

Hearings Panel MINUTES ATTACHMENTS

Date: Wednesday 19 May 2021
Time: 2pm
Venue: Draft Ōtautahi Christchurch Climate Change Strategy
2021, Council Chamber, Level 2, Civic Offices, 53
Hereford Street, Christchurch

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Christchurch City Council

2021-2031 Long Term Plan
Draft Climate Strategy Strategy
Fiona Bennetts

We are in a Climate Emergency!

- We must reduce TRANSPORT emissions through
 - Public Transport (buses, ferries, trains)
 - Active Transport (walking, cycling, scootering, skating)
 - Car-pooling
 - Electrification of buses, ferries, fleet vehicles, taxis, ...
 - Moving freight off roads and on to rail
 - Providing passenger rail (build it and they will come)
 - Education and support for modal shift
 - Building more compact cities and towns with safe cycling connections
 - Cycle tourism – both on and off road
 - Slower speed limits on urban roads (30 or 40 km/h)

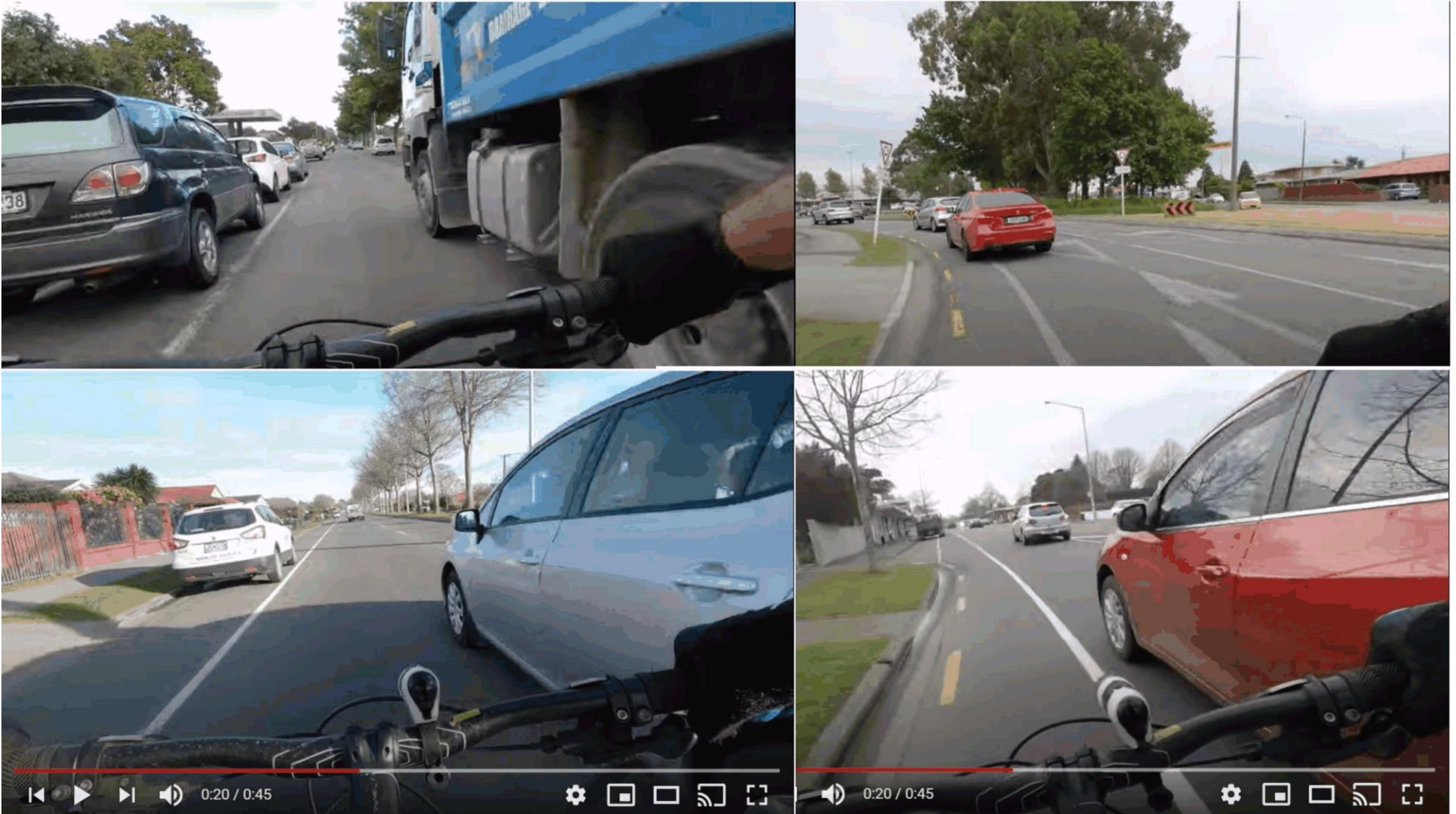
Co-benefits of active transport

Walking, cycling and other forms of active transport

- Increases community cohesion – know your neighbours
- Reduces congestion
- Increases foot traffic to businesses
- Has significant health benefits
- Can be accessible for everyone

