



AGENDA

Environmental Services Committee Meeting Tuesday, 14 November 2023

Date Tuesday, 14 November 2023

Time 10.00am

Location Council Chamber
District Council Building
King George Place
Timaru

File Reference 1629505

Timaru District Council

Notice is hereby given that a meeting of the Environmental Services Committee will be held in the Council Chamber, District Council Building, King George Place, Timaru, on Tuesday 14 November 2023, at 10.00am.

Environmental Services Committee Members

Clr Michelle Pye (Chairperson), Clr Owen Jackson (Deputy Chairperson), Clr Sally Parker, Clr Gavin Oliver, Clr Stu Piddington, Clr Allan Booth, Clr Peter Burt, Tewera King (Mana Whenua), Clr Stacey Scott, Clr Scott Shannon and Mayor Nigel Bowen

Quorum – no less than 5 members

Local Authorities (Members' Interests) Act 1968

Committee members are reminded that if you have a pecuniary interest in any item on the agenda, then you must declare this interest and refrain from discussing or voting on this item, and are advised to withdraw from the meeting table.

Jayson Ellis

Acting Group Manager Environmental Services

Order Of Business

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- 1 Apologies**
- 2 Identification of Items of Urgent Business**
- 3 Identification of Matters of a Minor Nature**
- 4 Declaration of Conflicts of Interest**
- 5 Chairperson's Report**

6 Confirmation of Minutes

6.1 Minutes of the Environmental Services Committee Meeting held on 5 September 2023

Author: Rachel Scarlett, Governance Advisor

Recommendation

That the Minutes of the Environmental Services Committee Meeting held on 5 September 2023 be confirmed as a true and correct record of that meeting and that the Chairperson's electronic signature be attached.

Attachments

- 1. Minutes of the Environmental Services Committee Meeting held on 5 September 2023**



MINUTES

Environmental Services Committee Meeting Tuesday, 5 September 2023

Ref: 1629505

**Minutes of Timaru District Council
Environmental Services Committee Meeting
Held in the Council Chamber, District Council Building, King George Place, Timaru
on Tuesday, 5 September 2023 at 10.00am**

Present: Clr Michelle Pye (Chairperson), Clr Owen Jackson (Deputy Chairperson), Clr Sally Parker, Clr Gavin Oliver, Clr Stu Piddington, Clr Allan Booth, Clr Peter Burt, Clr Stacey Scott, Clr Scott Shannon, Mayor Nigel Bowen

In Attendance: **Community Board Members:** Jan Finlayson (Geraldine Community Board)

Officers: Bede Carran (Chief Executive), Andrew Dixon (Group Manager Infrastructure), Trudie Hurst (Group Manager Commercial and Strategy), Nigel Ingram (Group Manager Recreation and Cultural Services), Paul Cooper (Group Manager Environmental Services), Rhys Taylor (Climate Change Advisor), Susannah Ratahi (Land Transport Manager), Nicole Timney (Manager of Property Services and Client Representative), Stephen Doran (Communications Manager), Hamish Barrell (District Planning Manager), Tash Port (GIS Analyst), Steve Caswell (Data Governance Team Leader), Kevin Kemp (Infrastructure Planner), Jacky Clarke (Governance and Executive Support Manager), Jessica Kavanaugh (Corporate Planner), Alana Hobbs (Governance and Executive Support Administrator)

1 Apologies

Nil

2 Identification of Items of Urgent Business

Clr Stu Piddington noted he will oppose the Investigation into Variation to the Proposed Timaru District Plan on Urban Growth report being held in public excluded.

3 Identification of Matters of a Minor Nature

Clr Michelle Pye raised a point about having a report summarising major legislative changes from government and how they affect council. It was noted this would be best completed after the election.

4 Declaration of Conflicts of Interest

No conflicts of interest were declared.

5 Chairperson's Report

5.1 Presentation of Chairperson's Report

Resolution 2023/26

Moved: Chairperson Michelle Pye

Seconded: Clr Sally Parker

The Chairperson has attended a number of meetings including: an Orari Temuka Opihi Pareora Water Zone Committee meeting in August and a field trip to the Waipopo Lagoon yesterday to see in person the joint project DOC is leading in establishing native planting in the 44 hectare lagoon area, a meeting with Council Officer Rhys Taylor and independent advisor Dr Phil Driver to discuss the Timaru District Council Climate Change Strategy progress, and a Joint Local Alcohol Policy Committee meeting.

Carried

6 Confirmation of Minutes

6.1 Minutes of the Environmental Services Committee Meeting held on 25 July 2023

Resolution 2023/27

Moved: Mayor Nigel Bowen

Seconded: Clr Scott Shannon

That the Minutes of the Environmental Services Committee Meeting held on 25 July 2023 be confirmed as a true and correct record of that meeting and that the Chairperson's electronic signature be attached.

Carried

7 Reports

7.1 Update on Timaru District Council Climate Change Response

The Climate Change Advisor spoke to the report to update the Committee on the potential climate change responses, informed by both the First Report on Timaru District Climate Change Strategy 2023 (TDCCS) and the Mayoral Forum Region-wide Climate Change Partnership.

The Climate Change Advisor gave a brief update following the previous meeting, on what impact forestry is having in terms of removing carbon dioxide from the atmosphere. An unaudited estimate of 6486 tonnes of carbon dioxide is being absorbed by that forestry in the past financial year, subject to audit. Discussion included carbon dioxide being absorbed by the trees and what happens at the end of their life. Most forestry here will be replanted as further conifer forestry or planted or allowed to regenerate as native bush which also stores carbon.

Further discussion included what actions will be taken to ensure residents near streams avoid situations like flooding. There is a lot of work taking place with the Proposed District Plan regarding flooding to protect houses, the resilience of bridges and what the minimum height a bridge should be over a river. Climate change consideration is coming into all decision making.

It was also discussed what support will be given to coastal communities. A focus should be on the wellbeing of people followed by the economic and environmental aspects. It is a very complex topic with a lot of participants involved. Further discussion included the request for a second climate change officer and the need to be rigorous before creating new roles.

Resolution 2023/28

Moved: Mayor Nigel Bowen

Seconded: Clr Gavin Oliver

That the Environmental Services Committee receives and notes the report: Update on Timaru Climate Change Response.

Carried

7.2 Actions Register Update

The purpose of this report is to provide the Environmental Services Committee with an update on the status of the action requests raised by councillors at previous Environmental Services Committee meetings.

Resolution 2023/29

Moved: Mayor Nigel Bowen

Seconded: Clr Sally Parker

That the Environmental Services Committee receives and notes the updates to the Actions Register.

Carried

8 Consideration of Urgent Business Items

No items of urgent business were received.

9 Consideration of Minor Nature Matters

No matters of a minor nature were raised.

10 Exclusion of the Public

Recommendation

That the public be excluded from the following parts of the proceedings of this meeting on the grounds under section 48 of the Local Government Official Information and Meetings Act 1987 as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Plain English Reason
11.1 - Investigation into possible Variation to the Proposed Timaru District Plan on Urban Growth	<p>s7(2)(b)(ii) - The withholding of the information is necessary to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information</p> <p>s7(2)(g) - The withholding of the information is necessary to maintain legal professional privilege</p> <p>s7(2)(j) - The withholding of the information is necessary to prevent the disclosure or use of official information for improper gain or improper advantage</p>	<p>To protect commercially sensitive information</p> <p>To protect all communications between a legal adviser and clients from being disclosed without the permission of the client.</p> <p>To prevent use of the information for improper gain or advantage</p>

Motion not Moved

Motion Lost

There was a discussion around remaining in public for item 11.1 – Investigation into possible Variation to the Proposed Timaru District Plan on Urban Growth, rather than moving to public excluded. It was noted that it is important to receive feedback on ideas. If items are discussed behind closed doors feedback is not received. It was discussed that the same legal advice will be given in public or public excluded. No one was willing to move the motion and therefore the recommendation fails, and the meeting remains in public.

11 Public Excluded Reports

11.1 Investigation into possible Variation to the Proposed Timaru District Plan on Urban Growth

The District Planning Manager spoke to the report to describe the planning issues and general processes to bring forward new areas for development in the Washdyke area (as delineated on Map 1) and seek direction from the Environmental Services Committee.

The difference in expectations between infrastructure provision, what council want to provide and what the private sector wants to provide was discussed. This is an out of sequence development and there are real cost implications if council zone the land rather than the private sector and the onus is then on the council to provide.

The risk to the Proposed District Plan process was discussed. Council has notified a full District Plan review, and this is at submission stage, not yet at the hearing stage. If a variation is worked up and gets to the stage of verifying it, it will amend provisions that are out for submission and will add complexity. It doesn't affect the whole District Plan but any revisions around this site would get held up to allow the variation to catch up. Further discussion included the risk to the developer rather than council to go through the hearing process. Council would bear the process cost of promoting and advocating for the variation as you go through the process.

Further discussion included where the costs lie regarding provision of infrastructure and planning. The expectation is if you are zoning land, you provide infrastructure to make it work. At this point funds would potentially come from rates or financial contributions recovered from the developer. If council were to lead the variation process it would be expected that council would get the infrastructure to the boundary and the developer would do the infrastructure within the actual development.

There was a discussion around the Future Development Area (FDA) and whether that exempts us from the highly productive land status. Officers noted with this particular FDA, for the most part it doesn't exempt us where it relates to rurally zoned land.

Further discussion included what the next steps are if the proposal was to go to the next level. Some caution would be needed in terms of the impact of this on the proposed plan. Section 32 reports would need to be prepared, consultants would need to be commissioned, economics would need to be looked at and other risk factors. Also discussed was the need for cheaper flat land, flood risk and an assessment would need to be completed regarding this.

The timeframe around option 1 was discussed. The tentative timeframes being looked at are May to have a development area plan for council to approve. From there the plan change process can take one year plus, depending on appeals, overall, at least two years.

It was discussed what is being asked of councillors with option one. Officers confirmed they can provide some costs and timeframes. Infrastructure costs would come at the next stage. It was also discussed who benefits from the reports. The reports benefit everyone who engages in this process, all submitters need to make an informed decision on this.

Resolution 2023/30

Moved: Mayor Nigel Bowen

Seconded: Cllr Peter Burt

Recommendation

That the Environmental Services Committee recommend the following:

1. Council officers investigate how to deliver greenfield growth options on the northern margin of Timaru and consider legal and funding implications.

Carried

The Meeting closed at 11.22am.

.....

Clr Michelle Pye
Chairperson

7 Reports

7.1 Actions Register Update

Author: Jessica Kavanaugh, Governance Advisor

Authoriser: Jacky Clarke, Governance and Executive Support Manager

Recommendation

That the Environmental Services Committee receives and notes the updates to the Actions Register.

Purpose of Report

- 1 The purpose of this report is to provide the Environmental Services Committee with an update on the status of the action requests raised by councillors at previous Environmental Services Committee meetings.

Assessment of Significance

- 2 This matter is assessed to be of low significance under the Council's Significance and Engagement Policy as there is no impact on the service provision, no decision to transfer ownership or control of a strategic asset to or from Council, and no deviation from the Long Term Plan.

Discussion

- 3 The Actions register is a record of actions requested by councillors. It includes a status and comments section to update the Environmental Services Committee on the progress of each item.

Attachments

1. **Environmental Services Committee Actions Required** [↓](#) 

Information Requested from Councillors (Environmental Services Committee)

Information Requested	Scope of second Climate Change role		
Date Raised:	25 July 2023	Status:	Ongoing
Issue Owner	Group Manager Infrastructure	Completed Date:	
<p>Background: It is requested the role for a second Climate Change Officer is progressed and the scope discussed with the Mayor, Chairperson and Deputy Chairperson of Environmental Services. Update: A review is being undertaken on the scope, actions required and how best to resource this. Funding and priorities are also a consideration.</p>			
Information Requested	Rakitata Revival Programme update		
Date Raised:	25 July 2023	Status:	Ongoing
Issue Owner	Group Manager Infrastructure	Completed Date:	
<p>Background: Update: A review is being undertaken on the scope, actions required and how best to resource this. Funding and priorities are also a consideration.</p>			

7.2 Environment Canterbury Post Winter Air Briefing

Author: Hamish Barrell, District Planning Manager

Authoriser: Jayson Ellis, Acting Group Manager Environmental Services

Recommendation

That the Environmental Services Committee receives and notes the update on the Environment Canterbury Post Winter Air Briefing and district ground water quality.

