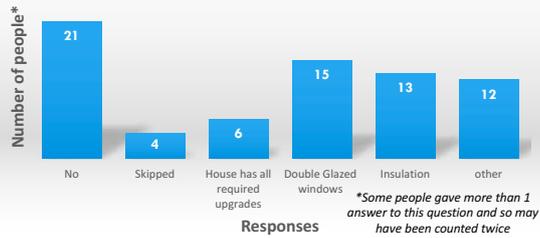
- THE COMMUNITY/PEOPLE
- THE BEACH
- ACCESS TO THE CITY
- ACCESS TO RESTAURANTS AND SHOPS
- ACCESS TO SCHOOLS
- QUIET
- THE BUS SERVICE
- WALKING DISTANCE

BRIGHTON

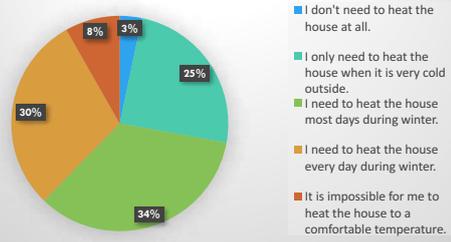
- RURAL
- THE BEACH/SEA VIEWS
- THE COMMUNITY/PEOPLE
- PEACEFUL
- THE LIFESTYLE
- ACCESS TO THE CITY
- ACCESS TO AMENITIES

Home structural and thermal efficiency

Do you have plans to improve the structure or thermal efficiency of your house in the foreseeable future? If yes, what are you planning to do?



How easy is it for you to heat your home to a comfortable temperature?



Barriers to improving thermal efficiency

"Yes and NO. We know what we need to do, but simply can not afford it."

4/3/2017 10:29 AM [View respondent's answers](#)

"No as we rent"

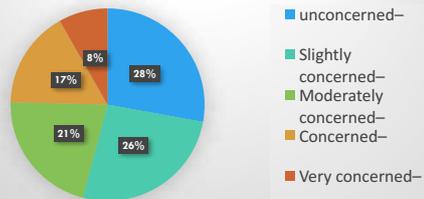
3/22/2017 10:43 AM [View respondent's answers](#)

"Need to put better curtains up. Other than that there doesn't seem to be much I can do"

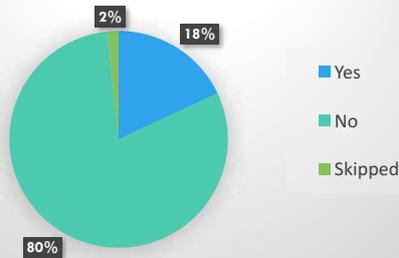
6/6/2017 12:38 PM [View respondent's answers](#)

Perceptions of sea level rise

How do you feel about sea level rise and what it might mean for your property?



Are you preparing for sea level rise?



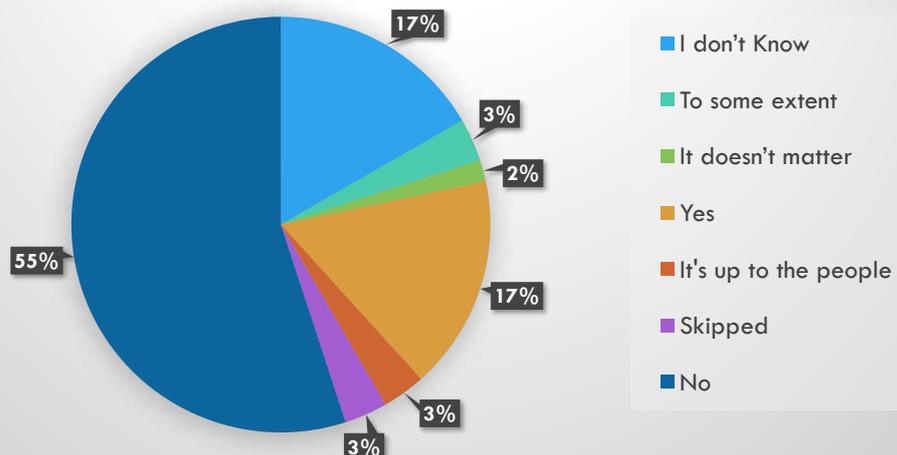
Plans for sea level rise

Move to higher ground
Escape plan for flooding
Monitoring progress/Waiting to see

Reasons for not having plans

Too old
Not enough money
House is high enough above sea level already
They don't think the sea level is rising

Do you think the issue of sea level rise is being addressed properly by local and central government?



Do you think the issue of sea level rise is being addressed properly by local and central government?

"No - I think most are aware of the issue but find it difficult to prioritize something that is seen as a long term issue verse the large number of issues they have to deal with short to medium term."

2/13/2017 9:28 AM [View respondent's answers](#)

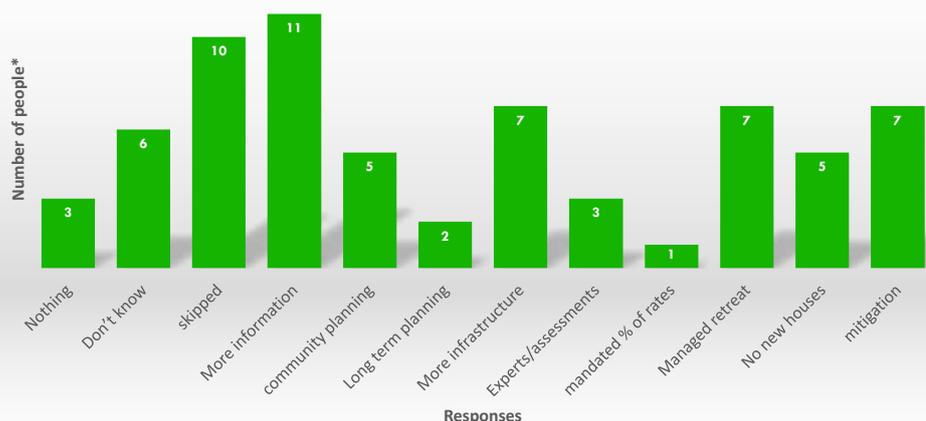
"No, but I also think even a slight rise in sea level is going to create more issues than you can foresee so I don't believe in doing too much just yet. Roads will need to be re-routed, whole cities will need moved."