This is why we need protected cycling infrastructure

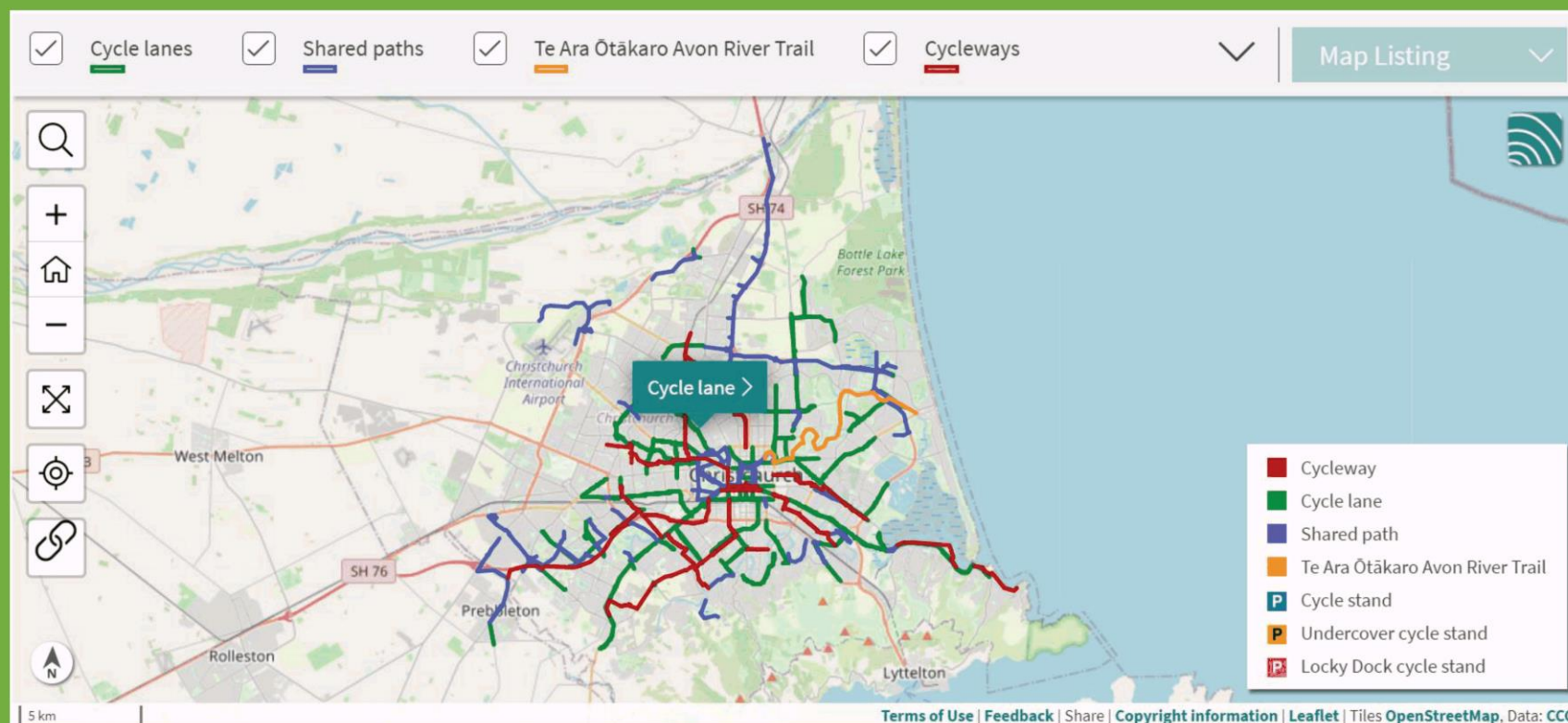




This is what happens when it is safe



- Connections and other cycling infrastructure not included in the Major Cycle Routes
 - Radcliffe Road – linking Northwood to the CNC
 - Prestons Road – linking Prestons Subdivision/Marshlands to the CNC



- Thank you
- Any questions?



Ōtautahi Christchurch Climate Change Strategy - draft 2021

Submission from John Gould

Goal 1: Net Zero Emissions Christchurch

The CCC has declared a "**Climate and Ecological Emergency**" - this makes extremely good sense the last time atmospheric CO2 exceeded 420ppm, over 3.5million years ago the sea level was 10-20m higher than today!

This is a scientific fact not some piece of "fake news" ...which we ignore at our peril!

So Why not aim for NET Zero GHG emissions by 2035 and a 50% reduction by 2027?

Programme 1: Building the foundation

This all sounds quite straight-forward when summarized this way, but while society remains trapped in our current "endless growth paradigm" still being promoted and actively supported by numerous council policies and investments, will the challenge of seriously tackling climate change have any chance of success?

Consider, the recent motorway extensions north and south of the city, the Tarras airport plans and the expansion of new satellite settlements like Rolleston and endless rural with little serious consideration to more sustainable transport options

Programme 2: Understanding local effects of climate change

What the CCC seems not to have fully grasped is that the "Climate and Ecological Emergency" is a global phenomenon!

How many climate refugees is NZ and indeed Christchurch willing to accept in the decades ahead? Hundreds, thousands, tens of thousands! Much broader thinking on all these questions is needed.

Programme 3: Proactive climate planning

It is good to see the CCC has begun "climate change education" at some schools, but why not ALL Schools?