Purpose of Report

- 1 The purpose of this report is to provide the Environmental Services Committee with an update on the Environment Canterbury Post Winter Air Briefing as raised by councillors at a previous Council meeting and an update on the districts ground water quality.

Assessment of Significance

- 2 This matter is assessed to be of low significance under the Council's Significance and Engagement Policy as there is no impact on the service provision, no decision to transfer ownership or control of a strategic asset to or from Council, and no deviation from the Long Term Plan.

Discussion

- 3 This report will be presented by Brian Reeves, Service Delivery Leader Environment Canterbury with the findings of his report, being the basis of this briefing.

Attachments

Nil

7.3 Climate Response Policy

Author: Rhys Taylor, Climate Change Advisor

Authoriser: Andrew Dixon, Group Manager Infrastructure

Recommendation

That Environmental Services Committee adopt a Climate Change Response Policy, for use principally within the Council and to inform the Long Term Plan 2024-34.

Purpose of Report

- 1 For the Environmental Services Committee to consider a draft Climate Change Policy that will provide a link between strategy and plans, timed to inform the Long-Term Plan 2024–34 (LTP).

Assessment of Significance

- 2 This item is assessed as of low significance in terms of Council’s Significance and Engagement Policy, and it is to support implementing existing commitments made in the 2021 LTP and does not affect strategic assets, levels of service or rates. Officers acknowledge that the application of certain elements of the Policy, which may inform the LTP, may generate proposals for new work or changed priorities which could be the subject of public engagement and consultation in the LTP.

Background

- 3 Responding to climate change has had an increasing focus from central government and other agencies that influence and inform Council’s planning and reporting, such as the Office of the Auditor General. For instance, the Auditor General noted that:

‘The effects of climate change have consequences for people, the environment, and our economy. Councils are at the forefront of responding to changes in our climate. A recent report commissioned by Local Government New Zealand identified that as much as \$14 billion of local government infrastructure is at risk from sea level rise.’¹

- 4 Audit New Zealand has also identified ‘Responding to climate change’ as a specific item to be addressed in Council’s LTP self-assessment questionnaire.
- 5 The effects of climate change are necessarily uniform or linear, and may present as both opportunities and challenges. Changing weather patterns may present opportunities for adaptable businesses, but also create cost increases and disruption, particularly for residents or businesses in flood-vulnerable low-lying valley or coastal locations. Insurance will become less affordable or even unavailable as the risks and frequency of damage rise. The water in warmer oceans will expand, augmented by ice melt from land masses such as Antarctica and Greenland, creating a rise in average level. Then larger storm surges will drive faster coastal erosion, as observed locally at Patiti Point and north of the Opihi/Milford coastline.

¹ <https://oag.parliament.nz/blog/2019/climate-change> [note this is a 2019 estimate].

- 6 The change globally is proven to be human influenced and the exponential growth in the release of carbon dioxide into the atmosphere driven by extraction of fossil carbon from coal, oil and gas accumulated over millions of years in the Earth's crust, burning these in just 200 years (to release usable energy). This process has released carbon dioxide and nitrous oxides into the atmosphere as the product, to build up much faster than the carbon can be resynthesised by plants.
- 7 New Zealand has a higher level of carbon emissions per person than many countries. This is attributed to:
- Travel patterns: our high level of vehicle ownership and their use on long road networks between dispersed towns and within low-density towns (with a lack of alternatives to road transport of people and goods),
 - Farming patterns: large numbers of ruminant livestock (sheep, cattle and goats),
 - Technology change required: slow progress of investment in de-carbonising industrial heat processes (with some recent acceleration locally, ably supported by Venture Timaru).
 - Old building stock: inefficiently heated & ventilated and poorly insulated homes and workplaces, and
 - Resistance to lifestyle changes: A lack of willingness to make changes that represent a significant scale of response. Recycling and EV use for example, are 'good' actions but insufficient. Other barriers to change include social norms, structural challenges such as car dependency to access services and affordability. The challenge lies in identifying viable and affordable ways of enabling and inspiring easier climate-friendly actions by many people.
- 8 Although New Zealand has a small population, it is expected internationally to make pro-rata carbon emission reductions to make its contribution to addressing climate change as part of protecting the planet. It is also part of being and being seen as equitable to poorer, less resource-intensive countries which have caused less damage per person historically, yet still suffer 'front line' climate change impacts (e.g. low-lying Pacific Islands threatened by sea level rise). NZ is party to pledges at United Nations Climate Conferences to reduce gross emissions and to reduce net emissions (the latter typically by encouraging tree planting to remove carbon and 'trading' the estimated carbon reductions against new emissions). Our Government's international commitments include reaching 30% reduction in gross emissions below 2005 levels in the period 2021-2030, then for net-zero carbon emissions for all gases other than methane from livestock, by 2050; with methane reduced by 10% on 2017 levels by 2030 and at least 24% by 2050.

Discussion

- 9 Adaptation to climate change is important alongside mitigation of its causes. Both have been foci of Government activity. NZ Government introduced enabling legislation: NZ's Climate Change Response (Zero Carbon) Amendment 2019 and Climate Change Response Act 2002. They have set targets for emission reduction in central government operations and require Councils and larger businesses to become able to report on similar efforts.
- 10 In preparing for climate change-accelerated adverse weather, requiring adapted infrastructure and land use planning, building design, emergency response, etc., NZ

Government published a National Climate Change Risk Assessment in 2020 followed in 2022 by a First National Adaptation Plan (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/adapting-to-climate-change/national-adaptation-plan/>) and a First National Emissions Reduction Plan (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-plan/>).

- 11 More recently Government has been considering 'community led retreat' from an eroding coastline, (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/adapting-to-climate-change/community-led-retreat/>). New legislation on climate change response, a Climate Adaptation Bill, had not progressed through Parliament at the time of the General Election 2023. A Select Committee is gathering evidence, and the Canterbury Mayoral Forum is coordinating Council responses.
- 12 Two reports, in April and October 2023, have been produced locally from the first year of activity commissioned by TDC on Timaru District Climate Change Strategy (TDCCS): see May 2023 Committee Agenda and a separate Committee paper for this November meeting. Strategy work was funded by TDC with the express instruction that the TDCCS reflect our community's views on climate action throughout the Timaru District. The TDCCS has therefore been created by, with and for our Timaru District stakeholders as a community strategy for wide potential use, not as a Timaru District Council internal strategy. It will be up to the Council to identify suggested strategic actions that it wishes to implement (a selection of 10 are offered for consideration in a second paper to this Committee) and to form its own policy for in-house actions (as the subject of this paper). An early example of in-house action was undertaking a carbon inventory of Council operations.
- 13 TDC has not yet adopted an internal policy on climate change response. The Auditor General's office reviewed all Territorial Authorities in 2021, noting:

"We expected that all councils would include an assumption about climate change effects and impacts in their 2021-2031 long-term plan, with some supporting evidence. The expected effects of climate change could include increases in sea level, rainfall events, floods, droughts, and the severity of adverse weather events and temperature changes.

"The need to take urgent action to respond to climate change and its impacts is gaining momentum under the Government's climate response framework. This reflects the international consensus that urgent action is needed in the next decade to manage global temperature rise.

"Adapting to, and mitigating the effects of, climate change presents significant challenges for councils. Given the role councils have in environmental planning and regulation, transport planning, and responding to natural hazards and extreme weather events, much of the responsibility for dealing with, and adapting to, climate change effects fall to them.

"There is also an increased focus on reducing greenhouse gas emissions and on climate-related reporting. To meet New Zealand's legislated target of net zero greenhouse gas emissions by 2050, significant transformation and change will be needed throughout all sectors."

"In 2020/21, we carried out a preliminary review of climate action planning by councils before beginning the long-term plan audits. We found that 21 councils had a dedicated climate action plan or a similar document, such as a sustainability plan or climate change strategy, policy, or roadmap setting out needed actions.

“A further 19 councils had some documentation relevant to climate change (for example, a collection of actions without an overarching plan, an environmental scan, or principles for addressing climate change). We could not find any publicly available climate action plans or similar documents for the remaining 38 councils”.

Source: <https://oag.parliament.nz/2022/ltps/part6.htm>

Options and Preferred Option

- 14 The attached policy, drafted by Council Officers, is offered for adoption by Council, and intended for internal use. It will be subject to additional consultation with mana whenua (Te Runaka o Arowhenua) before becoming operational.

Consultation

- 15 The issues and activities within this draft policy are compatible with concerns raised in local public engagement on Timaru District Climate Change Strategy (TDCCS) and are compatible in scope with other District Councils' similar climate response policies.
- 16 It is proposed that if the draft policy is approved for further consultation and bringing back for adoption in early 2024.

Relevant Legislation, Council Policy and Plans

- 17 Climate Change Response Act 2002 and Climate Change Response (Zero Carbon) Amendment Act 2019
Local Government Act 2002
NZ's First Emissions Reduction Plan 2022
NZ's First National Adaptation Plan 2022
TDC Carbon Policy 2020
TDC Proposed District Plan 2023

Financial and Funding Implications

- 18 Financial implications for 2024 onwards will be considered in the Long Term Plan process.

Other Considerations

- 19 This Policy will inform the next updating of a 2020 Carbon Policy which relates mostly to use of NZ Emissions Trading Scheme and is intended to be compatible with a forthcoming Procurement Policy.

Attachments

1. **Climate Change Response Policy Draft2a - Oct2023**  

Climate Change Response Policy



For Approval by:	Environmental Services Standing Committee of Council
Group:	Council-wide
Responsibility:	GM Infrastructure & GM Environmental Services. Lead author: Rhys Taylor, Climate Change Advisor
Date to be adopted:	Environmental Services Committee 14 Nov 2023 or February 2024
Review:	Review commence May 2026 and to be completed by September 2026 This Policy does not cease to have effect because it is due for review, or being reviewed
Public Consultation:	Invited from Runanaga o Arowhenua as mana whenua, but not required more widely as this builds on consultation for LTP 2021 and 2022-23 public-engagement work on Timaru District Climate Change Strategy
Policy Type	Internal Corporate Management

Introduction

Policy Purpose & context

1. **To provide a policy framework for Timaru District Council to adapt to and mitigate climate change**, to meet its audit and statutory obligations, and community expectations.

Timing in 2023 is related to the cycle of Long Term Plan preparation. Community wellbeings addressed include environmental, economic, cultural and social.

Section 5ZW of the Climate Change Response (Zero Carbon) Amendment Act 2019 sets out requirements for Councils when reporting on climate change risks and planning. Our work follows up the Canterbury Regional Climate Change Risk Assessment and also research undertaken locally since 2022 towards a Timaru District Climate Change Strategy (TDCCS).

Policy development is to be achieved by:

- (i) integrating those community concerns and ideas for resilience raised in initial stages of the Timaru District Climate Change Strategy (TDCCS) facilitated process 2022-2023 which relate to operation and powers of the District Council, with
- (ii) Invited comment from mana whenua, and
- (iii) staff response to the baseline carbon inventory of Council operations 2022-2023;
- (iv) Government priorities expressed in the National Adaptation Plan and National Carbon Emission Reduction Plan, both published by Ministry for the Environment in 2022, and
- (v) implementing Auditor General advice to all Councils following review of the 2021 Long Term Plans.

Scope

This Policy applies to all the organisation:

#1626837
Climate Change Response- Draft2a

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- all employees of the TDC, including temporary employees and independent contractors acting as agents on behalf of the TDC
- any person who is involved in the operation of the TDC, including elected members.
- every business, service, or activity of the TDC, except those functions that are purely procedural, constitute emergency works, or regulatory functions where this policy is not relevant
- where practicable, the TDC's position in relation to others' proposals or activities that are enabled or supported by the TDC and may impact District-wide emissions.