12/8/2016 7:45 AM [View respondent's answers](#)

"I haven't read enough on what they are doing to fully answer this but since I haven't heard of lots of action perhaps it does need to be addressed further"

1/25/2017 1:21 PM [View respondent's answers](#)

What do you think needs to be done about the problem?



*Some people gave more than 1 answer to this question and so may have been counted twice

What do you think needs to be done about the problem?

"Multiple different (parallel) approaches, including helping people relocate, ensuring there are places to relocate to, supporting those that don't want to move (including helping them protect their property and maintaining the neighborhood feel as much as possible, so it doesn't get like the red zone in Chch)."

2/13/2017 6:14 AM [View respondent's answers](#)

"Community consultations with good ideas being acted upon. Action plans for those living in low lying areas to move up/inland"

2/1/2017 12:29 PM [View respondent's answers](#)

"More information for residence about sea level rise"

4/3/2017 10:29 AM [View respondent's answers](#)

"Central funding (or mandated % of rates) to be set aside to combat/prepare for rising sea levels with a 10 to 20 year plan in place."

2/13/2017 5:28 PM [View respondent's answers](#)

Our City Our Climate

Pre-Workshop Questionnaire:

As part of our preparation for the workshop we would like to obtain an understanding of the issues that people feel are central to developing a collective response to the challenges of climate change in Dunedin. The aim is not to simply obtain a list of issues, but to understand what the issues are, how they interact and influence each other and how they affect our ability to achieve that goal. We will compile and synthesise the responses, and the results will be presented at the beginning of the workshop, providing a DRAFT visual map of the factors, and their interconnections, that make up the system we need to understand if we are to address the challenges of climate change successfully. We will refine and develop this map throughout the workshop.

You don't need to write a novel; just focus on a few points that you consider are important.

Once completed could you please email to:

Dr. David Rees

david.rees@synergia.co.nz

As compiling and synthesising the results will take time the earlier we get your response the better, so could you please respond by Thursday 1 February at latest.

ps. use the tab key to move from one question to the next.

THANK YOU

Please describe **no more than 5 key issues** that you think need to be addressed in developing a collective approach to the challenges of climate change facing Dunedin.

- 1.
- 2.
- 3.
- 4.
- 5.

For issue #1:

What is the history of this issue i.e. is it a recent issue, or has it been around for a while? If it has been around a while, can you give an example of how it affects our ability to take collective action in regard to climate change.

What is causing this issue?

What would be the consequences of tackling the issue successfully and why?
What would be the consequences of not tackling the issue successfully and why?
What would need to be in place and/or done to tackle the issue successfully?
For issue #2:
What is the history of this issue i.e. is it a recent issue, or has it been around for a while? If it has been around a while, can you give an example of how it affects our ability to take collective action in regard to climate change.
What is causing this issue?
What would be the consequences of tackling the issue successfully and why?
What would be the consequences of not tackling the issue successfully and why?
What would need to be in place and/or done to tackle the issue successfully?
For issue #3:
What is the history of this issue i.e. is it a recent issue, or has it been around for a while? If it has been around a while, can you give an example of how it affects our ability to take collective action in regard to climate change.
What is causing this issue?
What would be the consequences of tackling the issue successfully and why?
What would be the consequences of not tackling the issue successfully and why?
What would need to be in place and/or done to tackle the issue successfully?

For issue #4:
What is the history of this issue i.e. is it a recent issue, or has it been around for a while? If it has been around a while, can you give an example of how it affects our ability to take collective action in regard to climate change.
What is causing this issue?
What would be the consequences of tackling the issue successfully and why?
What would be the consequences of not tackling the issue successfully and why?
What would need to be in place and/or done to tackle the issue successfully?
For issue #5:
What is the history of this issue i.e. is it a recent issue, or has it been around for a while? If it has been around a while, can you give an example of how it affects our ability to take collective action in regard to climate change.
What is causing this issue?
What would be the consequences of tackling the issue successfully and why?
What would be the consequences of not tackling the issue successfully and why?
What would need to be in place and/or done to tackle the issue successfully?

Appendix 3: Workshop Survey Responses

Results of surveys from South Dunedin BRCT workshop J. Goven

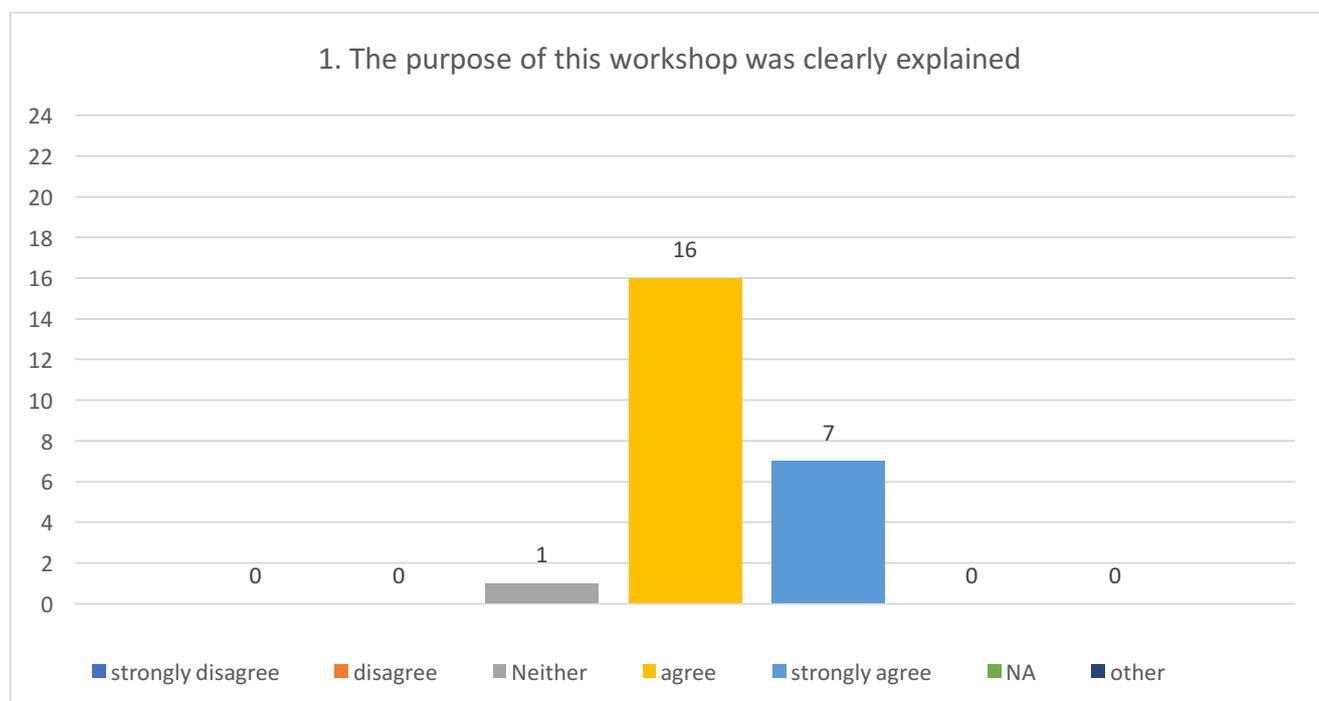
Below are the results of the surveys administered at the March 16, 2018, workshop organised by BRCT. Twenty-four surveys were received; this is approximately 40-48% of those attending, based on an estimated attendance of 50-60.