Programme 4: Adapting and greening infrastructure

Promote Water Conservation and Rainwater Harvesting

Programme 5: Carbon removal and restoration

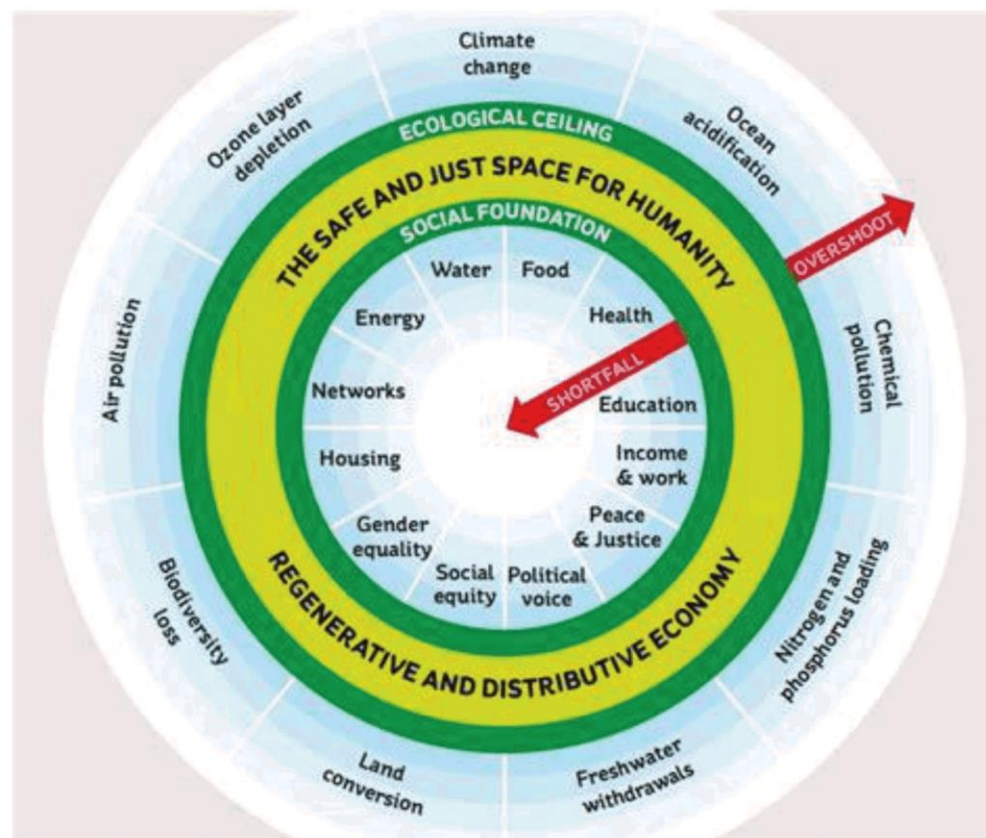
This is one of the best sections, but could go further and benefit efforts around carbon sequestration at a national and even international level.

In the Hinewai Reserve near Akaroa, CCC has a perfect example of what should be happening throughout NZ

CCC should invite Jacinda Ardern and relevant Ministers, James Shaw etc. visit Hinewai and listen to its story direct from the mouth of its architect Dr Hugh Wilson.

Programme 6: Economic transformation and innovation

CCC needs to urgently review its investment and interest in the development of a new International Airport in Tarras.



Doughnut Economics: Kate Raworth

Programme 7: Low-emission transport system

If CCC was to aim to halve emissions by 2027 transport emissions have to be a prime focus as they comprise 54% of total emissions so **Programme 7 MUST be explicitly prioritised.**

Rapid reductions in transport could be achieved virtually overnight by encouraging:

- Carpooling through introducing carpooling lanes during rush hour as they do in Auckland with T2 and T3 lanes.
- Encourage buses to run full not empty with \$1 everywhere fares (or free buses for all) – especially under 25s.
- Encourage more active transport walking, cycling, scooters and e-bikes.
- Light rail to Rolleston etc.
- More EV charging opportunities.
- Cycling training for ALL school children



One final plea, whatever else you do **please, Please, PLEASE** don't cut grants to community groups

Or

Close the bus lounges in Riccarton we will need them when the buses are no longer considered "loser cruisers" but are the "Coolest ride in town!"

Please work with Ecan to make this all happen, just to it!

Thank you for the opportunity to present!

Thursday, 8 April 2021

Concerns over proposal to close Christchurch bus lounges

2687 1

Canterbury > Christchurch

By Sophie Harris



A proposal to close two Metro bus lounges on Riccarton Rd has prompted concerns on how it will impact youth, the elderly and people with disabilities. Photo: File



Long Term Plan 2021 Submission

Richmond Residents and Business Association

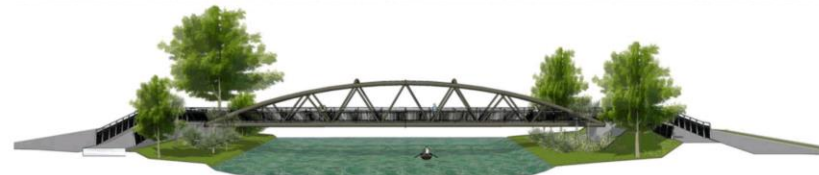
Medway Street Footbridge



As a community we are excited to see the footbridge finally being rebuilt.

We wish to continue collaborative consultation regarding Traffic and pedestrian movement

We want to ensure landscaping and ongoing maintenance are included in the LTP.



Parks and Reserves



We have a few parks and reserves in the Richmond area. Most of them are long overdue for full refurbishment. We ask council to more evenly spread funding and progress on refurbishments.

We want:

Petrie Park: Funding to collaborate with the community to improve this amenity

Richmond Park: Full refurbishment of old equipment

Richmond Village Green: Maintenance on the hedge and additional planting in the park

Avebury Park: CCC to respond to us from the October 2020 consultation

Dudley Creek / Roadside Gardens and Reserves to be contracted for regular maintenance



Residents are having to "*Snap Solve Send*" gardens that are severely overgrown. Why is CCC not maintaining these assets, rather than causing additional expenditure in order to bring the gardens back up standard?

Two recent examples



Parks and Reserves



Someone has removed our cocktopus



Richmond Park



Halswell / Longhurst Playground



Wigram



Avebury Park



Richmond Village Green



Shirley Reserve



Barrington Park



Scarborough Park



Cashmere Playground

There are clearly huge inequities in the funding being invested to parks in different areas of CHCH. This is simply unacceptable.

Shirley Reserve



We believe there are more than enough community accessible venues in the Richmond area

eg: Avebury House, The Borough (Richmond Club), Delta Community Trust, McFarlane Park Centre, Rhombus Studio, Shirley Primary, and Shirley Intermediate.

The Shirley Reserve should be retained as a reserve and amenity added in resource to beautify the park area, making the play area bigger, refurbishing the basketball court, creating more community gardens and areas for picnicking / food forestation.