2. Definitions

Council	Timaru District Council, in South Canterbury NZ
Climate change	A significant and currently accelerating global rise in atmospheric and ocean energy flows, exacerbated by burning fossil carbon, which is becoming more severe in its consequences. It is resulting in problems for humans and other life on Earth, from more frequent severe weather events and a rise in average temperature and sea levels. Species extinctions are accelerating and scientists in large numbers (internationally and in NZ) warn that allowing runaway climate change could be an existential challenge for humans; i.e. make the planet unliveable.
Greenhouse gas emissions	Conversion of fossilised carbon - from coal, oil and methane gas previously locked in the Earth's crust - burned into carbon dioxide in the atmosphere, where it is a long-lasting 'greenhouse gas' (i.e. is trapping solar-sourced heat). Other greenhouse gases released through human-led activity include some refrigerants, nitrous oxides, and methane from the gut of ruminant animals such as cattle and sheep. These varied gases effect on atmosphere is expressed in carbon dioxide equivalent (CO2e).
Climate change adaptation	Human response to rapid climate change that seeks to moderate harm and also take up beneficial opportunities created. Nature may also adapt but with difficulty, as the speed of change now is historically and geologically unprecedented.
Climate change mitigation	Actions that reduce the human-led emission of carbon dioxide or other greenhouse gases. E.g. Seeking alternatives to fossil fuels such as use of renewable energy, although having regard to the carbon 'embodied' in manufacture of devices used to capture renewable sources, or to store energy.
Action Plan	Detailed steps, processes or projects consistent with Council Policy and informed by wider District Climate Strategy.
Resilience	The capacity of systems to cope with external events or more gradual/cumulative changes, in ways that maintain essential functions and allow for manageable transformations.

(Draft 2a) Policy Statement.

The Timaru District Council will:

- **Make an emissions inventory for TDC,**
 - i. Prepare and publicly-report, at intervals of no greater than two financial years, an emissions inventory or 'footprint' consistent with the Global Protocol for Community-Scale Greenhouse Gas Inventories, completed to an auditable standard (currently ISO 14064-1). Noting that the baseline inventory has just been completed for 2022-2023.
 - ii. Extend carbon inventory to Council-Controlled Organisations.
 - iii. Prioritise gross (absolute) carbon emissions reduction over net (offset) emissions reduction, such as purchase of carbon emission units.
- **Use collaborative working within District and Region,**
 - iv. Collaborate with neighbouring councils in Canterbury to share agreed research effort on risk analysis, adaptation and mitigation, with a view to avoiding duplication and achieving efficiency for investment. Noted that the Canterbury Mayoral Forum offers an initial platform for such collaboration in 2024-2027, subject to funding decisions by all Councils in 2024.
 - v. Consider how the Council and external bodies will contribute to district-wide climate change information gathering and further Strategy development, building on the initial community-based work initiated by TDC in 2022-2023 (Subject to a decision invited in separate paper to Nov 2023 TDC Environmental Services Committee)
 - vi. Extend collaboration to mana whenua, through te Runaka o Arowhenua and their agency Aoraki Environmental Consultants Ltd., noting a strategic commitment to climate response by Kai Tahu.
- **Begin action planning at TDC,**
 - vii. Adopt a Resilience Action Plan for mitigation and climate change adaptation within Council operations, to include:
 - (a) actions to reduce direct emissions, starting with fuel use at work and (if voluntarily extended) user in staff commuting to Council workplaces;
 - (b) incorporate climate change adaptation, resilience and mitigation into urban development and land use decisions and future updates of the Proposed District Plan (as guided by National Policy Statements made under the Resource Management Act) including identification of economic, environmental, cultural and social opportunities presented by climate change;
 - (c) develop longer term security of energy and water supplies, lower-emission waste treatment, more-durable roads and resilient infrastructure asset renewal;
 - (d) make an adaptive response to accelerating coastal inundation and erosion's likely impacts on Port Timaru and nearby industrial and storage land, main trunk rail-line, vulnerable landfill sites and coastal residences;

(e) when making investment decisions, improve electrical energy-use efficiency of Council owned housing, public facilities and work premises, water pumping and street lighting;

(f) Provide information to help the public adapt; for example develop the capacity to advise Timaru District’s houseowners, ratepayers and tenants on modifications to and uses of homes that make them less prone to winter under-heating and summer over-heating, generally drier, healthier and also more-efficient users and/or generators of clean energy such as solar-electricity. (For other Councils’ examples in this field refer to <https://ecodesignadvisor.org.nz>);

(g) Integrate climate change response objectives into the Council’s purchasing policy.

- **Review before 2027 LTP,**

viii. Review this Policy before mid-2026, early in the next LTP preparation cycle. At that point review emission reductions on baseline achieved and set local carbon emission reduction targets for 2050, compatible with New Zealand’s national targets, made under UN International Agreements.

Monitoring and Reporting

2. An annual monitoring report requested from Climate Change Advisor(s), to include short case study/studies of effective behavioural or technical changes made, and staff survey results.

Delegations, References and Revision History					
Delegations					
Identify here any delegations related to the policy for it to be operative or required as a result of the policy					
Delegation	Delegations Register Reference				
To ‘Climate Change Manager’ position	7.22 (non-statutory) and for carbon unit trading see Chief Financial Officer 6.4				
References					
Include here reference to any documents related to the policy (e.g. operating guidelines, procedures)					
Title	Relevant Reference within Document				
Text					
Revision History					
Summary of the development and review of the policy					
Revision	Owner	Date Approved	Approval By	Next Review	Doc Ref
Draft 2a	Climate Change Advisor				

7.4 Second Report on Timaru District Climate Change Strategy

Author: Rhys Taylor, Climate Change Advisor

Authoriser: Andrew Dixon, Group Manager Infrastructure

Recommendation

That Timaru District Council Environmental Services Committee:

1. Receive the Second Report from the District-wide Climate Change Strategy community process (TDCCS, attached) assembled by facilitator Dr Phil Driver, and release this for publication combined with the First Report, which was received by this Committee in May 2023.
2. Make governance-level decisions on up to 10 actions proposed in response to the Timaru District Community Climate Change Strategy, mostly from the First Report and some from the Second.

Purpose of Report

- 1 To present the draft Commercial Food Resilience SubStrategy based material from the July 2023 public workshop the was independently facilitated and secondly a set of suggested actions for Timaru District Council to deliver that has been derived from the two Reports as requested by this Committee.

Assessment of Significance

- 2 This matter has been assessed as low significance in terms of the Timaru District Council Significance and Engagement Policy, as it progresses work committed in the Council's 2021 Long Term Strategy and has been built on extensive community engagement in 2022-23.

Background

- 3 At the meeting on 28 June 2022 Council resolved that:

The Timaru District Council will:

*(i) **Be a climate-friendly council.** We will adapt to Climate Change and reduce greenhouse gas emissions from Council's operations wherever feasible.*

*(ii) **Lead and facilitate mitigation and adaptation projects with others.** We will enable, empower and inspire substantial climate change actions by many stakeholders in the district, including collaborations with our Tiriti partners.*

*(iii) **Encourage others to learn and adapt.** We will guide and support communities that are most vulnerable to climate change, i.e. those who are: most exposed to climate change; badly impacted by climate change; least resilient.*

- 4 The two Timaru District Community Climate Change Strategy (TDCCS) Reports produced so far have been compiled using an Open Strategy process with extensive public engagement at workshops and through a Community Advisory Group. The issues considered have been generated by the public, not Council officers. Hundreds of hours have been contributed with

goodwill by participants of varied ages, livelihoods, locations, gender and perspectives. Dr Driver has done excellent work as independent facilitator and compiler of the reports.

- 5 Discussion has at times been challenging, as the issues addressed illustrate the considerable impact of climate change on aspects of everyday life and economy. Some content may be inconvenient or uncomfortable and the quantity of information can be daunting, but it is already helping Council Officers to address issues and risks facing the council's work in the decade ahead. 'Business As Usual' will be disrupted by human-influenced climate change, to which we shall need to adapt. We may also choose to play a proportionate part in South Canterbury's mitigation of carbon emissions and have already committed to doing so operationally by measuring carbon emissions from Council activity and services, with report due in December 2023, to help better manage the emissions.
- 6 In May 2023, the Committee requested proposals on actions that could usefully result from the Reports(s) from TDCCS. The attached Report offers ten suggestions with a District-wide focus generated by the TDCCS facilitator and Community Advisory Group. Several of these relate to Council's existing general powers under local government legislation to support wellbeing, but additional legislation on climate change response and funding, providing extra powers, is awaited from Government in 2024.
- 7 A draft Climate Response Policy has been prepared by staff that focusses on Timaru District Council in-house activity that is intended to help guide annual work programmes, asset management and the Long Term Plan. See separate paper to this November 2023 Committee meeting.

Discussion

- 8 Climate change response will unavoidably feature in work planning and policy development. The past year's weather damage in Auckland, Hawkes Bay and Gisborne, and damage again further south of us, demonstrates that anywhere in New Zealand can be subject to massive environmental, economic and social disruption.
- 9 Having a process of community engagement in strategy and access to independent advice under way has helped us to prepare us for accelerating change. This report invites governance decisions on what next steps are required to keep up momentum. Councils all over New Zealand are addressing similar concerns, as discussed at meetings of the Aotearoa Climate Adaptation Network. Sharing of experience is under way within Canterbury through a partnership programme, coordinated by ECan.

Options and Preferred Option

- 10 A set of 10 suggested actions on climate change has been brought to Council from the work so far on TDCCS. Each one is presented on a separate page of the attached Report. For each the same governance-level questions are asked: firstly, is this an existing legislative requirement on which the Council is required to act or a choice where elected members may engage under Local Government Act powers? Secondly, councillors are asked whether Timaru District Council should take up a proposed activity, or offer an alternative action leader, or to defer decision to the Long Term Plan, or choose to take no action.
- 11 The offered themes for Councillors' consideration are:

- (i) Support principles of the Timaru District Climate Change Strategy (see TDCCS First Report, in Agenda papers for 2 May 2023 meeting): *Officer recommendation to support, so that it can guide future Strategy work;*
- (ii) Update coastal hut holders on likelihood of need for managed retreat in response to coastal erosion and inundation risk: *Officer recommendation to support;*
- (iii) Examine managed retreat options with these hut owners (in collaboration with ECan): *Officer recommendation to support, in preparation for an expected National Policy Statement on managed retreat;*
- (iv) Collate robust information on the economic, social, environmental and cultural risks and impacts of climate change in Timaru District : *Officer recommendation to support, perhaps in efficient collaboration with neighbouring councils Mackenzie and Waimate;*
- (v) Consider how to ensure resilient food supplies for the District population in the event of extreme weather events (also applies to impact of major Alpine Fault earthquake): *Climate Change Advisor acknowledges importance of theme, and looks to Emergency Management and NGOs as participants;*
- (vi) Enable and inspire some food production and foraging on selected public land: *Officers doubt that scale would be significant initially but see scope here for some demonstration projects;*
- (vii) Enable and inspire reduction in non-commercial transport's carbon emissions (e.g. commuting, shopping journey frequency, through educational campaigns, perhaps region-wide): *Consistent with National Emissions Reduction Plan and proposed Regional Land Transport Strategy. Officers support its value in mitigating emissions, suggest coordinated educational action with ECan and NGOs;*
- (viii) Enable and inspire property-based water management to increase drought resilience and strengthen disaster preparedness (water use efficiency, rainwater collection, etc): *Officers note that some Councils in drought-prone areas have already moved on this, so experience is available if we wish to pursue suggestion;*
- (ix) Enable and inspire personal actions on climate change to 'double the good and halve the bad': *Officers support, preferably in coordinated messaging with ECan and NGOs;*
- (x) Explore climate-resilient commercial scale food production options for the District. *Officers interested to explore through our economy-focussed CCO Venture Timaru.*

12 The Committee is invited to note Part Three of the attached paper for suggestions on continuing District-wide Strategy development in 2024, in the light of the governance responses made to the 10 recommendations considered today. There will probably be further recommendations to consider from the Strategic work so far. We shall need a publicly-supported delivery mechanism of some kind, funded via Annual or Long Term Plan plus external contributors if a mechanism is available.

Consultation

13 The Commercial Food Resilience theme preparation, in the community, engaged some stakeholders from industry in the exploration, but not sufficient for it to be intended or described as an 'industry consultation process'. The attached document will make interesting,

and perhaps provocative reading for agricultural and food processing industry insiders. It is made public here to facilitate further discussion. It does not represent a Council opinion but is clearly related to effects of climate change on production and consumption of agricultural products, which are very significant to South Canterbury economy, environment and human wellbeing.