The results for each question are represented as a chart. Each chart is followed by the additional/optional comments supplied on that question.

The surveys highlight a problem of representation. A number of respondents indicated that researchers/experts/academics were too well represented, and that there was a lack of local (South Dunedin) residents. As two respondents note, the time of the workshop, during the day on a weekday, would have made it difficult for most local people to attend. A lack of women and young people on the panel was also noted.

Another useful point raised in the comments is the importance of knowledge of what is already happening locally and the acknowledgement and incorporation of that in the workshop process. One respondent notes discomfort with the dominant role of 'outsiders' in the workshop; acknowledgement and incorporation of local activity, as well as making the event more accessible to locals, could alleviate that.

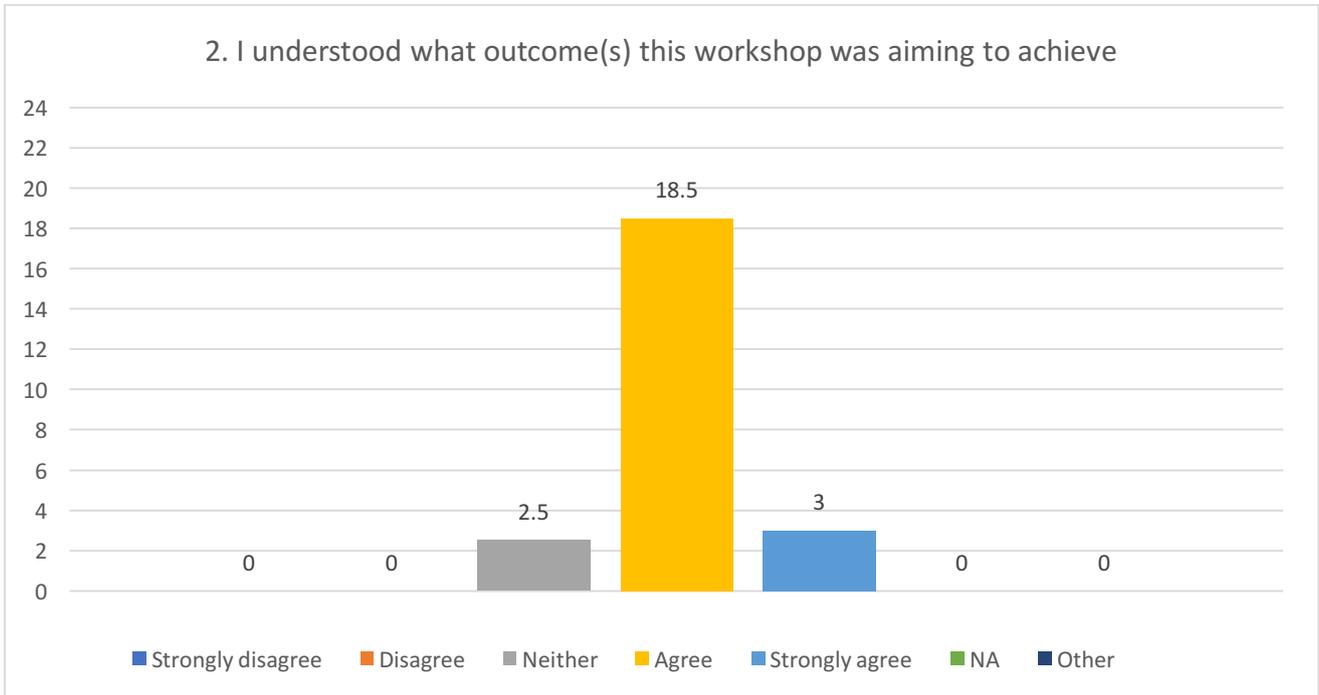
Other than these points, respondents expressed generally favourable views of the workshop.



Q1 Comments:

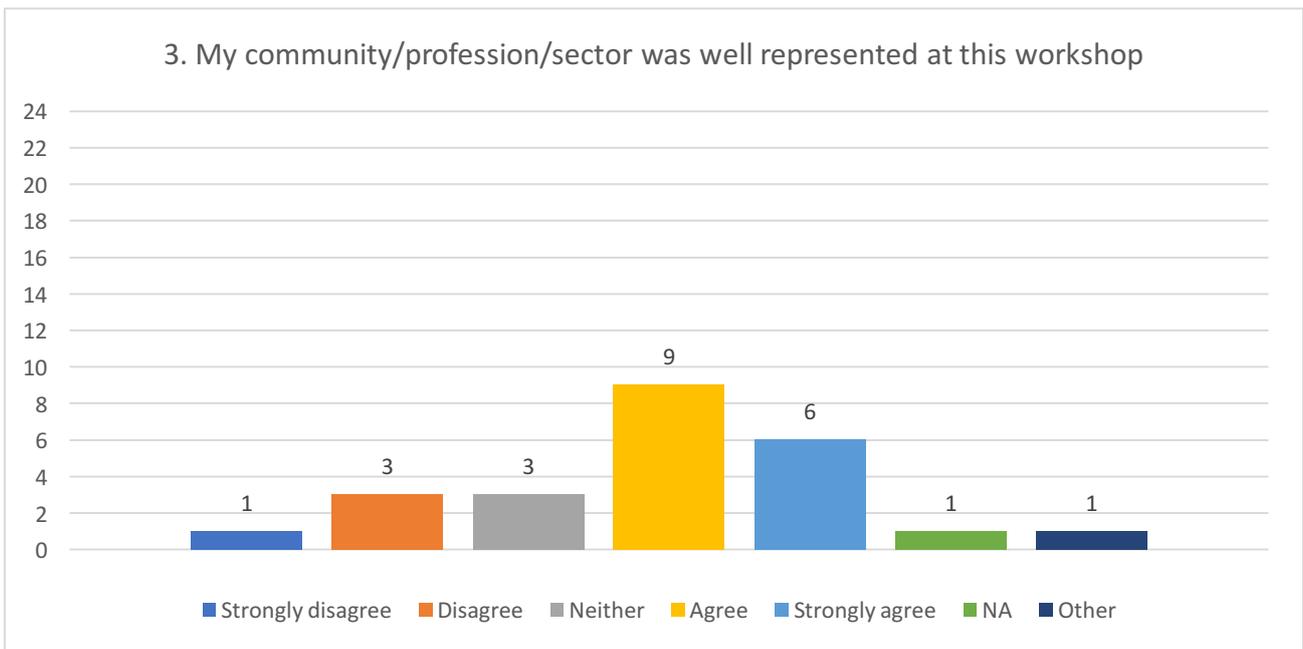
- ✓ Enjoyable.
- ✓ Not sure, as I already knew it was happening & didn't read promo[?] stuff in detail.
- ✓ Explained well!

- ✓ Yes.
- ✓ Wonderful intention and lots of time to do it.



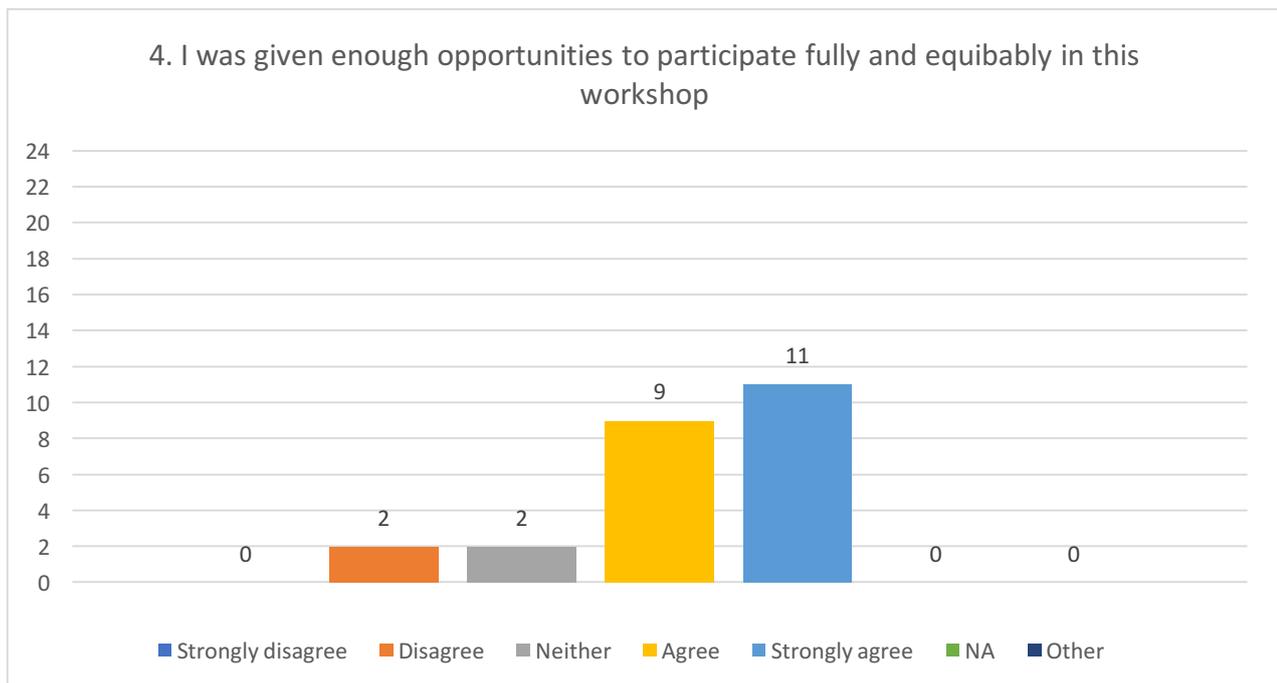
Q2 Comments:

- ✓ Sorta, was good to discuss.
- ✓ Yes—but where to from here?
- ✓ The workshop evolved.
- ✓ I would have liked to know the proposed outcome.



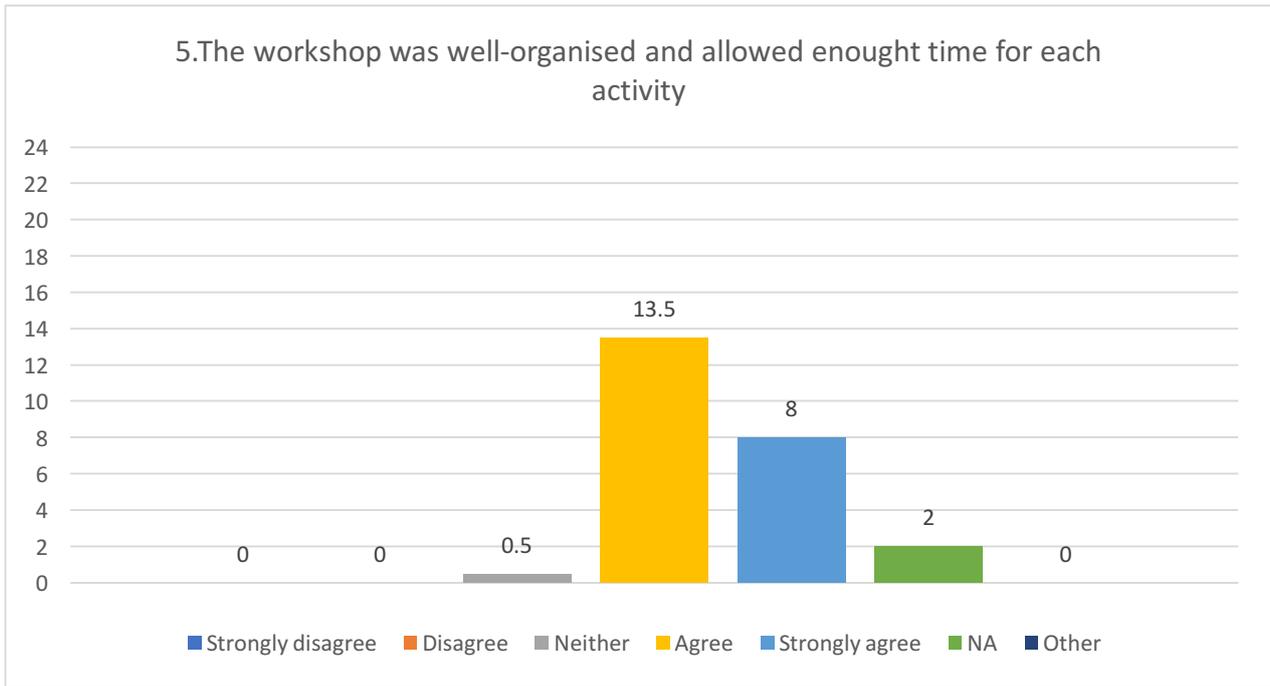
Q3 Comments:

- ✓ Academics over-represented—need to make a more accessible time so people from the community can attend!
- ✓ Too well represented.
- ✓ Young/women not really represented on panel.
- ✓ As a student, there were certainly similar people—but I feel like the time was prohibitive for many (i.e., working people!!).
- ✓ Too well represented—needed more local/community folk.
- ✓ Quite a few researchers present.



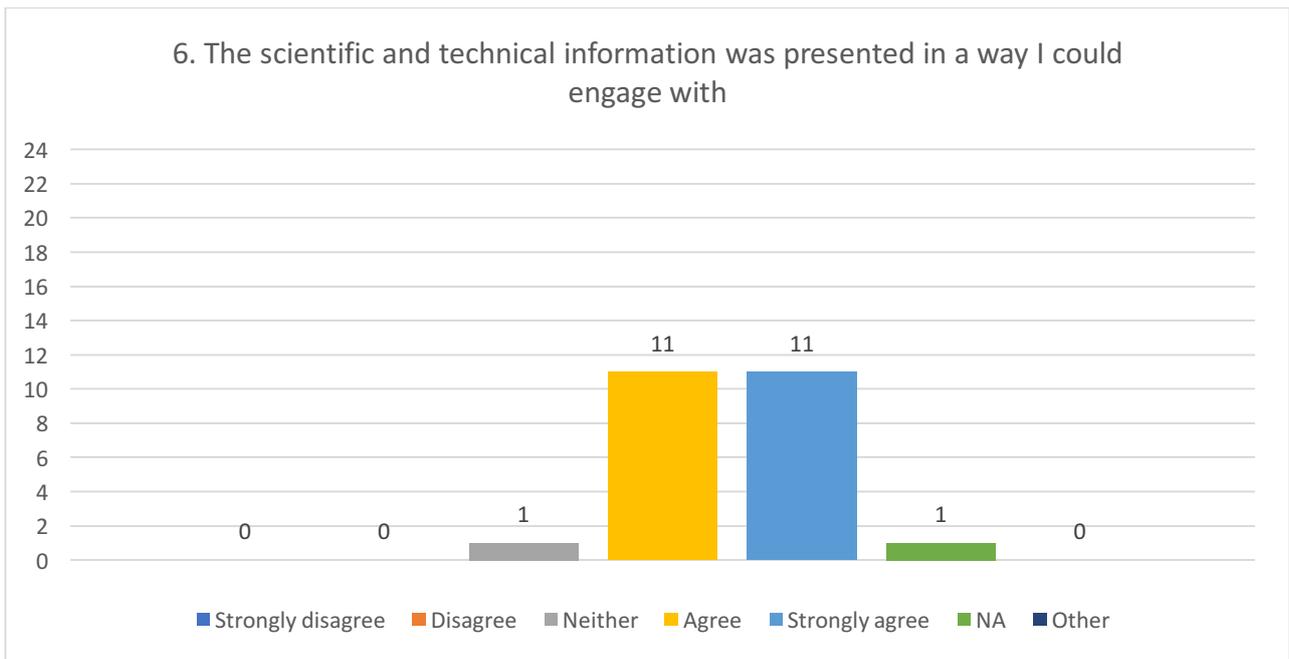
Q4 Comments:

- ✓ Very well organised.
- ✓ There is always a need for more time, more sharing.
- ✓ It was hard to see 'outsiders' talking about 'our' city in the presentations and limited number of locals.
- ✓ Yes, was open to conversations from all. Did need confidence.
- ✓ Wonderful facilitation.



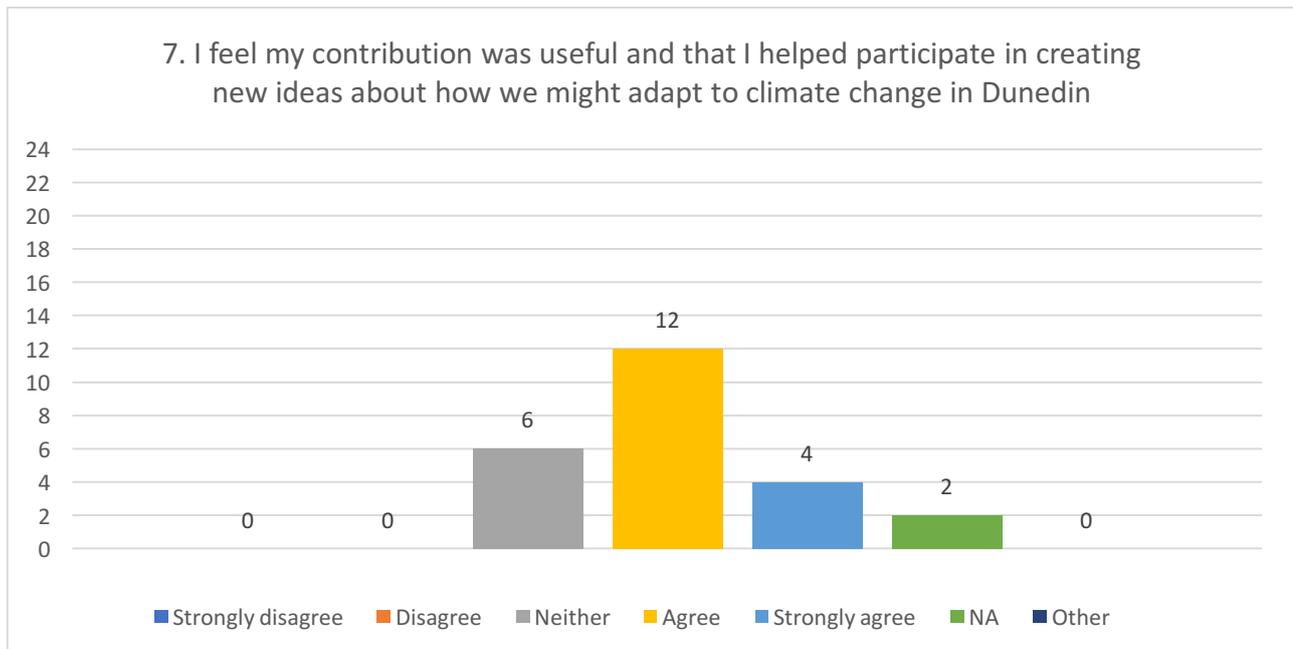
Q5 Comments:

- ✓ See above [refers to: There is always a need for more time...]
- ✓ Although definitely room for more conversation!
- ✓ Approach for engagement much better than previous two. More time for conversation as at end needed.
- ✓ Better than the first one at DCC.
- ✓ Engaged people.
- ✓ Fantastic amount of time.



Q6 Comments:

- ✓ A bit condescending—need some female scientists.
- ✓ Very informative.
- ✓ Was good—could have been shorter. Simon and Andrew best.
- ✓ Good talks!
- ✓ Wonderful. Lots of information in one hour—well done.



Q7 Comments:

- ✓ All a work in progress—but worthwhile.
- ✓ Not sure what the outcomes are other than thought-provoking conversation.
- ✓ Should ask to/and[?] summarise what people learned!
- ✓ Yes, it was wonderfully creative and collaborative.

Overall comments (these are comments written at the bottom of the page):

- ✓ I think this is a great initiative but it would be good to acknowledge what is already going on here in South Dunedin. This isn't the beginning. There's been much conversation already. The leaders' meeting at Council was really good—well pitched. South Dunedin more tricky?
- ✓ Thanks—good to discuss challenges.
- ✓ Thanks for a really inspiring and thought-provoking workshop!
- ✓ Thank you for your time and insightful agenda for South Dunedin especially!

BRCT submission on Dunedin's 10 year plan 2018 - 28

23 April 2018

The Chief Executive Officer
 Dunedin City Council
 PO Box 5045
 Dunedin

Submission on Dunedin's 10 year plan 2018 – 28

Submitters' Names: Blueskin Resilient Communities Trust (attention: Scott Willis)
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1 Overview

Thank you for this opportunity to submit to the Dunedin's **10 year plan 2018 - 28**.

The Blueskin Resilient Communities Trust (BRCT) is a registered charitable trust formed in 2008 to collaboratively work on local climate solutions. We work as a legal body to provide a public benefit and achieve the long-term objective of building community resilience. Jeanette Fitzsimons is our patron and we are governed by a volunteer board of community leaders representing different networks and skills. We are represented by Craig Marshall (Chair), Charles Abraham (Treasurer), Ross Johnston (Secretary), Jacinta Ruru, Anna Marsich and Dell McLeod (Trustees).

We commend the Council for attractively and clearly setting out the LTP. We believe however that there are some important gaps in the LTP, particularly in relation to our place, Blueskin Bay and a need for some strategic investment. We cannot tell from the budget papers how much has been allocated for climate change adaptation. We do recognise an ambition to address climate impacts and to reduce emissions with the aim of becoming a zero carbon city by 2050 and we suggest providing adequate resourcing to achieve this ambition.

In our submission we focus on our place, Blueskin Bay, and only touch in a general way on existing and new project areas covered in the consultation document. However we do make a special point about the importance of significant investment in place-based groups and we do seek a serious approach to our energy future.

We are living in a changing environment with a rapidly changing climate. While collectively we make preparations for unpredictable events like fires and earthquakes, we are poor, as a city and as a society at investing in solutions for the very predictable Long Emergency of climate change despite accepting that it is real and it is happening now. Our changing world requires us to innovate and be creative and we offer our support to the DCC in addressing the challenges ahead.

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2 Blueskin Bay

2.0 Vulnerability to rising seas and more frequent flooding

Our settlements are already being affected by rising seas and more frequent flood events. Our community is particularly exposed to hazards and our settlements at risk with houses and the built environment in many cases situated on low-lying coastal land. Waitati, the 'hub' Blueskin settlement, is mostly located on the alluvial flood plain and its commercial zone, fire station, hall, library and even the Waitati school are all vulnerable to flooding. Flood hazard is only one risk however. A more immediate risk to human health and wellbeing is the rising ground water levels combined with increased frequency of flooding. The specific risk to human health is related to the waste water infrastructure in the settlements of Waitati and Long Beach in particular. Residents in these settlements as well as Purakaunui and Osborne have household sewerage disposal in a variety of forms: septic tanks, composting toilets and bucket toilets with no centralised sewerage scheme. Septic tanks in particular are not intended to be located in saturated ground and when this happens, as is occurring with greater regularity, waste water can easily flow to the surface. In other words, because of a higher water table as a result of rising sea levels, conventional septic systems are no longer fully effective at removing harmful bacteria and nutrients. Septic systems rely on the soil and its microbes for effective treatment.

At Warrington, the waste water settling and treatment pond is located on the Warrington Spit, which is a dynamic coastal environment.



Flooded Waitati House in April 2006. BRCT file photos.

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Recommendation 1:

- Invest \$100, 000 in a 'Vulnerability and Scoping Assessment of Waste Water Systems' for the settlements of Warrington, Waitati and Long Beach to be completed by 2020. The scoping part of the assessment should consider solutions to reduce risk from insanitary conditions. It should also cover both protection and retreat options and should use the Dynamic Adaptive Pathway Planning methodology. BRCT is available to help design the parameters of the assessment.