There's opportunity to install a bigger permanent skate/pump track, which is what locals wanted from the start, look at the great examples that have been permanently created around the city thus creating a model for Shirley Reserve

Hornby Skate Park 😊



Shirley Reserve Modular Pump Track 😞



Central City Pump Track 😊



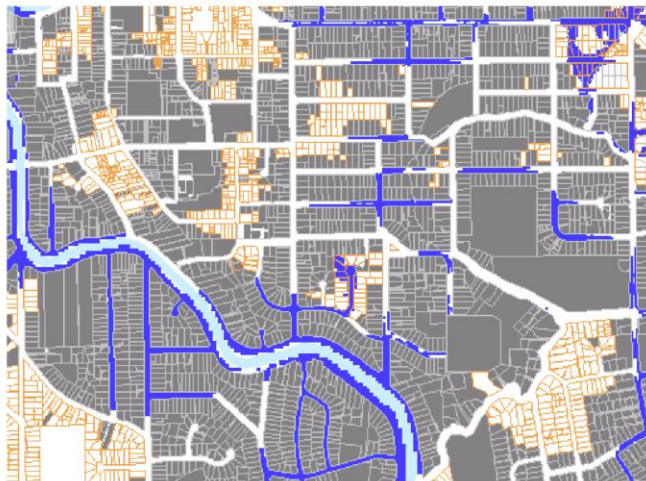
For a similar cost this could have been built as a permanent structure by local businesses instead out outsourced overseas

Floodplains / Water Supply

the R.R.B.A. would like to continue to be consulted in regard to the Avon floodplain management plan. Our suburb sits on the edge of the Avon from Fitzgerald Ave to Banks Ave and its an important aspect to our residents

We would like to be kept informed about the Water supply/Reticulation scheme regarding water supply to our area and the progress of the well work to bring them to a safe level for the public.

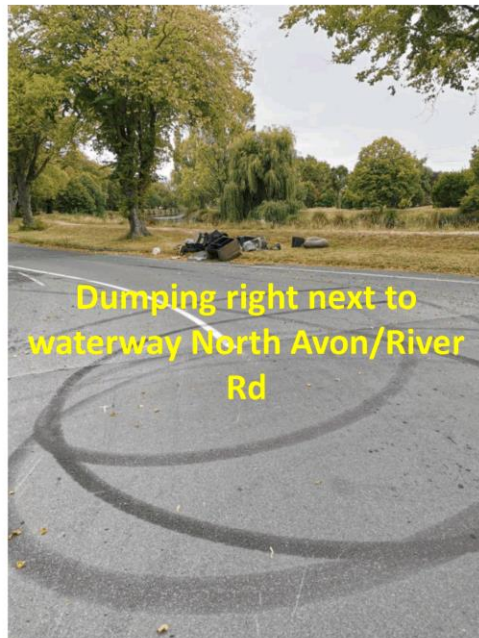
Richmond Flood Extent (200 year)



Crime Camera Installation

We urge the council to install crime prevention cameras in specific locations we have identified are continually experiencing fly tipping. This is costing all rate payers and polluting our streets and river system through close proximity dumping near storm water drains.

(Camera Locations) Bank Avenue/River Rd cnr - Medway St/River Rd cnr - Swanns Rd / River



(estimated cost to CCC for removal and correct disposal \$600,000 for 2020!!) prevention and enforcement must start

Otakaro Avon River Corridor

The O.A.R.C traverses the entire length of Richmond. It is an important recreational space and is the most activated part of the whole corridor due to the work of volunteers who predominantly live in Richmond.

The \$336 Million allocated to the OARC is well short of the \$700 Million promised after the Global Settlement. The fact that any money allocation to the Red Zone Regeneration Parks Development is not until 2024 suggests that this Council does not seriously regard the regeneration and the importance of this project to the city, nor to our community who are still in recovery mode from the 2010 earthquakes.

We want to see this funding reallocated so that it starts in 2021.

To ensure a robust implementation plan of the OARC funding, a co Governance model must be in place with CCC, the community and Iwi. Clarity needs to be provided on who the senior manager is and the role they play in overall guardianship of the vision.



Roading / Speed Reduction / Cycle Way

We fully support the Better Safer Roads submission where we will be talking in more depth regarding the following items

- Maintain the roading upgrade time frames and repairs
- Speed Reductions to 40ks for majority of the Richmond area
- Community driven safe cycleway through Richmond from Fitzgerald Ave to North Parade



Small steps to creating a safe community environments for all residents to enjoy and be proud of



Stanmore Road Rejuvenation



It's great to see a huge development in plan for Stanmore Road in the Linwood Village area.

As a committee we question why this 'Greening the East' initiative has only been seen to fruition by the Community Board for such a small segment of Stanmore Road and not been created to extend the full length of the retail precincts along Stanmore Road.

Michelle Lomax Chairperson of the working group says, “While we live in the city, it’s vital that we improve our ‘breathing space’ and everyday living by enhancing and expanding our green space. Greater green infrastructure in our local neighborhoods is core to this plan.”

Yet there is no plan from the same Community Board to help with creating better amenity in the Eastern areas of their Ward. This is shortsighted and disappointing from our perspective when plans were written and scrapped in the past, and when we have actively engaged Community Groups and a Community screaming out for better enhancement of the well overdue capital spend in Richmond.

We urge the Council to release more funding to bring this plan to fruition for the entirety of Stanmore Road and the Richmond area that has been neglected and underfunded by Council and the Community Boards for far too long.

Development Contributions



RRBA continues to express concern about the significant intensive development in our suburb over the last few of years, much of which the existing community considered inappropriate and significantly detrimental to the existing amenity in our community.