Relevant Legislation, Council Policy and Plans

- Climate Change Response Act 2002 and Climate Change Response (Zero Carbon) Amendment Act 2019
- Local Government Act 2002 (which requires consideration of 4 wellbeings; importance of community engagement and participation; integrated long-term decision-making; addressing impacts of climate change and protecting assets)
- Civil Defence Emergency Management Act 2002
- Decarbonising Transport Action Plan 2022-2025 (Dec 2022)
- NZ's First Emissions Reduction Plan (May 2022)
- NZ's First National Adaptation Plan (Aug 2022)
- TDC Proposed District Plan (2023) in context of the Resource Management Act 1991 and subsequent National Policy Statements. Replacements for the RMA enacted August 2023 but District Plan continues in use.
- Report of the Expert Working Group on Managed Retreat, Ministry for the Environment (Aug 2023)

Financial and Funding Implications

- 14 Actions responding to issues raised by TDCCS will involve staff time, inputs from third parties and perhaps investment by partner bodies. Further developing the TDCCS (the Strategy) would involve costs associated with Officer time and/or direct facilitation and research input. Costed options could be presented to the Committee's next meeting, in preparation for Long Term Plan budgeting.

Other Considerations

- 15 Council is developing a Climate Change Response Policy in 2023 to guide internal operations that is also being presented to the Environmental Services Committee as a separate report.

Attachments

1. **Second report on the Timaru District Climate Change Strategy 2023** [↓](#) 

2nd Report on the Timaru District Climate Change Strategy October 2nd 2023

Introduction

As with the *First Report on the Timaru District Climate Change Strategy (TDCCS)*, this Second Report is a distillation of a large amounts of information from:

1. Scientific research papers
2. Reports from professional organisations (NZ Climate Change Commission, IPCC, NIWA, Tonkin and Taylor, Industry Associations etc)
3. Reports from reliable media sources
4. Public meeting presentations by knowledgeable researchers, industry leaders and citizens
5. Statements by some of NZ's international customers (Nestle, Tesco, McDonalds etc)
6. Several hundred Timaru District stakeholders who attended our 9 x 3-hour public meetings and workshops, 5 TDCCS Advisory Group workshops, weekly meetings with TDC's Climate Change Advisor and numerous emails and phone calls.

Our Timaru District communities have identified many climate-related head winds, impacts and opportunities that cumulatively add up to 100s of millions of dollars in likely costs (see the First Report, Table 2.1) plus social, economic, and cultural impacts, some of which can be mitigated by taking early action. In many cases, no one entity is responsible for, or taking a lead on, addressing these impacts. So, either one or more entities can step up and take a lead on these big issues or we can all just wait to see what happens and respond reactively.

History has repeatedly shown that taking early action on climate impacts is cheaper than delayed action.

Opportunities are also emerging, but no one entity is responsible for evaluating their potential to improve South Canterbury's food resilience. For example:

1. Olives: Mediterranean growing areas are already 6-8 degrees hotter compared to a global average temperature increase of 1.2 degrees and that is seriously impacting olive production. An opportunity for South Canterbury?
2. Almonds: Californian almond growers, the world's largest suppliers of almonds, are ripping out their trees due to declining water supplies caused by the unstoppable shrinking of the Sierra Nevada snowpack. An opportunity for South Canterbury?
3. Precision-fermented nutritional foods: Precision-fermentation production of nutritional foods is already a reality and threatens to undermine New Zealand's animal-product exports. At the same time, Singapore, which is the global centre for precision fermentation companies, is becoming increasingly unliveable. Is this a good opportunity for us to invite these companies to South Canterbury so we can grow crops to supply them with their feedstocks?

In this Second Report:

1. Part 1 suggests 10 Climate Actions that Timaru District Council may wish to take a lead on. These have been distilled from a much larger number of potential actions identified in the First Report on the TDCCS
1. Part 2 presents the early draft of the Commercial Food Resilience SubStrategy, a major topic which is evolving fast e.g. see upcoming seminars at Lincoln on
 - a. *'Building Resilience Production Systems (guided by the experiences of cyclone Gabrielle)'*, Lincoln University, 25th October 2023 <https://a-lighter-touch.co.nz/wp-content/uploads/2023/09/2023-Canterbury-Forum.pdf>
 - b. *'Towards a Climate Resilient Land And Food System'*, Limes Room, Christchurch Town Hall, 20th November 2023 <https://deepsouthchallenge.co.nz/adapting-aotearoa/>
2. Part 3 updates the proposal for establishing a trustworthy source of local, climate-related information in the form of a South Canterbury Climate Trust or similar entity (including a decision-making flow-chart) to:
 - a. continue to develop the initial 6 SubStrategies in the TDCCS
 - b. start work on all or some of the remaining 11 SubStrategies that have already been identified by our Timaru District Communities
 - c. identify and address additional climate change impacts and opportunities as they emerge.
 - d. continuously review the huge amount of incoming and rapidly evolving information to determine its reliability and relevance to South Canterbury (an impossible task for any one person)
 - e. distil succinct and trustworthy recommendations for consideration by TDC elected members and staff and by other South Canterbury decision makers.

Dr Phil Driver
2nd October 2023
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021 0246 5861

Part 1: Timaru District Communities' suggested TDC Actions on Climate Change An Action Set

The suggested TDC Actions on Climate Change in this report were distilled from the evolving Timaru District Climate Change Strategy (TDCCS) which is being created collaboratively by many Timaru District stakeholders. Our communities have contributed over 1,500 hours of voluntary input to developing this complex, wider ranging and *continually evolving* strategy.

In 2022, Timaru District Council (TDC) acknowledged that climate change will have major impacts in the district and agreed to:

Lead and facilitate mitigation and adaptation projects with others.
We will enable, empower and inspire substantial climate change actions by many stakeholders in the district, including collaborations with our Tiriti partners.

TDC took the lead by sponsoring development of the TDCCS with initial sponsorship ending in July 2023. In April 2023, our communities requested that TDC continue to sponsor the evolving TDCCS via a 'legal entity' such as a Trust so that TDC's sponsorship could be leveraged with funding from other sources (see Part 3 of this report: "*South Canterbury Climate 'Entity', A Proposal to all South Canterbury Communities from Timaru District Climate Change Strategy stakeholders*" 14th August 2023)

As at 2nd October 2023, TDC has not decided whether or not to continue sponsorship of the TDCCS but has indicated an intention, in November 2023, to discuss continued sponsorship of the TDCCS. So at the moment, TDC's sponsorship of the development of the TDCCS has ceased.

Through the TDCCS process, our Timaru communities have identified direct and indirect financial impacts of climate change in the Timaru District CC that will amount to \$100s of millions in addition to large social, cultural and environmental costs. They have identified 17 major climate-related issues and many potential actions and these are summarised in 6 partial SubStrategies in *The First Report on the Timaru District Climate Change Strategy (1st Report on the TDCCS)*.

Our communities now suggest that TDC consider the actions identified in this Part 1: "*Timaru District Communities' suggested TDC Actions on Climate Change Action Set #1*"

Our communities note that some of these proposed actions are clearly within the legislative parameters of local government and that TDC may already be taking action on some of them. However, other proposed actions are not legislatively required, so taking a lead on them is a *choice* for elected members, not a legislative requirement.

It is further anticipated that while some organisations will lead on some of these issues, some issues will be more effectively addressed by an independent entity (like a Trust) or by subject-matter professionals outside local or central government bodies and outside industry sector organisations.

In the absence of anyone else taking a lead on these issues, our communities invite TDC to step into this legislative vacuum and lead on these issues.

In this Part 1, **TDC elected members are invited and guided to make two decisions on each issue:**

1. A governance decision: Is the issue a *legislative responsibility* for TDC or is it an elected members' *choice* for TDC to step-up and lead (or not) on each issue?
2. An action decision: If TDC's governance decision is to take a lead on an issue, which actions will TDC take?

In making the governance decisions, it is worth noting that the purpose of local government is:

- "To enable democratic local decision-making and action by, and on behalf of, communities.
- To promote the social, economic, environmental, and cultural well-being of communities in the present and for the future. (Local Government Act 2002, section 10 (1))."

This purpose of local government is wide ranging and would appear to cover many of the actions identified in this report. Nevertheless it is up to elected members to choose which actions to take.

This report suggests a first round of 10 actions for TDC as distilled from the earlier *1st Report on the Timaru District Climate Change Strategy* as submitted to TDC in April 2023. Actions 3, 4, 5, and 10 are particularly significant and/or urgent. These actions need to be appropriately scrutinised to identify those actions which may already be underway but have not been identified by the TDCCS.

If TDC continues to sponsor the evolving TDCCS, further actions will be identified and periodically suggested to TDC as they emerge from the TDCCS.

Dr Phil Driver
2nd October 2023
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021 0236 5861

Climate Issue #1

Support the Principles of the Timaru District Climate Change Strategy

Financial scale of climate issue #1 in our communities

N/A

Background

All strategies require principles to guide actions. Timaru's communities identified a core set of Principles as described in the *1st Report on the Timaru District Climate Strategy*.

Suggested TDC or Climate Trust action

As a key stakeholder and sponsor of the Timaru District Climate Change Strategy, that TDC acknowledge and confirm their support for the Principles of the TDCCS

Action by

Timaru District Council elected members

Likely direct costs to TDC or a Climate Trust

Zero

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action.

Climate Issue #2

Update coastal hut holders on managed retreat, e.g. from Milford and Rangitata Hut settlements
(from SubStrategy #1)

Financial scale of climate issue #2 in our communities

\$50-100 million for relocation of homes and infrastructure (estimate tbc)

Background

Sea level rise, increased storm surges, river flooding into shrinking lagoons and coastal erosion mean that managed retreat from these coastal settlements is inevitable at an as-yet uncertain date.

Suggested TDC or Climate Trust action

Write a letter to hut residents jointly from the Mayor of TDC and the Chair of ECan confirming that TDC and ECan are aware of the issues and acknowledge that managed retreat is inevitable at some as-yet uncertain date. The letter to further advise that both organisations are awaiting clarification on compensation for climate events and that this is being worked through by central government, with an initial focus on compensation for managed retreat due to cyclone Gabrielle. Confirm that TDC/ECan will take further action when national adaptation compensation rules have been agreed.

Action by

The Mayor of TDC and the Chair of ECan

Likely direct costs to TDC or a Climate Trust

Minimal

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action.

Climate Issue #3

Triage managed retreat options with hut owners at the Milford and Rangitata Hut settlements
(from SubStrategy #1)

Financial scale of climate issue #3 in our communities
\$50-100 million for relocation of homes and infrastructure (estimate tbc)

Background

As per Climate Issue #2

Suggested TDC or Climate Trust action

TDC work with other agencies *and with the affected communities* to identify and triage/assess locations and land-use suitability for managed retreat of coastal settlements. This work can either be done directly by the relevant agencies or contracted to the proposed Climate Change entity (e.g. a South Canterbury Climate Change Trust or similar). Some steps have already been taken by some agencies.

Action by

TDC management and/or Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$20-30,000? (estimate tbc). However, if current climate adaptation compensation precedents are followed (100% compensation funded 50/50 by central and local government) this could cost TDC \$30-50 million within a decade or two.

Governance decision

Is it a legislative requirement? (TDC is <i>required</i> to act)	or	Is it a choice? (TDC elected members <i>chose</i> to lead/act)
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Action decision

Act/lead as proposed above	Alternative action	Put the action into the LTP	No action
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Climate Issue #4

Collate robust information on the economic, social, environmental and cultural risks and impacts of climate change in and on the Timaru District (from the overall Timaru District Climate Change Strategy)

Financial scale of climate issue #4 in our communities

Estimated to be many \$100s of millions of dollars, either by direct climate impacts in South Canterbury or by overseas impacts of climate change (estimate tbc)

Background

Climate change impacts on Timaru District's 4 wellbeings can be direct e.g. extreme local weather events damaging infrastructure and homes and destroying crops, or indirect e.g. major customers of NZ's products demanding products that have much lower carbon footprints in order to meet *their* commitments to addressing climate change, or countries like India banning the export of white rice – 40% of global white rice exports – due to forecast poor harvests in India. The First Report on the TDCCS made initial attempts to quantify these effects (Table 2.1) but more rigorous analysis is required. We have found no evidence that anyone else is currently determining, quantifying and reporting on the likely scale of climate change impacts on all four wellbeings in and on the Timaru District.