2.1 Vulnerability of our transport network

Climate impacts are not limited to flooding property: extreme weather events have a number of different and cascading impacts. Our transport network connects our settlements to each other and keeps us 'connected' people in vibrant and cohesive communities. Yet storm events can lead to slips, particularly on Coast Road between Evansdale and Karitane, and Blueskin Road connecting Waitati to Purakaunui, Osborne and Long Beach. Flooding too damaged SH1 in 2017 and is more frequently flooding Doctors Point Road by Blacks Bridge.



Doctors Point Road near Blacks Bridge under. BRCT file photo.

Recommendation 2:

- Invest \$50, 000 in a 'Vulnerability and Scoping Assessment of Roding infrastructure' connecting the settlements of Karitane, Seacliff, Warrington, Evansdale, Waitati , Purakaunui, Osborne and Long Beach to be completed by

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2020. The scoping part of the assessment should consider alternative routes including evaluation of existing paper roads and their potential as alternative routes. It should use the Dynamic Adaptive Pathway Planning methodology and it would be helpful to work in with Transit NZ, and again BRCT is available to help advise.

2.2 Adapting our built environment to our dynamic environment

The impacts on property and residents from flooding are growing in intensity as adverse events increase in frequency. We know that by 2040 – 2060 what are now 100 year flood events will likely become monthly flood events and around 4000 households in Otago are at risk. In the latest 2017 floods, many properties in Blueskin were inundated and some severely flooded. Climate impacts such as flooding over time, without adaptation, will make homes unliveable and could possibly result in 'climate ghettos' – areas that as prices drop (and insurance is lost) are sold to the more vulnerable members of our community who are unable to cope well with an increased frequency of flood events. Further unpredictable cascading impacts are likely.

We cannot tell from the LTP documentation what budget if any has been allocated for climate change adaptation work, however our position is that adaptation to climate change impacts is essential work and it is crucial that this work is funded sufficiently so that we can see meaningful progress.

Our particular concern is with the areas in our settlements most at risk and the vulnerable households who are increasingly financially and emotionally affected as each adverse event places them in a more precarious situation.



2017 exhibition of climate safe house designs. BRCT file photo.

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Our [Climate Safe House project](#) is a community-led project to plan for and implement adaptation to climate impacts. It is about maintaining vibrant and cohesive communities rather than climate ghettos. It is about responding to environmental changes while demonstrating warm and healthy homes and adaptable housing options. We have a number of partner relationships and are seeking further partnerships and investment in, the design and construction a New Zealand Blueprint of climate safe housing.

Currently the Climate Safe House project has sponsorship commitment from Enphase for approximately \$50, 000 worth of home energy management systems (PV solar, battery bank and behind-the-meter clean tech) and we are in partnership discussion with the Otago Polytech. In 2017 Council provided a grant that enabled research and early stage design. Our existing partner relationships (i.e. with BRANZ, EECA, the Akina Foundation, the Community Energy Network) could help us leverage greater impact with the Climate Safe House project if the project receives development investment. We can only unlock existing and further sponsorship once a core funder is found.

Recommendation 3:

- We recommend committing investment to the Climate Safe House project, a concrete and public example of adaptable housing. This investment should take into account the multiplier effect of assisting the Climate Safe House project with Council core funding of ideally \$100, 000 per annum over three years, to bring on board additional sponsors. Deliverables and goals are to be determined jointly by BRCT and Council staff. The arrangement will be evaluated for extension after three years. Please contact us directly for further discussion. In addition, we suggest the Council anticipates contracting the Climate Safe House project to include a number of climate safe homes in the Council's social housing portfolio, once the first climate safe house has been built and evaluated.

3 Place Based Groups

3.0 Investing in Place Based Groups

We belong to a collective of Dunedin based Place-based Community-led Development groups. We commend Council for listening to our collective voices and for the resolution to consider investment in place-based groups. The current funding environment wastes our communities' resources as too much effort is put into surviving rather than thriving and yet collectively we are critical in ensuring Dunedin is comprised of thriving and connected communities. Please bear in mind that while a \$300 000 investment per year

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would be a useful investment, a more productive investment, in our opinion, would be \$500 000 per annum.

We would like to see a commitment to ongoing funding so our communities can plan for the future, and that this investment is considered 'core-funding'. We hope to see this investment as a beginning point to how we want Dunedin to look in the future - a first step towards genuine investment in our local communities.

We congratulate the council for taking a significant step towards genuine investment in place-based groups city wide. This investment signifies a responsive Council – a Council willing to listen to community voices and which understands the importance of community-led development to social wellbeing and economic development.



BRCT's 'Building Community Resilience' workshop, 2017. BRCT file photos.

Recommendation 4:

- Invest a minimum of \$300, 000 and an ideal sum of \$500, 000 in a new Place-Based Community Grants Scheme for the next 10 years. Once established we ask that over the next three years a relationship is developed with the Place-based Groups – to allow the co-design of the place based investment fund and for greater reach and impact. We would like to have in place by 2021 a Council-Community place based funding steering group established, which would have shared responsibility from that point onwards. The steering group would ideally look to increase the funding pool by drawing on central government funding over time.

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4 New and Major Projects

4.0 Guiding Principles

Major new expenditure on new and major projects is being proposed. We have few comments to make in relation to this proposed expenditure but request that Council employs the Dynamic Adaptive Pathway Planning approach to planning. This approach, proposed by the MfE "identifies ways forward (*pathways*) despite uncertainty, while remaining responsive to change should this be needed (*dynamic*). [...] Pathways are mapped that will best manage, reduce or avoid risk. A plan is developed, with short-term options, and includes pre-defined points (triggers) where decisions can be revisited. This flexibility allows the agreed course of action to change if the need arises - such as, if new climate change information becomes available. By accommodating future change at the outset, this approach helps avoid locking in investments that could make future adjustments difficult and costly"¹.



BRCT's "Our City, Our Climate" workshop, March 2018. BRCT file photo.

Recommendation 5:

- Employ the Dynamic Adaptive Pathways Planning approach to evaluate new projects and major projects. This should include a vulnerability assessment with: "1. A sensitivity analysis for the systems associated with the planning area; 2. An evaluation of the adaptive capacity of the system; 3. An assessment of how vulnerable the system is to the effects of climate change"².