We are interested in the 'DC' monetary value collected and allocation of funds in respect of:

- Sports Parks (Richmond Park)
- Garden and Heritage parks (Avebury House, lawn and park)
- Neighborhood parks (Richmond Village Green, Avebury Park, Petrie Park, Richmond Park)
- Reserves (Shirley Reserve, Dudley Creek, Roadside Gardens)
- Otakaro-Avon River Corridor (Fitzgerald Avenue through to Banks Avenue)
- Water supply infrastructure
- Wastewater collection
- Road network (Road damage from new developments)
- Stormwater, flood protection and green infrastructure

We have seen little if any investment in any of these areas, yet a huge influx of housing intensification, so where is all the money collected from Development Contributions being spent by the City Council?

Development Contributions



Parks, public facilities and infrastructure are well utilized throughout the city. Ongoing investment is required to ensure they are well maintained, to ensure they are able to service the requirements and growth demand pressures of increased housing intensification. Development contributions should therefore be channeled directly back into areas experiencing increased housing density, to ensure those demands are met and to provide additional infrastructure, not syphoned off elsewhere.

District Plan rules in the Residential Medium Density Zones determine that intensification of over 65 households per hectare is a “non-complying activity”, which must be notified, therefore giving the public (rate payers and residents alike) the legally binding right to object to the non-compliant elements of a Developers Resource Consent Application, yet this is being repeatedly ignored.

In our opinion at the coalface, this is far from acceptable and needs to change.

Local & Central Government bureaucracy is not meeting the wellbeing needs of existing residents.

Christchurch rates are continuing to increase, yet funds are being rebated back to developers who are clearly getting rich at the expense of the Public Purse. If developers are not paying DC's in the Central City, where is the money coming from now and into the future, to create and add to amenity and to improve an aging and over stretched infrastructure? An already over stretched money pot?

Climate Change



We wholeheartedly agree with the Principles of the Strategy and wish to see these is action not just housed in another document somewhere.

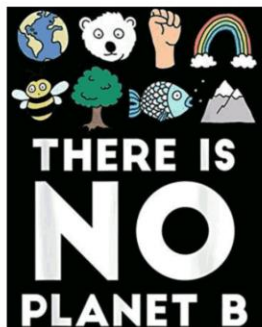
Partnerships between Mana Whenua, the Community and Council must be transparent, held as a high priority and more collaborative than ever before.

Make decisions using accurate fact checked data - be bold about the changes needed.

Our suburb exists alongside the Otakaro Avon River and at risk of sea level rise and flooding events that will impact people's properties and lives we need to plan for this.

A Climate Change Strategy Document is one thing, but it needs to be embedded

in the culture and everything that is being produced.
This is not something that we are seeing currently.



Climate Change



- We support the goals and recognise the threats of not actively planning to mitigate damage caused by sea level rises.
- We agree with the Principles of the Strategy but stress that those principles need to be part of an active high-profile programme.
- We support the 10 programs listed and submit that we have a role to play in the implementation of those programs in the Richmond area through our work with green scaping, OARC, community led planting programs, safe cycleways, speed reduction on inner suburb streets, the Te Ara Trail, a food security plan, new housing programs and community collaboration. (All expanded on in our full submission)
- A working climate change strategy document needs to be embedded in the culture of this city. There has to be more impact and evidence that long term plans, infrastructure design processes are producing signs of progress at a faster rate than currently apparent.
- Our community has the drive, the skills, the cultural awareness needed to make a collaborative partnership work with the City Council and the Community Boards to achieve the goals and realise the principles set out in the strategy.

Thank you for allowing us to speak to our submissions.



We want to work together collaboratively with the City Council and the Community Boards to create a suburb that uses our ideas, skills and talents where we can all participate towards a planning and final outcomes to feel valued.

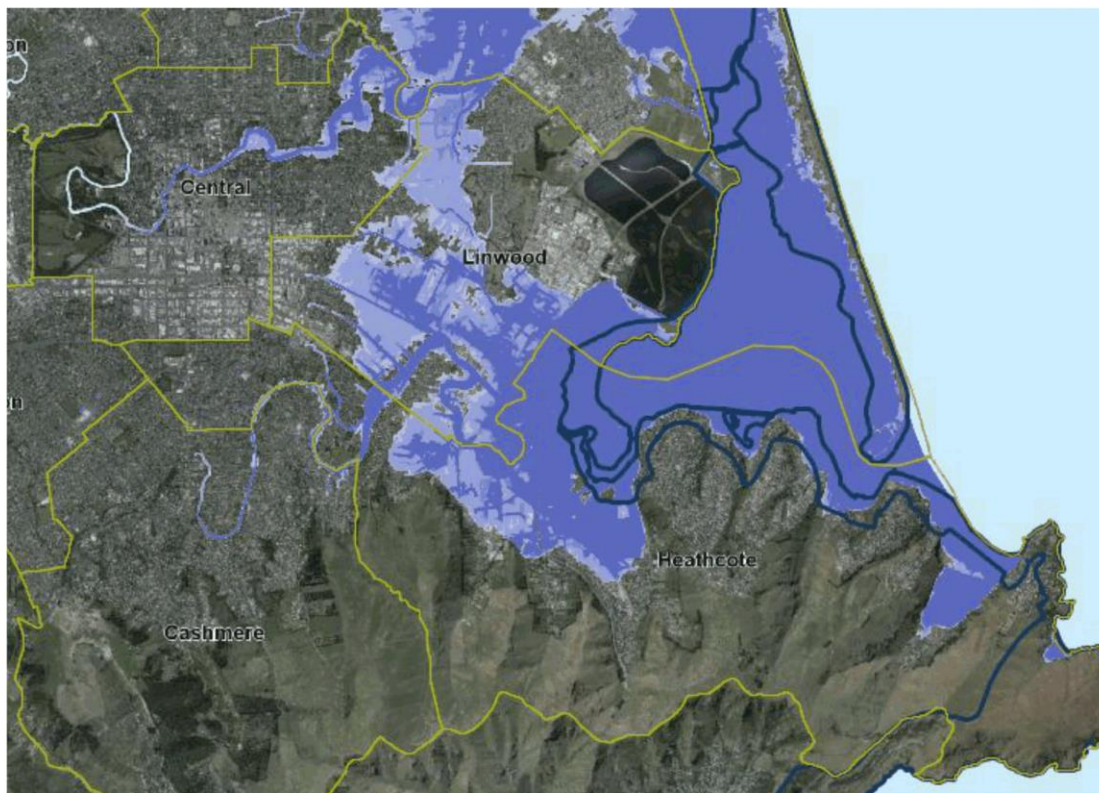
Richmond Residents and Business Association



“When you are in local government, you are on the ground, and you are looking into the eyes and hearts of the people you are there to serve. It teaches you to listen; it teaches you to be expansive in the people with whom you talk to, and I think that that engagement gives you political judgement.”