Suggested TDC or Climate Trust action

Produce a robust report to guide decision making and prioritisation of climate-related action by re-assessing the scale of climate change impacts in the Timaru District (as *estimated* in table 2.1 in the *1st Report on the TDCCS* and appearing to amount to many \$100s of millions of dollars) and the many as-yet unspecified impacts on cultural, social and environmental well-beings

Action by

Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

Several \$10s of thousands (estimate tbc)

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Climate Issue #5

Ensure resilient domestic food supplies in the event of extreme weather events or the Alpine Fault rupturing (from SubStrategy #2: Domestic Food Resilience)

Financial scale of climate issue #5 in our communities
\$10s of millions (estimate tbc)

Background

A high percentage of Timaru's locally consumed food comes from outside the Timaru District. It has been reported (tbc) that our supermarkets hold just 3 days' supply of food and that dropped to 1 day when the Ashburton river bridge was out of action a few years ago. An extreme weather event could again severely damage key bridges between Timaru and Christchurch, as could AF8 (Alpine Fault 8) if it ruptures. Getting food to Timaru would be a massively challenging logistic exercise, especially if AF8 ruptures and most government resources are then focused on the West Coast which will be worst affected. An extreme weather event or the rupture of AF8 could severely damage power distribution for an extended time (weeks or months) resulting in lack of power for commercial and domestic freezers full of food.

Suggested TDC or Climate Trust action

Establish mechanisms for rapidly distributing locally available food following a disaster-level event such as an extreme weather event or the rupturing of the Alpine Fault (AF8 scenario) by identifying and characterising all *local* commercial and domestic food sources that could quickly be made available to our citizens. Evaluate the potential for increasing stored food supplies in the Timaru District up to 10 days.

Action by

TDC management, civil defence, police, fire service, social service agencies, probably coordinated by a Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$10s of thousands? (estimate tbc)

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Climate Issue #6

Enable food production and foraging on public land (from SubStrategy #2: Domestic Food Resilience)

Financial scale of climate issue #6 in our communities
\$millions? (estimate tbc)

Background

Timaru District stakeholders have identified, and requested, that to increase domestic food resilience, large areas of public land be used to produce food for local consumption. Such land would include parks and reserves but also the much larger areas of currently underutilised road berms especially in rural areas. These food sources need not be intensively managed as other countries (e.g. Iran) have demonstrated the feasibility of substantial areas of publicly-accessible 'wild' food growing.

Suggested TDC or Climate Trust action

Identify and document the scope for enabling free food foraging through establishing and basic maintenance of food producing trees, bushes and crops on public land. It is expected that many communities would volunteer to help. Subsequently adapt local planning rules to both enable and encourage food production on suitable public land.

Action by

TDC and/or Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$10,000 for the report (estimate tbc) and within existing budgets for changing planning rules

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Climate Issue #7

Reduce non-commercial transport emissions (from SubStrategy #3: Low Emission Resilient Transport)

Financial scale of climate issue #7 in our communities

Not yet quantified but definitely in the millions of dollars annually (tbc)

Background

TDC is working with other Canterbury Councils to develop the Regional Land Transport Strategy and is taking a local lead on developing infrastructure for active transport and public transport. In parallel with these initiatives, our communities invite further immediate actions to reduce transport emissions, especially those actions with minimal cost. Given that the emissions from private vehicles taking food home from supermarkets amount to 100-200 times the emissions from the trucks bringing food to the supermarkets, it makes sense to reduce private vehicle mileage relating to food purchases.

Suggested TDC or Climate Trust action

Lead a campaign to promote climate friendly transport options that do not need new infrastructure, for example, to encourage people to halve the number of their trips for buying consumables.

Action by

TDC, ECan, other councils and the Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$10-20,000 (estimate tbc)

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Climate Issue #8

Enable property-based water management (from SubStrategy #4: Domestic water resilience)

Financial scale of climate issue #8 in our communities

Not yet determined but potentially millions of dollars per year (tbc)

Background

Extreme climate events like droughts and floods will adversely impact domestic water supplies throughout the Timaru District. TDC has legislative responsibility, and is taking many actions, to make municipal water supplies as resilient as possible. TDC's work can be supported by property owners and tenants changing the way they use municipal water and more effectively capturing and using rainwater.

Suggested TDC or Climate Trust action

Through planning, regulation and campaigns, TDC to enable and encourage Timaru District stakeholders to increasingly manage water on their properties through a mix of reduced in-house consumption, rainwater tanks, lower-irrigation-demand plants and increased on-site absorption of rainwater.

Action by

TDC, ECan and the Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$10-20,000 over and above existing TDC actions (estimate tbc)

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Climate Issue #9

Enable and inspire Personal Actions on Climate Change (From SubStrategy #5: Personal Climate Actions)

Financial scale of climate issue #9 in our communities

Not yet determined but potentially millions of dollars annually (tbc)

Background

The Canterbury Mayoral Forum’s Climate Working Party is promoting individual climate friendly actions through their “It’s Time Canterbury” initiative. However, it is not clear that the proposed actions by citizens have been fully enabled locally and either compelled or inspired. Also, our communities are not all the same. Some are prepared to take immediate action on climate change motivated by their beliefs (*innovators*), some will take action when they see benefit to themselves (*early adopters*), some will take action due to peer pressure (*late adopters*) and some will not take action until compelled to do so (*laggards*).

Suggested TDC or Climate Trust action

Lead a community-level Personal Climate Action project in the theme of “*Double the good, halve the bad*” by:

1. Identifying those Personal Climate Actions that are *already* enabled plus compelled or inspired, and
2. Identifying which sectors of our communities are immediately amenable to taking personal climate actions (innovators and early adopters)
3. Identifying what further information or inspiration/compulsion will prompt each sector to act
4. Securing funding and then implementing the steps necessary to enable plus inspire or compel Personal Climate Actions, at least in the most amenable sectors (innovators and early adopters)

Action by

TDC, ECan and the Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$20-30,000 (estimate tbc)

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Climate Issue #10

Resilient commercial food production options (from SubStrategy #6: Commercial Food Resilience)

Financial scale of climate issue #10 in our communities

If South Canterbury's food and fibre sector is impacted by just 5% due to an extreme weather event, this will take \$200 million out of our local economy. Cyclone Gabrielle took \$billions out of the affected north island economies and we cannot be confident that a similar scale of extreme weather event will not happen here. The recent fall in global dairy prices will cost Canterbury over \$1billion, highlighting the *lack of climate and commercial resilience of our mono-culture dairy sector*. Similarly the weak price of export logs has highlighted the *lack of climate and commercial resilience in our monoculture Pinus radiata sector*. These factors parallel the experiences of food and fibre producers due to cyclone Gabrielle.

Background

South Canterbury's food and fibre sector is facing serious head winds due to forecast extreme weather events plus the off-shore impacts of climate change altering our international customers' demands. For example, if Nestle, Daone, Tesco, McDonalds and other major customers of our export food products enforce their stated goals of robustly reducing the *gross* carbon footprint of their supply chains, especially for beef and dairy products, this could seriously undermine South Canterbury's exports. Nestle wants a 50% reduction in the *gross* carbon footprint of their dairy product supply chain by 2030. *Currently there is no identified way of achieving this target other than through the replacement of dairy products by plant-based products*. It may make sense to attract precision fermentation companies from Singapore (which will become uninhabitable in coming decades) to South Canterbury and supply them with the plant-based feedstock for their bioreactors.

Suggested TDC or Climate Trust actions

1. Market demands: Evaluate and document *the full spectrum* of recent and emerging global climate-related market demands for South Canterbury's food and fibre industries
2. Risks: Quantify the direct and indirect climate-related risks to South Canterbury's (largely? tbc) monoculture food and fibre production sectors
3. Existing products: Quantify options for meeting rapidly evolving and very demanding international customer standards for low carbon footprints for our *existing* export products
4. New products: Assess (and physically evaluate?) *new* food and fibre production options

Action by

Climate Trust sponsored by TDC and others

Likely direct costs to TDC or a Climate Trust

\$100-200,000 or more depending on the scale of options identified and if they are physically evaluated

Governance decision

Is it a legislative requirement?
(TDC is *required* to act)

or

Is it a choice?
(TDC elected members *chose* to lead/act)

Action decision

Act/lead as proposed
above

Alternative action

Put the action
into the LTP

No action

Part 2- Commercial Food Resilience SubStrategy (6th in series)

Part 2 outlines SubStrategy #6: Commercial Food Resilience, that Timaru District communities have collaboratively started working on. As with SubStrategies 1-5, more work is required on this evolving SubStrategy to translate the now-clarified challenges and opportunities into explicit actions and for various stakeholders to implement those actions. However, in the interim, 4 key actions have been proposed under 'CFR Recommendations' below.

This CFR SubStrategy is one of a suite of topic-specific SubStrategies that are collectively guided by the Principles of the Timaru District Climate Change Strategy. The Principles and topic-specific SubStrategies were developed *with and by* and *for* everyone in the Timaru District.
<https://www.timaru.govt.nz/services/environment/climate-change>

Background

Legislatively and commercially, no one entity is responsible for developing and implementing a CFR SubStrategy for the Timaru District or for South Canterbury.

A number of sector groups are focusing on their sectors, but none appear to be taking the broader overview required to build commercial food production resilience under a changing climate, with its associated extreme weather events plus major climate-triggered changes in the global markets for our products.

In this legislative and commercial vacuum, in mid-2022 Timaru District Council (TDC) took a lead by sponsoring the initial development of 6 SubStrategies (out of 17 identified so far by Timaru District's communities) including community-based development of the CFR SubStrategy. It is hoped that TDC will continue this sponsorship of the TDCCS development.

The following scenarios are based on information received from scientists, professional organisations, local authorities, residents, farmers, and other stakeholders. These scenarios are unlikely to be totally accurate but are likely to be good indications of what is probable. They are provided here as a baseline for further discussions, not as finalised scenarios.

Over the decades, New Zealand has centralised its food system and expanded monoculture food production and in doing so has increased the risk that a single regional or international event could reverberate nationally. This has been seen recently with the fall in global dairy prices which on its own is expected to cost Canterbury over \$1 billion. An extreme climate event that cut Canterbury's food and fibre production by just 5% would cost about \$200 million. So the stakes are high. But it is not too late to diversify and increase resilience across our commercial food system.

This CFR SubStrategy acknowledges that a number of major stakeholders are developing their own strategies relevant to the Timaru District. These include DairyNZ, Fonterra, Beef and Lamb, HortNZ, Venture Timaru, Foundation for Arable Research and others. However, the industry-sector strategies generally focus on a narrow range of industry-specific topics (e.g. DairyNZ and Fonterra focusing on the monoculture dairying industry). It makes sense that the sector organisations endeavour to help their existing farmers respond to the challenging and rapidly changing demands of climate change which has local impacts and is also changing their export customers' demands as noted below.

However, as the existing strategies from many of these organisations still rely on carbon off-sets (which are no longer recognised by our big export customers like Tesco and Nestle), there are serious

doubts about these organisations' current strategies for climate action. Also these organisations' narrow focus on their own sectors is unlikely to identify and test alternative commercial food production options for South Canterbury farmers.

A further challenge is that there remains a wide divergence of thinking amongst farmers on the unequivocal scientific reality of climate change and the obligations or otherwise of farmers to reduce emissions. This diverse thinking ranges from total denial of climate change, through denial that methane and nitrous oxide are significant problems, through an acceptance that climate change is real but that it is too late for any of us to make a significant difference, to full acceptance of the need for serious mitigation of on-farm and processing emissions.

The strong push-back by farming industry groups and companies on on-farm climate mitigation to reduce *gross* emissions from farming does not build confidence that sufficient actions will be taken to achieve New Zealand's commitments to the Paris Accord (which in itself is insufficient to prevent major global disruption from climate change). The push-back also does not build confidence that existing farming sectors will sufficiently mitigate emissions to achieve the low gross-emission product standards being increasingly set by New Zealand's international customers.

This CFR SubStrategy will therefore (uneasily) leave strategies for existing sectors in the care of existing sector organisations and will instead focus on:

1. identifying the head and tail winds for South Canterbury's food production, and then
2. identifying alternative food production options that can, ideally, be transitioned to from existing food production sectors.

The huge potential impact of global market changes in response to climate change plus the local impacts of climate change means that it is prudent for South Canterbury to actively explore alternative food production options.