¹ 2017. Preparing for coast change. A summary of coastal hazards and climate change guidance for local government. MfE [accessed at www.mfe.govt.nz]. Pp. 5.

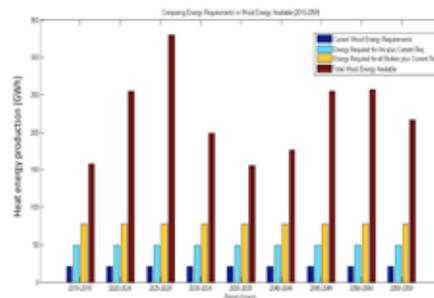
² Ibid. Pp. 24.

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4.1 District Heating Scheme

With the proposal of the Central city upgrade and Tertiary precinct (new projects), along with the soon to be revealed new hospital development, there is a unique opportunity to complete a partnered feasibility study with central government support of a district heating scheme to service three cornerstone customers (University of Otago, SDHB and Council) and potentially a number of inner city energy users. Internationally district heating is regarded as a sustainable, low-cost method of supplying heat when burning biomass. The development of a District Heating Scheme based on biomass would eliminate 13,000 tonnes of coal consumption, which currently releases 27,000 tonnes of CO₂ per year which is half of the CO₂ emissions from coal in Dunedin. In contrast, wood fuel has zero CO₂ emissions (as long as all trees are replanted). All CO₂ is reabsorbed by growing trees³.

Wood fuel availability



Based on historic plantings, more than enough sustainably-managed plantation wood waste available for fuel in the Dunedin area (estimates include only cost-effective landing site recovery)

Slide from the summer project by Ella Oberschneider. *Ella Oberschneider*

Recommendation 6:

- Work with city partners the University of Otago and SDHB and central government to complete a full feasibility study for a District Heating Scheme in a timely manner. Should a District Heating Scheme be viable, work with city partners to enable the development of the scheme through such agreements as long term contracts for energy with the scheme owner/developer.

³ Results from a summer project by Ella Oberschneider, Supervised by Michael Jack, Physics Department, University of Otago.

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4.2 *Pedestrianisation, active transport and integrated transport*

We support all initiatives which increase walking, active transport and an integrated transport network.



E-bike commute. BRCT file photo

Recommendation 7:

- We support the Bus Users Support Group Otepoti-Dunedin request which “asks the Dunedin City Council to negotiate and develop a model of shared management and funding of the Dunedin bus network with the Otago Regional Council for consultation and implementation as part of both councils' 2019 Annual Plan process”.
- We support pedestrian trials in the Octagon and lower Stuart St with an investment of \$150, 000 over the next two years, as proposed by the Dunedin City Council's planning and environment committee.

4.3 *Energy Plan 2.0*

It is clear that the Energy Plan 1.0 is overdue for a reboot. While the key goals in Energy Plan 1.0 are excellent, it is far from clear whether the listed project areas are appropriate to deliver on the goals and whether there is adequate resourcing to ensure success in these project areas or whether these project areas are influential. As noted in the Dunedin Energy Study 2016/2017, the “city’s aspirations to improve efficiency, increase renewables and decrease greenhouse gas emissions will not be realised until

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significant changes start to occur⁴". It is critical that Council continues to work towards a zero carbon economy and the Energy Plan should be the vehicle to do this. Therefore it must be upgraded and adequately powered. We wish to see an Energy Plan 2.0 developed promptly, building on previous work and securing adequate resourcing to ensure progress. We also seek an investment in meaningful project areas that will help reduce greenhouse gas emissions, increase the supply of renewables, and increase both energy security and resilience in our city energy supply and distribution.



Blueskin Energy Network logo. *BRCT file photo*

Recommendation 8:

- We request that Council explicitly supports and facilitates the development of Smart Grid initiatives, such as New Zealand's first community-led Smart Grid development, the Blueskin Energy Network.
- We ask that the opportunity to capture and utilise the carbon emissions from organic waste using existing expertise and technology is given serious attention.
- While 4% of Dunedin electricity supply comes from locally embedded generation (Waipori hydro and Mahinerangi wind – both outside city limits but feeding into the Dunedin network)⁵ we know of at least one viable wind farm site within Dunedin City boundaries and anticipate there are more. We request that Council actively work with local developers such as Blueskin Energy Ltd to evaluate potential wind farm sites with a contribution of up to \$150, 000 of co-funding over five years to enable evaluation.
- Easy progress in reducing emissions can be made through the electrification of transport. We generally support the submission from the Otago Electric Vehicle Society and the Dunedin EV group and request that Council does all it can to support the electrification of our whole land based transport system, including public transport.

⁴ 2018. Fitzgerald, W. *Dunedin Energy Use Study 2016/2017*. Centre for Sustainability, prepared for the Dunedin City Council. Pp.40

⁵ *Ibid.* Pp. 4

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5 Financial Strategy

5.0 Proposed expenditure

The Long Term Plan outlines an ambitious investment plan (\$864 million on capital projects over the next ten years). We recognize the value of investment to maintain and improve the livability of our city and acknowledge there is a substantial cost to simply standing still. For this reason we do support an increase in rates to support an increase in expenditure.

Recommendation 9:

- We ask that a thorough risk assessment of investment decisions is made following the guidance provided by MfE's report on "Preparing for coastal change" prior to any project commencing.
- We seek a new investment of about \$450, 000 over three years in climate change adaptation in Blueskin. We believe this modest investment in climate change adaptation will have significant benefit for the whole city of Dunedin and compares favourably in terms of value with the cost of major and new projects as set out in the draft Long Term Plan.

5.1 Sale of assets

We recognise the need to reduce the impact of increase costs on residents and the wide portfolio of assets owned by Council.

Recommendation 10:

- We ask that no strategic assets be sold, i.e. City Forests, Aurora, Delta.
- We ask that all unwanted Council owned land holdings in the Blueskin area be considered as community assets with collective value. BRCT is available to advise the Council on what value particular landholdings in Blueskin might have in relation to future developments in climate safe housing or other projects.

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6 Conclusion

We thank you for the opportunity to make a submission and to be heard. We value the improvements to community engagement through a more inclusive approach to consultation. Thank you for your attention to this submission

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Scott Willis', is written over a faint, illegible background.

Scott Willis



BRCT

Blueskin Resilient Communities Trust