[Valerie Jarrett](#)

Waikura Linwood-Central-Heathcote Community Board



1

MAP

Area potentially at risk from coastal inundation in the next 100 years in a large storm or tide event (1 in a 100 year event).

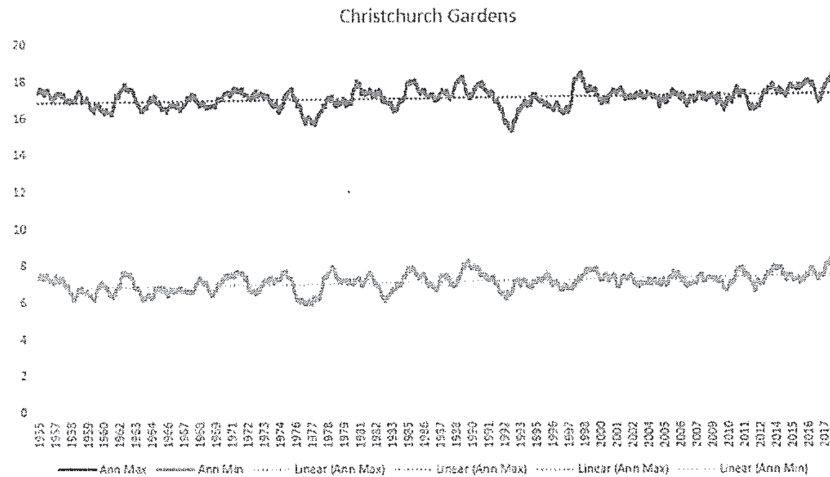
KEY

Dark blue ~50cm sea level rise
(low emissions scenario)
Light blue ~130cm sea level rise.
(high emissions scenario)

SUBMISSION # 39717

Christchurch Long-Term Temperature (rolling 12-month average)

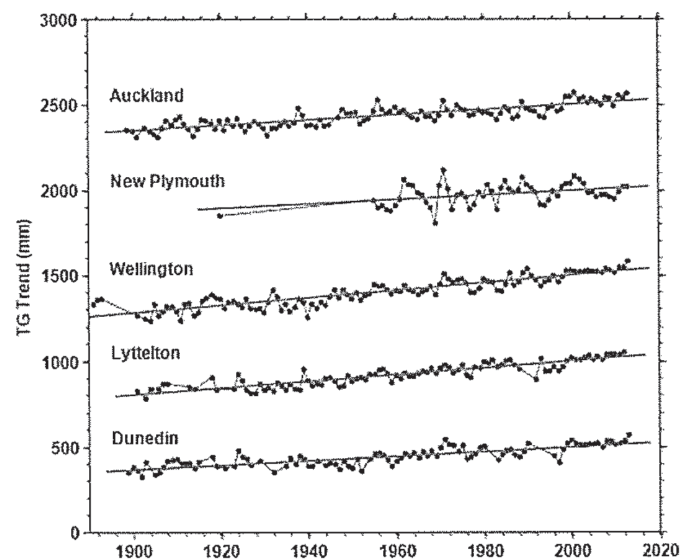
(Source: NIWA Data)



New Zealand Tide Gauge Data

(Source:

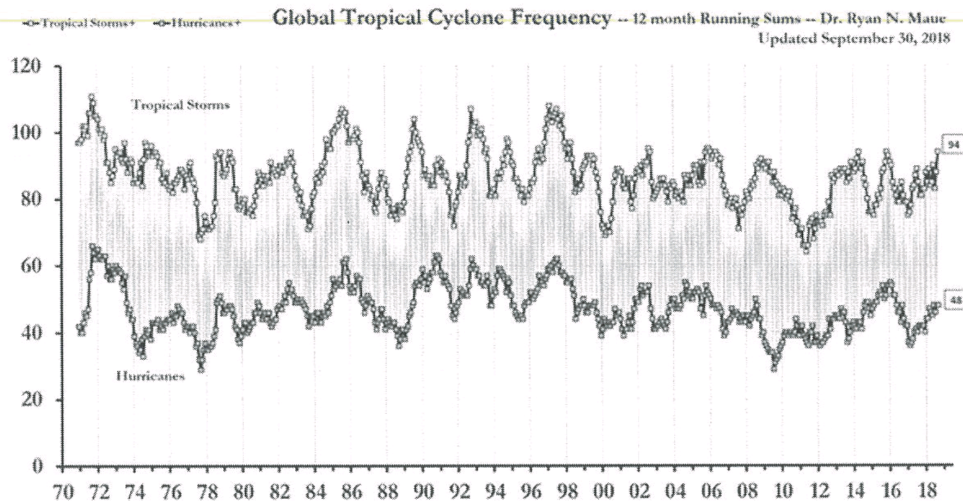
http://www.fig.net/resources/proceedings/fig_proceedings/fig2017/papers/ts01c/denys_beavan_et_al_8728.pdf?fbclid=IwAR1OIBWqTi6bjFbMIJSDf351_pWuQyJNb5Us5gHENDlO0mK5J-_ugs_bk84)



Incidence of Cyclones/ Hurricanes / Typhoons, 1971 – 2018

(Source: Dr Ryan Maue, Chief Scientist, NOAA)