Likely Timaru District Commercial Food Resilience scenarios in the next few decades *if we do not take significant new actions*

1. Reducing demand for South Canterbury's currently high embedded GHG gross emission foods like dairy and meat as international (Tesco, Nestle, Daone, McDonalds) and local (Countdown) markets insist on more sustainable food products with lower **gross** greenhouse gas (GHG) emissions. Nestle is insisting on a 50% reduction in *gross* GHG emissions in its supply chain and has specifically identified dairy products. *No national or local policies and plans currently exist to achieve this level of embedded GHG emissions reduction in South Canterbury's dairy products. The replacement of 'bovine dairy' products with 'plant-based dairy' products currently appears to be the only option for reducing gross 'dairy' (or equivalent product) emissions by 50% by 2030. As plant-based dairy products become increasingly available it will be easy for our customers to switch to those sources at the stroke of a pen. It will be hugely more difficult for our dairy farmers to adapt to big global falls in demand for our existing products*
2. Adversely impacted commercial food production, particularly monoculture food production, due to more frequent and extreme weather events (early and late frosts; intense rainfalls; flooding; extended droughts; more frequent and more severe hailstorms; stronger winds; reduced availability of irrigation water)
3. Adversely impacted commercial food production due to more plant and animal pests and diseases migrating into the district, possibly involving more extensive use of agrichemicals, especially with monoculture food production systems
4. Considerably increased food production costs due to increasing fossil fuel, fertiliser and agrichemical costs and reduced availability, leading to the probable requirement for considerably more manual labour for growing and harvesting food
5. Loss of market share in global protein markets as low-embedded GHG-emission plant based proteins (especially pea protein) replace meat-proteins New Zealand start-up Miruku is one of a small number of 'molecular farming' and 'precision fermentation' companies globally who are planning to use plants to directly produce proteins and fats similar in structure to those present in bovine milk.
6. Loss of market share in global protein markets as highly nutritional, bio-identical precision-fermentation plant-based products replace animal products as their costs of production continue to fall and as these new products are marketed as 'clean meat' in contrast to animal meat (the American Cattlemen's Association has identified over 130 chemicals just in the flavour of meat and the plant-based protein industries can be expected to publicise this)
7. Increased on-farm costs as international trade agreements demand higher levels of sustainability and animal welfare, for example the recent trade deal with the EU demanding that bobby calves are not killed on-farm
8. Reduced profit margins as international countries, especially the EU, introduce tariffs on products that are 'carbon intensive' unless the providers of those products are demonstrably reducing the emissions of their products. Food is currently not included in the EU's recently introduced tariffs on carbon intensive products but food could be added to the list at the stroke of a pen
9. Reduced EU demand for South Canterbury's dairy products as dairy farmers in Belgium and the Netherlands increase their demands to exclude New Zealand's dairy products, given that farmers in these countries are legislatively required to seriously reduce their GHG emissions but NZ farmers are not.

10. Increased on-farm costs as national and international legislation increasingly demands reduced pollution, especially nitrate, phosphate and plastic pollution from farming operations
11. Reduced global demand for NZ food due to the increasing global attention being paid to reducing food miles. The current global average of food miles is around 2000km, so with NZ being 18,000km from its European markets and 11,000km from its Chinese market, NZ is at a significant global disadvantage.
12. Reduction in embedded GHG emissions in South Canterbury's food products by using biofuels proves challenging for many smaller processors due to Fonterra's potentially voracious appetite for all available biofuels
13. The following two seminars are particularly relevant:
 - a. Building Resilience Production Systems (guided by the experiences of cyclone Gabrielle), Lincoln University, 9-4 25th October 2023 <https://a-lighter-touch.co.nz/wp-content/uploads/2023/09/2023-Canterbury-Forum.pdf>
 - b. Towards a Climate Resilient Land And Food System, Limes Room, Christchurch Town Hall, 8.30-5.30, 20th November 2023 <https://deepsouthchallenge.co.nz/adapting-aotearoa/>

Possible Timaru District Commercial Food Resilience scenarios in the next few decades *if we do take action* (to be developed/modified by and with our affected communities)

1. Ruminant animal farmers reduce gross GHG emissions via improved farm management practices including animal food supplements and chemicals that reduce methane emissions, capturing of methane from waste ponds and lower nitrogen-rich fertiliser use. However, even all these actions put together will almost certainly fail to meet Nestle's demands for a 50% reduction by 2030 in *gross* GHG emissions in its supply chain, especially dairy products
2. Ruminant animal farmers increase revenues from sustainable carbon farming while acknowledging that claiming offsets to get closer to net zero is unlikely to be accepted by global customers who are expected to increasingly insist that food products in their supply chains have low *gross* emissions
3. Increasingly diverse food production on each farm as an adaptation to reduce exposure to climate risks associated with monoculture food production
4. Reduced use of fossil fuels and agrichemicals including fertilisers, as food production adopts lower-input growing methods such as regenerative farming and permaculture
5. Increased demand for locally processed hybrid plant/animal food products
6. A wider range of highly nutritional processed foods such as precision-fermentation and molecular farming foods

CFR Recommendations

The main recommended actions distilled from the Commercial Food Resilience tables as at August 2023 are:

1. Market demands: Understand, evaluate and document *the full spectrum* of recent and emerging climate-related market demands for low gross GHG-emission supply chains and their impacts on South Canterbury's food and fibre industries
2. Substantially reducing GHG emissions of animal products: Assess if existing or predicted emission reduction options for existing animal products can realistically achieve Nestle's and other evolving international market demands for a 50% reduction by 2030 in embedded gross GHG emissions in their supply chains

2nd Report on the Timaru District Climate Change Strategy October 2nd 2023, by Dr Phil Driver

3. Animal-substitute products: Assess the technical potential for low GHG emission, animal-substitute products to be manufactured in South Canterbury e.g. precision fermentation or molecular farming of lactoferrin, whey proteins, infant formula, human breast milk, 'clean meat', fish and other plant-based animal-substitute products
4. Assess the commercial viability and resilience of alternative local commercial food production: Evaluate the resilience of alternative commercial food growing options in South Canterbury

There are many more potential actions in the following tables but the above actions are of greatest importance and urgency and underpin other suggested actions.

Subject to funding, this draft Commercial Food Resilience (CFR) SubStrategy will continually evolve over many months and years as global markets respond to climate change and as more information is collected, disseminated, reviewed and fed into viable Projects, Results, Uses and Benefits.

Details of the evolving Projects, Results, Uses and Benefits

Information Projects-Results

Information Projects	Information Results
<u>Overarching role of the information Projects:</u> The overarching information project is to identify, evaluate and include/exclude information for each of the information-boxes on Projects, Results, Uses and Benefits throughout this SubStrategy. The boxes in this evolving SubStrategy currently contain information that has already been explicitly identified as relevant to this SubStrategy as well as numerous other concepts that have yet to be fully understood, evaluated and included/excluded in the SubStrategy	Over time, a fully populated and validated Commercial Food Resilience SubStrategy for the Timaru District
<u>Collation of independent reports:</u> Consolidate existing independent, farming-sector, banking industry and insurance industry reports on climate change, CFR and other contributing factors and produce a summary report of key information	A 'Climate change and CFR Independent Reports Library' of existing reports plus a summary report of key information distilled from those reports.
<u>Market demands:</u> Understand, evaluate and document <i>the full spectrum</i> of recent and emerging climate-related market demands for South Canterbury's food and fibre industries	A 'CFR Market Demands Report' which clarifies, and evaluates <i>the full spectrum</i> of recent and emerging climate-related market demands for South Canterbury's food and fibre industries
<u>Substantially reducing GHG emissions of animal products:</u> Assess if existing or predicted emission reduction options for existing animal products can realistically achieve Nestle's and other evolving international market demands for a 50% reduction by 2030 in embedded gross GHG emissions in their supply chains	A report on the whether emissions from South Canterbury's food products can realistically be reduced low enough to meet demands from Nestle and other markets.
<u>Animal-substitute products :</u> Assess the potential for low GHG emission, animal-substitute products to be manufactured in South Canterbury e.g. precision fermentation or molecular farming of lactoferrin, whey proteins, infant formula, human breast milk, 'clean meat', fish and other plant-based animal-substitute products	A report on the viability of South Canterbury manufacturing low emission dairy-substitute products
<u>Assess the commercial viability and resilience of alternative local commercial food production:</u> Evaluate the resilience of alternative commercial food growing, and where appropriate, processing, in South Canterbury. Professor Alan Renwick of Lincoln University identified a range of potentially viable food growing options in South Canterbury.	A report on the commercial viability and resilience of alternative commercial food growing, and where appropriate, processing, in South Canterbury. Ideally these options will then be trialled to prove/disprove their commercial viability

<p>https://www.timaru.govt.nz/news/infrastructure-matters/climate-talks-commercial-food-resilience-in-a-warming-climate Each option needs to be triaged (quickly assessed) and then the ones that are most likely to be viable assessed and trialled.</p>	
<p><u>Local Commercial food sources:</u> There are already examples of resilient food production in South Canterbury. This Project will identify and assess niche and alternative commercial food growing and widely share stories of how and where it is being done so as to encourage and guide further growth of Commercial food production</p>	<p>Readily accessible information on many examples of commercial-scale niche and alternative food production in the Timaru District. This is likely to be in the form of brochures, web-pages and public visits and tours of niche/alternative commercial-food-growing sites to share and expand community-wide knowledge of commercial food production</p>
<p><u>Demonstrations and training:</u> Identify, evaluate and document options for establishing demonstration commercial food-growing sites and food growing training programmes</p>	<p>Relevant CFR stakeholders understand the viable options for establishing demonstration commercial food-growing sites and food growing training programmes</p>
<p><u>Communications and community cohesion:</u> <i>New commercial food production options may be led by people who are not part of the existing food production system</i> so information on CFR options need to be shared as widely as possible. This project will continually share all CFR information as widely as possible with affected stakeholders, especially when ideas and potential actions are collaborative and evolve or change compared to original expectations.</p> <ol style="list-style-type: none"> 1. The Timaru District is one of the luckiest areas on the planet for food growing – we are living in a natural food basket 2. Food growing can range from high input monoculture to lower input diverse and wild food production and everything in between 3. Our expected ‘energy-descent’ future will still require local food production – it will not be optional – so developing the necessary local skills and resources will be essential 4. In all likely short to medium term scenarios, the majority of most people’s food will be produced by ‘food producers’ not by the general public at garden-scale 	<p>As many stakeholders as possible have sufficient information to make informed choices about their preferred <i>individual and shared</i> solutions to CFR. Ideally a growing consensus for actions in ways that <i>strengthen</i> rather than <i>fragment</i> communities.</p>

Legislation Projects-Results

Legislation Projects	Legislation Results
<u>Report on current legislative status:</u> Prepare and widely disseminate a report which identifies existing and anticipated legislation (statutory and non-statutory) which will enable or constrain actions on CFR	All affected stakeholders have (ready access to) a <i>CFR Legislation Report</i> on existing and anticipated legislation (statutory and non-statutory) which will enable or constrain actions on CFR
<u>Evaluate current legality of preferred solutions:</u> Assess which commercial food growing options are already permitted, which could be reasonably modified to become permitted or likely to be approved which options require modifications to legislation.	A 'CFR Legislation report' defining which options are already permitted, which could be reasonably modified to become permitted or likely to be approved, which solutions require modifications to legislation and which solutions do or do not comply with non-statutory requirements.
<u>Legislative lobbying:</u> Lobby for the redrafting, where necessary, of legislation to permit the desired CFR solutions.	Legislation is permissive of desired CFR options and where legislation is prohibitive, that legislation is backed by sound logic as to why prohibitions remain

Resourcing Projects-Results

Resourcing Projects	Resourcing Results
<u>Project selection:</u> Distil those Projects which are widely supported, Validated, worthwhile and legislatively enabled ("Viable Projects")	A list of widely supported, Validated, worthwhile and legislatively enabled CFR Projects ("Viable Projects")
<u>Identify resourcing options:</u> Identify sources of resources for the viable Projects. Such resources include funding and contributions in kind and enabling processes	A documented list of potential resources for the viable Projects
<u>CFR Business Cases:</u> Influenced by the 'CFR Legislation Report' distil and define in sufficient detail for resourcing and implementation ('compelling business cases'), those Validated solutions which communities wish to implement.	A set of compelling 'CFR Business Cases' for attracting resources and guiding the implementation of Validated CFR solutions
<u>Secure resources:</u> Submit business cases and, where realistic, secure sufficient resourcing to implement solutions	Resources available to implement viable Projects

Dissemination Projects-Results

Dissemination Projects	Dissemination Results
<u>Resource dissemination plan:</u> Determine how, and to whom, resources must be disseminated to enable effective implementation of viable Projects	A clear plan of how, and to whom, necessary resources will be disseminated for viable Projects
<u>Resource dissemination:</u> Disseminate resources to relevant stakeholders who will undertake viable asset-creating or maintaining CFR Projects and/or Use those assets	Stakeholders have the resources they need to implement viable CFR Projects and Uses

Capital Works Projects-Results

Capital Works Projects	Capital Works Results
<u>Viable capital works – introduction:</u> Viable capital works Projects produce the necessary and sufficient set of Results which will enable the desired Uses and Benefits. As at August 2023, no decisions have been made on optimal responses to Commercial Food Resilience in the Timaru District. All options remain on the table and urgently need triaging (see ‘Information Projects’) to identify the most viable options for more-in-depth analysis.	The necessary and sufficient set of physical CFR assets is in place to enable desired Uses and Benefits
<u>CFR asset maintenance:</u> Communities, organisations and individuals work collaboratively to maintain CFR capital works	CFR assets, once built, continue to be in a robust state of ‘health’ long after they were constructed.