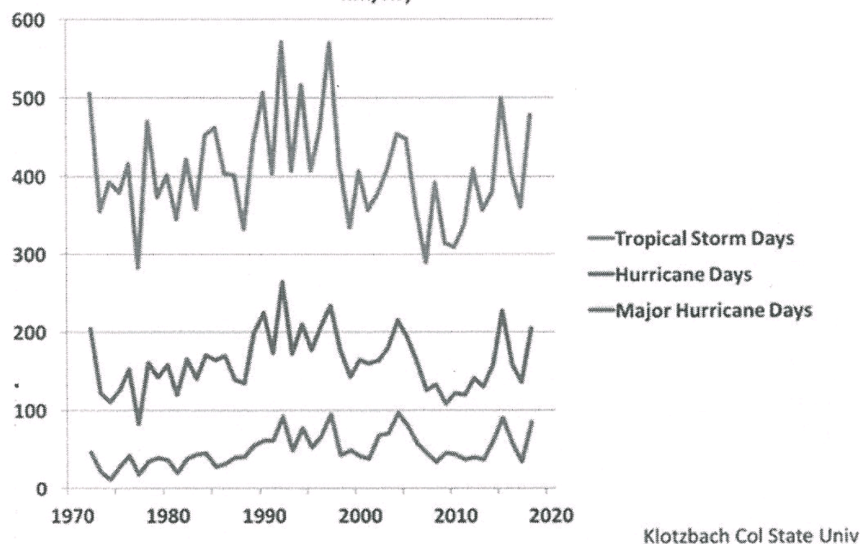
Global Hurricanes (1971 to Sep 2018)



Number of days with Cyclones/ Hurricanes / Typhoons, 1971 – 2018

(Source: Colorado State University)

Global Number of storm-days per year of Tropical Storm (>63 km/hr), Hurricane (>119 km/hr) and Major Hurricane (>178 km/hr)



Roger Larkins – Key data points for CCC Presentation

May 19, 2021, Page 3

Global Drought, 1950 – 2017

(Source: BAMS Summary of the Planet, 2018)

State of the Climate 2017

Global Drought Indices 1950-2017

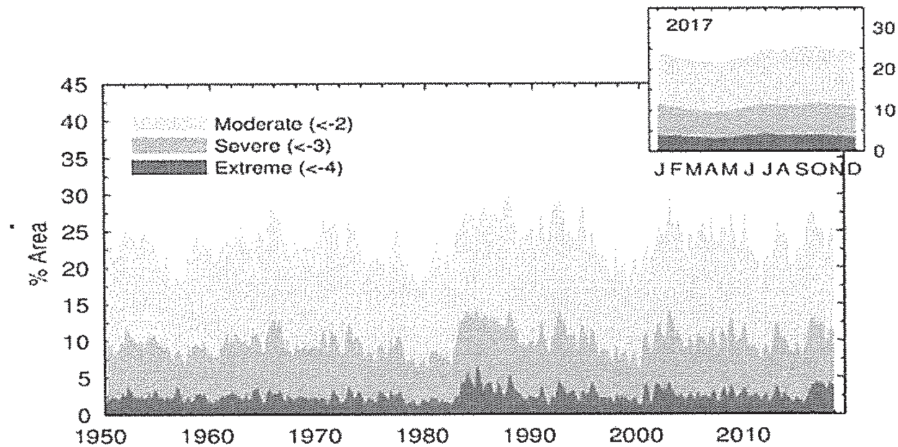


FIG. 2.31. Percentage of global land area (excluding ice sheets and deserts) with scPDSI indicating moderate (< -2), severe (< -3), and extreme (< -4) drought for each month of 1950–2017. Inset: each month of 2017.

Increased plant growth

(Source, CSIRO)



Submission on Draft Ōtautahi Christchurch Climate Change Strategy 2021

We believe there are vital concepts missing from the proposed strategy to the extent that the draft represents a wonderful desiderata, but falls short of giving a clear direction as to how the targets and desired outcomes will be achieved.

Just imagine a tourist asks you how to get to Wellington. You answer that it's good that he drives on the left side of the road, that he should head north, drive to the conditions and that following these instructions he can't miss it.

You learn that the tourist never made it to Wellington, but ended up in Dunedin. "What a drongo why didn't he stick to what I've told him to do."

Maybe those instructions weren't that helpful.

17-May-21

Diamond Harbour Community Association

The proposed strategy does not define GHG budgets

If asked what the average price for a house, car, smart phone or a packet of noodles is all Councillors will give a more or less correct answer. If asked how much GHG is emitted manufacturing or using these products they most likely will not have an answer.

Annual plan, Long Term Plan, budgets and debt ceilings are concepts that have become second nature for Council staff and constituents/residents alike.

We expect Council to employ a similarly stringent and robust framework for quantifying GHG emissions and relating these quantity units to individual Council actions. It is necessary to set GHG budgets (as we do for the Annual Plan) and operate within the budget constraints.

17-May-21

Diamond Harbour Community Association

We will do more of the same

Under the sections for each of the 10 Action Programmes is an impressive list of "examples of what's already happening". If so much effort has already been spent, why have the overall emissions increased?

- We don't want to rock the boat. We want to be seen as being politically proactive, but our implementation of policies is deliberately unambitious.
- There are powerful forces at work that resist change. With a bit more effort and encouragement we can change course and achieve our 4 goals.
- The whole approach is wrong. (A definition of insanity is doing the same thing over and over and expecting different results.) Suggested actions deal with symptoms, but not with root causes. Transformational change is needed.