Many Uses of the above Results simultaneously create economic, cultural, social and environmental Benefits. In the following tables, such Benefits will be aligned with the Uses that created them so that for example, a Use may create economic Benefits as well as a sense of wellbeing and security (social Benefit), a sense of connection with history (cultural Benefit) and a healthier ecosystem (environmental Benefit).

Most of the Uses and Benefits of South Canterbury’s commercially grown food will exist off-shore. However, the revenue from exports will ideally flow back into South Canterbury and help underpin economic, social, cultural and environmental wellbeing in a myriad of ways which are beyond the scope of this partially developed CFR SubStrategy.

Uses and Benefits

Uses	Benefits
<u>Overseas food consumption:</u> Continuing <i>but potentially changed</i> , overseas purchase and consumption of sustainable and climate-friendly locally produced food including associated employment	Global consumers have confidence that their food was sustainably produced with minimal adverse impacts on the environment/climate. Food growers and their employees in climate-affected areas have financially secure lives and feel good about their food production and their continuing social licence to operate
<u>Local food consumption:</u> Continuing <i>but potentially changed</i> , purchase and consumption of sustainable and climate-friendly locally produced food including associated employment	Consumers have confidence that their food was sustainably produced with minimal adverse impacts on the environment/climate. Food growers and their employees in climate-affected areas have financially secure lives and feel good about their food production and their continuing social licence to operate

<p>Thriving ecosystems: Nature (plants, animals, birds, insects) thrive in increasingly diverse and healthy, food producing public and private ecosystems</p>	<p>Increasingly self-repairing ecosystems due to the resumption of natural processes. Economic, social and cultural Benefits arising from improved ecosystem services and a healthier environment</p>
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For further information and/or discussions on this draft Commercial Food Resilience SubStrategy #6 please contact:

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Part 3: `South Canterbury Climate `Entity`
A Proposal to all South Canterbury Communities from
Timaru District Climate Change Strategy stakeholders
22nd September 2023

Context

“Developing ways to share knowledge and tools, ideally across sectors, will be essential, along with monitoring and evaluating adaptations so that we can learn and develop as the climate changes”.

“We need to start planning now, across all sectors, and all levels, and do things differently, to minimise the disruption this will have. And maybe in the process we can even make New Zealand a better place to live.”

Anita Wreford,
Professor in the Agribusiness and Economics Research Unit (AERU)
Deep South Challenge (Climate Change), Lincoln University, New Zealand

Proposal and Purpose of the South Canterbury Climate `Entity`

To:

- a. continue to develop the initial 6 SubStrategies in the TDCCS
- b. start work on all or some of the remaining 11 SubStrategies that have been identified so far by our Timaru District Communities
- c. identify and address additional climate change impacts as they emerge
- d. continuously review the huge amount of incoming information to determine its reliability and relevance to South Canterbury (an impossible task for any one person)
- e. distil succinct and trustworthy recommendations for consideration by TDC elected members and staff and by other South Canterbury stakeholders

The SCCE will provide *all* South Canterbury communities with independent, *trustworthy* action-oriented advice on climate change and its *local* impacts to enable our communities to lead climate response actions that support wellbeing, agency and resilience.

The SCCE could be a Trust or other form of legal entity that is both eligible and legally accountable for financial and other support from government agencies, community trusts and other bodies.

Throughout this document the term `communities` refers to all living beings: individuals, groups, businesses, farmers, all levels of government and their agencies, organisations, clubs, animals, fish, insects and plants, as all are interconnected and all are increasingly affected by climate change.

This proposal to all South Canterbury communities is from Dr Phil Driver as facilitator of, and on behalf of, the Timaru District Climate Change Strategy (TDCCS). This proposal therefore represents, as far as possible, the interests of all South Canterbury communities, guided by the Advisory Group of the TDCCS.

Background

Most action on climate change will take place in our communities, requiring actions by many organisations, communities and individuals on a huge, complex and financially challenging range of major topics as outlined in the chart below.

Timaru District Council (TDC) recognised this in 2022, so sponsored the Timaru District Climate Change Strategy (TDCCS) development project. TDC contracted an external TDCCS facilitator for less than \$100,000 from its budget of \$360,000 allocated in its Long Term Plan for explicitly climate change actions. Several hundred Timaru District citizens have engaged with the TDCCS which has so far agreed on a set of principles plus created 6 partial-SubStrategies out of 17 significant climate related topics identified by Timaru's communities. Media coverage of council's leadership has been very positive. Subject to continuing funding, the TDCCS will continue to evolve as it addresses climate-related topics that have local implications in the \$10s to \$100s of millions of dollars annually.

There is a large number of issues, many of which affect each other and affect our communities in many different ways, with potential solutions for some communities having adverse impacts on other communities.

It is unrealistic to expect central government and national organisations to produce climate change strategies that are specifically relevant to South Canterbury although they can be expected to create general frameworks, e.g. through the National Adaptation Plan.

It is unrealistic to expect South Canterbury communities and decision makers to understand and appreciate the full scale and complexities of climate change, its potentially huge impacts throughout the region and what actions to take.

A robust system for analysing information and recommending succinct and trusted actions for South Canterbury is therefore essential.

South Canterbury communities need *locally-specific*, climate-related information and recommendations which have been collated from credible subject-matter specialists and then reviewed, translated to distil locally relevant information and recommendations and *deemed trustworthy* by skilled and experienced Trustees. Because of the sheer magnitude and complexity of climate-related issues, this advice can never be summarised into just a few pages. It will always consist of a series of 15-30 SubStrategies on specific topics, each of which is likely to be 5-10 pages long.

This proposal recommends the continued development of a South Canterbury-specific climate change strategy through an independent South Canterbury Climate Change Entity (e.g. a Trust). The SCCE will consist of:

- 3-5 independent, skilled and widely trusted Trustees tasked with guiding the ongoing development and *validation* of *trusted* local climate-related SubStrategies
- 2-3 professional staff or contractors to collate climate-related information on priority topics, for review and validation by the Trustees followed by dissemination to all South Canterbury communities.

TDC's leadership and financial and in-kind support is essential for the continued development of a district-wide climate change strategy and for attracting funding from other sources.

Benefits to sponsors (e.g. TDC) and communities of continuing to develop and *progressively* implement a South Canterbury Climate Change Strategy

Development and progressive implementation of the South Canterbury Climate Change Strategy will generate the following Benefits:

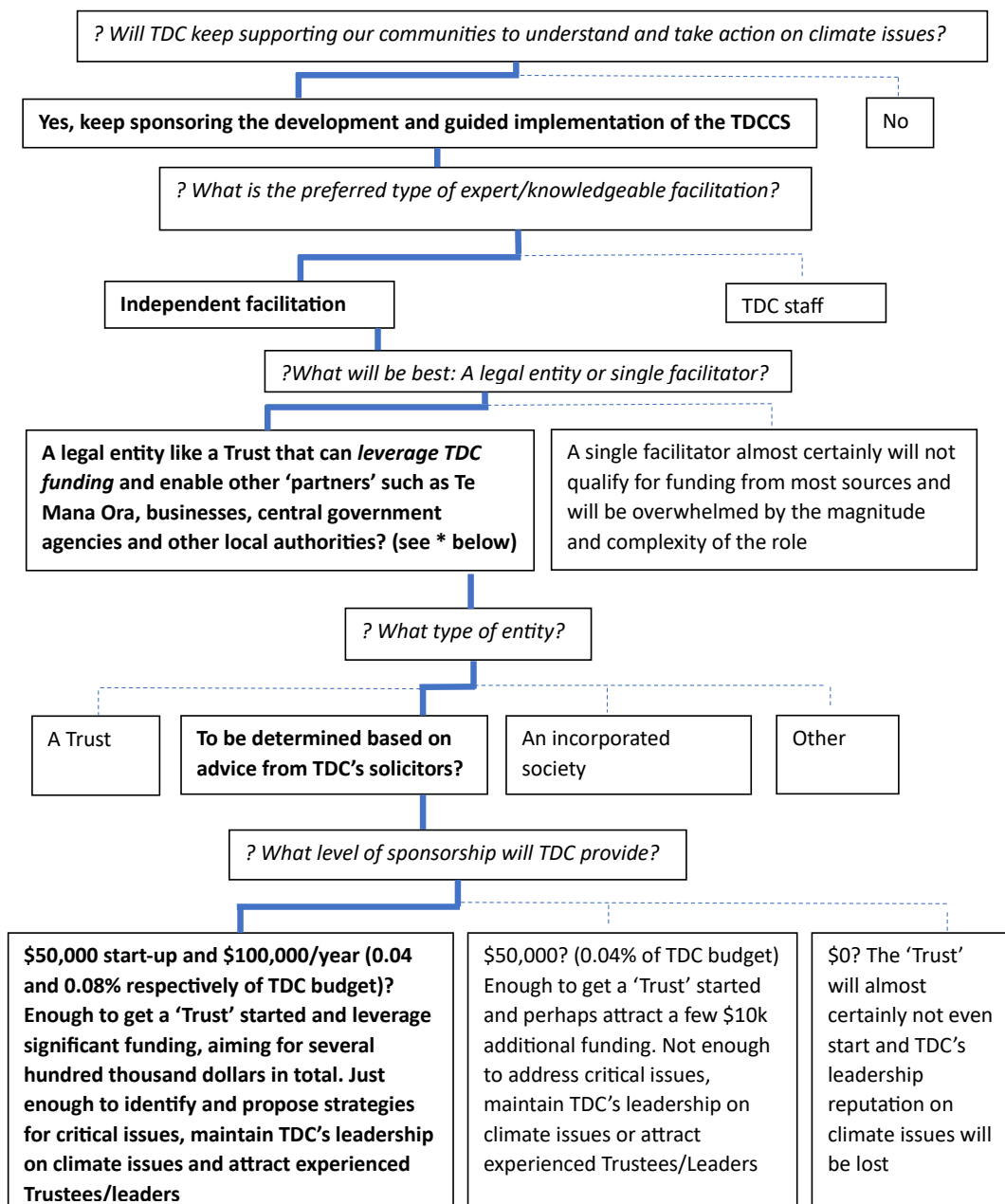
1. A more resilient South Canterbury in the face of climate change, guided by a trusted, South Canterbury climate change strategy consisting of:
 - a. agreed Principles
 - b. continually evolving SubStrategies which provide clarity on challenges and opportunities
 - c. distillation of key actions for any and all stakeholders and communities
2. Alignment with the Local Government Act which requires local authorities to take action on climate change with respect to all four wellbeings: economic, environmental, social and cultural
3. Kudos for taking a lead on addressing climate change in South Canterbury
4. As a side effect, increased community resilience to the impacts of the expected rupture of the alpine fault within 50 years

Deciding on the continuation of the Timaru District Climate Change Strategy via an entity such as a South Canterbury Climate Trust

The following *Decision Flow Chart for Sponsorship of the Timaru District Climate Change Strategy* provides a logic pathway for considering whether or not to continue to sponsor the evolving Timaru District Climate Change Strategy. Timaru District communities preferred decision pathway follows the bold lines in the flow chart.

The subsequent table summarises key elements of the TDCCS as at 2nd October 2023.

Decision flow chart for sponsorship of the Timaru District Climate Change Strategy



Characteristics of the Timaru District (or South Canterbury) Climate Change Strategy First Draft

Principles	Equity Justice Fairness	Understanding Knowledge MĀTAURANGA Education Skills	Future proofing Resilience Urgency Long term thinking	Support Sharing Collaboration Weaving	Whanau, Family, Whanui, Community	Precaution	Transparency	Work with the power of nature	Realistic action	Determine actions first, then who does them	Honour Te Tiriti, Honesty, Integrity, Kindness, Creativity, Boldness, Trust, Positivity, Clarity
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SubStrategies	Coastal inundation and erosion (non-industrial) (1 st draft written)	Domestic food resilience (1 st draft written)	Low emission resilient transport (commercial and domestic) (1 st draft written)	Domestic water resilience (1 st draft written)	Personal climate action (minimal action so far)	Commercial food resilience (1 st draft in preparation at 14/8/23)	Inundation and erosion of commercial land (no action yet)	Sustainable is Attainable (underway via Venture Timaru)	Timaru District's electrical power distribution system (underway by Alpine Energy)	Climate refugees (10-20,000 by 2080?) (no action yet)	And many more (no action yet)
Stakeholders	Communities, Tangata Whenua, TDC, ECan, DOC, Health, Education, housing, MSD	Communities, Tangata Whenua, health, ECan, TDC, MSD, education, farmers, processors, logistics, housing, scientists and technologists	Communities, Tangata Whenua, logistics, TDC, ECan, Waka Kotahi, health, scientists and technologists, supermarkets, retail, contractors	Communities, Tangata Whenua, TDC, ECan, DOC, farmers, health, education, equipment suppliers, contractors	Communities, Tangata Whenua, TDC, ECan, health, education, MSD	Communities, Tangata Whenua, farmers, processors, logistics, health, ECan, MBI, MPI, MFE, DOC, TDC, Venture Timaru	Primeport Timaru , Tangata Whenua, Fonterra, warehouses, Kiwirail, port services, DOC, MfE, ECan, MBI, MPI, processors, logistics, Timaru District Holdings, TDC	Food processors, Tangata Whenua, Venture Timaru, Alpine Energy , MBIE, MFE, MPI, technology providers, TDC and many more	Communities, Tangata Whenua, Alpine energy TDC , ECan, consumers	Refugees, Tangata Whenua, communities, health, education, housing, MSD, WINZ, TDC	
Magnitude	\$100 million	\$millions to 10s of millions	\$10s-100s of millions	\$10s-100s of millions	\$millions to 10s of millions	\$200 million cost of a one-off event reducing output by 5%	\$10s-100s of millions	\$10s-100s of millions	\$100s of millions	\$100s of millions	

The SCCE will

1. continue to develop the initial 6 SubStrategies in the TDCCS
2. start work on all or some of the remaining 11 SubStrategies that have been identified so far by our Timaru District Communities
3. identify and address additional climate change impacts as they emerge
4. continuously review the huge amount of incoming information to determine its reliability and relevance to South Canterbury (an impossible task for any one person)
5. distil succinct and trustworthy recommendations for consideration by TDC elected members and staff and by other South Canterbury stakeholders

In providing this trusted information and recommendations it is essential that the Trust *does not instruct anyone what to do*.

South Canterbury's many and diverse communities, like communities worldwide, are typically fiercely independent. They seek information and recommendations that they can trust so they can choose which actions to take. The Trust's role is therefore exclusively to *offer* locally relevant, trustworthy climate-related information, not to dictate or undertake adaptations and mitigations.

Trustees and staff/contractors

1. It is proposed that interim Trustees to establish the SCCE be independent, skilled individuals who have already publicly 'earned the right to lead' on complex topics like climate change and who meet the criteria of being:
 - a. Knowledgeable, skilled, experienced and capable of understanding, assessing and validating local climate change issues and their economic, environmental, social and cultural impacts as identified by SCCE staff/contractors and communities
 - b. Experienced in strategic governance/directorships as distinct from operational management
 - c. Able to provide independent perspectives on all climate change issues, noting that most Trustees in South Canterbury will almost inevitably have conflicts of interest that, in each case and for each Trustee, will be transparently managed by the other Trustees
2. After 6 months or once critical and rapidly evolving climate-related issues are better understood, the membership of the Trust will be re-opened for 3-5 Trustees (in total) who meet the above criteria
3. Trustees will appoint staff/contractors based on their knowledge, skills, experience and ability to understand and distil actions for addressing local climate change issues and their economic, environmental, social and cultural impacts
4. Trustee positions may or may not be honorary and expenses will be covered (tbc).

Resourcing

It is proposed that the SCCE staff/contractors will work from home or provide their own work spaces for most of the time. However, meetings are likely to be held at the South Canterbury Ecocentre at Redruth (to be negotiated).

It is proposed that the SCCE seek:

Establishment sponsorship from TDC of up to \$50,000 (0.04% of TDC's annual budget) to cover:

1. legal fees to set up the Trust/entity
2. initial project management
3. securing sponsorship from neighbouring councils, ECan, businesses and others
4. securing seed funding from central government and philanthropic sources
5. selection and appointment of longer term Trustees after the initial 6 months

Annual sponsorship of the SCCE to be invited as follows:

1. Timaru District Council \$100,000 (0.08% of TDC's annual budget from an annual budget of \$360,000 allocated to explicitly climate change initiatives in the council's Long Term Plan)
2. Adjacent district councils \$50,000 each
3. Environment Canterbury \$100,000
4. Corporate supporters \$20,000 each
5. Central government and grant funding \$400-600,000

TDC's support is considered essential to

1. encourage other stakeholders to contribute sponsorship and resources to the SCCE
2. attract credible Trustees and
3. secure additional funding.

It is proposed that the SCCE deed stipulate that the SCCE will not incur debt or any other liabilities that could expose sponsoring agencies to risk.

South Canterbury Climate Entity timeline

Establishment phase

1. SCCE proposal to all stakeholders: October 2nd 2023 – proposal from *Dr Phil Driver on behalf of the Timaru District Climate Change Strategy stakeholders* for the establishment and operation of the SCCE submitted to TDC
2. Recommendations from TDC staff to council: TDC staff prepare a report to TDC recommending the continuing development of a district-wide or South Canterbury climate change strategy, e.g. via the establishment of the SCCE including recommending TDC's sponsorship and in-kind support for the establishment phase of the SCCE
3. Decision by Environmental Services Committee: November 2023 – TDC Environmental Services decide whether to support the continuing development of a district-wide or South Canterbury climate change strategy and the establishment and ongoing operation of the SCCE or some other mechanism to keep developing the climate change strategy

4. Appointment of establishment Trustees of the SCCE: Subject to decisions above, November 2023 – interim Trustees appointed by the sponsoring agencies who are contributing at the time
5. Project manager: A independent project manager be appointed part-time for 6 months to lead the establishment of the SCCE
6. Trust/entity Deed: December 2023 – Trust/entity deed and related documentation developed by the independent project manager and the TDC-selected solicitor and approved by the establishment Trustees
7. Secure support from other councils: Early 2024 – Trustees promote the SCCE to Waimate, McKenzie and potentially Ashburton and Waitaki District Councils, ECan and other organisations aiming to secure a further \$150-250,000/year
8. Pursue central government support: Early 2024 – identify and pursue longer term central government and philanthropic funding

Operational phase

9. Appointment of long term Trustees 2024 – Longer term Trustees appointed for 2 years
10. Prioritise topics for investigation: Trustees prioritise climate-change topics (see Appendix) for detailed analysis and appoint 2-3 part-time staff or contractors
11. Investigations: Staff/contractors undertake projects designated by the Trustees, probably including at an early stage, providing facilitation support for helping communities who are or will soon be badly affected by coastal erosion and inundation
12. SCCE Reports: Trustees produce public reports every 2 months as well as when action on urgent issues needs to be recommended
13. TDCCS Advisory Group The SCCE continues to tap into the support of the TDCCS Advisory Group (probably expanded into a South Canterbury Climate Strategy Advisory Group)
14. Public workshops: The SCCE to continue to hold workshops for communities along the same lines as the TDCCS has done
15. Independent reports: The SCCE to commission independent reports where appropriate
16. Commissioned projects and reports: The SCCE to undertake commissioned projects and reports where they are within the capabilities and principles of the SCCE

Structure for the SCCE

It is proposed that once key likely sponsors have agree in principle on the establishment and operation of a SCCE, that TDC's solicitors design the most effective structure for achieving the continued development of the Climate Change Strategy.

Proposal prepared by:

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Appendix

The following is a *small selection* of potentially major issues that the ongoing Climate Change Strategy is requested to consider. It is essential to understand the scale of these issues and to identify potential actions so as to guide decisions by our various communities on whether or not to *choose* to take action. In some cases, South Canterbury is awaiting clear central government policy and funding on adaptation and especially managed retreat and the huge question of “who pays?” The urgency and importance of these issues are well recognised by central government who have appointed a powerful team to prepare recommendations.

1. Main trunk line: While noting that Kiwirail has installed rock ‘armouring’ of the main trunk line south of Patiti Point, who is assessing options and making recommendations on all the direct and indirect impacts the line has for South Canterbury’s communities and all the risks it is exposed to?
 - a. Impacts
 - i. Servicing of Primeport Timaru
 - ii. Transport of food and materials into and out of South Canterbury
 - iii. Protection of public and private assets by the railway line acting as a stop-bank, with particular reference to the Redruth Landfill
 - b. Risks the line is exposed to
 - i. Coastal erosion and inundation south of Patiti point
 - ii. Inundation north of Timaru
 - iii. Railway line bridge damage due to river floods
2. Domestic food resilience: What is needed to increase South Canterbury’s domestic food resilience given that anecdotally 95% of food consumed in the region comes from outside the region, noting the significant disruption to South Canterbury’s food supplies caused by flooding in the Hawkes Bay
 - a. How much food is held commercially and privately within the area if supply lines are cut and how accessible is it?
 - b. How robust are the supply lines given that it has been reported (to be confirmed) that South Canterbury’s supermarkets hold just 3 days’ supply of food?
 - c. Does anyone have responsibility for improving domestic food resilience and if not, should ‘someone’ step up and take a lead on this issue?
 - d. What are the best options for increasing food resilience – more commercial storage? Home-grown-food? Community gardens? Allotments? Commercially grown food for local consumption? Other?
3. Water supplies:
 - a. How are municipal and domestic water suppliers throughout South Canterbury going to address the forecast more intense rain storms, river flooding and consequent dirtier source water? Nature-based solutions or hard-engineered solutions or a mixture of both?
 - b. What are the most effective options for how citizens can best improve their own water management e.g. via rainwater tanks, sponge gardens and other options?

4. Greenhouse gas emissions from transport:
 - a. Given that most local commercial transport is of goods that we use or for export (and therefore being very challenging to reduce that commercial transport), what are the best local options for reducing commercial transport emissions?
 - b. Given that the GHG emissions from cars taking goods home from a supermarket are at least 100 times greater than the GHG emissions getting the food into the supermarkets, what are the best options for reducing private vehicle emissions?

5. Coastal erosion and inundation:
 - a. Who is legislatively, or morally, responsible for helping landowners whose properties are increasingly subject to coastal inundation and erosion and what is the most effective form of that support?
 - i. Farms?
 - ii. Privately owned homes on privately owned land?
 - iii. Holiday properties on land leased from Timaru District Council?
 - iv. Others?
 - b. What options are available
 - i. Relocation to alternative sites (Where? Land use changes? Infrastructure?)
 - ii. Defend? Adapt? Other?
 - iii. Funding/compensation?
 - iv. Opportunities (Mahinga kai collection? Commercial food production from wetlands? Other?)

6. Commercial Food resilience
 - a. Local and overseas impacts of climate change will inevitably affect South Canterbury's commercial food production. A key recent issue is that major international customers of South Canterbury's food products, like Nestle and Tesco, are determined to reduce the *gross* carbon footprint of their supply chains with a particular focus on beef and dairy. Nestle intends to reduce the *gross* carbon footprint of its supply chain by 50% by 2030. *No existing policies and strategies exist that would enable South Canterbury's dairy and beef suppliers to meet Nestle's requirements so new strategies are urgently required.*
 - b. Opportunities are emerging relating to crops such as olives (Mediterranean growing areas are 6-8 degrees hotter compared to a global average temperature increase of 1.2 degrees) and that is seriously impacting olive production. An opportunity for South Canterbury?
 - c. Californian almond growers, the world's biggest suppliers of almonds, are ripping out their trees due to declining water supplies due to the shrinking Sierra Nevada snowpack. An opportunity for South Canterbury?
 - d. Precision-fermentation production of nutritional foods is already a reality and threatens to undermine New Zealand's animal-product exports. At the same time, Singapore, which is the global centre for precision fermentation companies, is becoming increasingly unliveable. It could be a good opportunity for us to invite these companies to South Canterbury so we can grow crops to supply them with their feedstocks.

7. Many other issues identified in the First Report of the TDCCS

8 Consideration of Urgent Business Items

9 Consideration of Minor Nature Matters