17-May-21

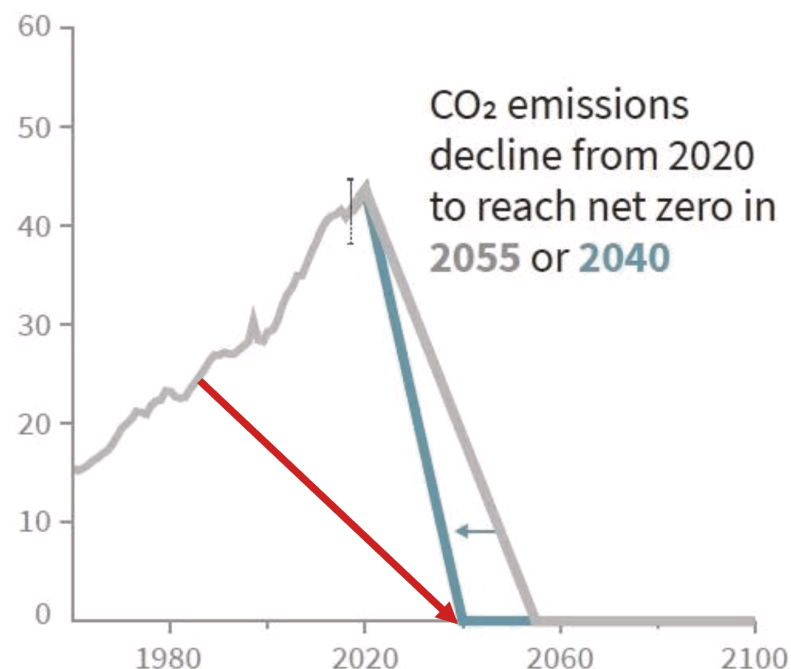
Diamond Harbour Community Association

12/02/2018

How much do we
owe
the planet?

The IPCC report includes a graph showing what this would look like:

b) Stylized net global CO₂ emission pathways
Billion tonnes CO₂ per year (GtCO₂/yr)



The graph illustrates the problem very clearly. Since 1992, the UN Framework Convention on Climate Change has met 23 times. These UNFCCC discussions have utterly failed to reduce CO₂ emissions. Yet from 2020, emissions have to drop dramatically, if we are to stand a chance of keeping global warming below 1.5°C.

17-May-21

How do we reconcile district-wide GHG emissions with the national and regional GHG Inventory?

We now have GHG emissions by **regions** (2007-2018) from the MfE Stats

In 2018 Canterbury is the 2nd highest emitter after Waikato with 11.9Mt, about 15% of NZ total.

AECOM produced the Christchurch inventory for 2016/2017 and 2018/2019; what kind of methodology was used? How does this compare with the official, national statistics?

17-May-21

Diamond Harbour Community Association

We also need to address the embodied carbon....

What are the targets and reporting methods for products and services imported into the district that are consumed in Christchurch and have a high GHG content (scope 3)?

What about international air travel and shipping?

Non-domestic air travel and shipping do not appear in our national GHG inventory. Will CHCH put strategies in place to curb emissions from these industries?

17-May-21

Diamond Harbour Community Association

The moral / ethical component....

One day our current behaviour will be seen as criminal transgression against nature and humankind

We are cannibalising the future of our children

We need strong leadership. When are we told truth like:

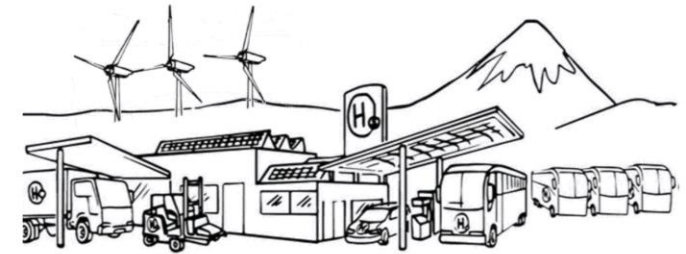
"we can't offer you anything but blood, toil, tears and sweat..."

17-May-21

Diamond Harbour Community Association

HIRINGA

The energy to change. Together.





The Christchurch Civic Trust Inc. PO Box 1227, Christchurch 8140, New Zealand

March 26, 2021

Dr Rod Carr,
Chairperson Climate Change Commission
PO Box 24448
Wellington 6142 PO

Dear Dr Carr,

Unfortunately the Christchurch Civic Trust (CCT) was not able to contribute to the initial national discussion about climate change and how New Zealanders might deal with it – not so much from a lack of interest but because its board members were grappling with many problems and issues which have beset the city since the Canterbury earthquakes.

Since 2011 when mass demolitions of heritage and other buildings began, members of CCT have endeavoured to alert first CERA, and now LINZ, to the negative environmental impact of unnecessary building demolition. This effort continues in response to the ongoing demolition of the internationally significant Cathedral of the Blessed Sacrament, ten years after the quakes.

Our submission consists of articles by those prominent in the field of climate change mitigation through retention and restoration of building stock, including from The Guardian and The Press; letters to the Editor at The Press; and a letter to Ministers on climate change and the possible demolition of The Princess Margaret Hospital. The submission also poses Climate Change Commission members some questions about sustainability and the minimisation of climate change with a 'greenest building is the one standing' precept which we consider well worth CCC adopting.

It is acknowledged that much of the material in this document has the particular flavour of the Canterbury earthquakes, for which we make no apology: Napier, Murchison, Inangahua, Kaikoura, Seddon, Wellington – earthquakes are a fact of life in New Zealand.

1 Front page The Press March 20, 2021 'The ultimate upcycle'.

The building of the new Marian College: local architectural firm Sheppard and Rout has designed 'what might just be the ultimate eco-build', the new Marian College in Papanui, Christchurch... 'But instead of demolishing the existing building, architects have designed the two-storey school inside the giant warehouse'...

He (Jasper van der Lingen) said... "one of the big drivers is sustainability... If you can re-use an existing building it is one of the most sustainable things you can do".

The new school will include a chapel built from South Island timber.

Part of the building's roof will be removed to create a walled garden which students can use.

The ultimate upcycle

Giant warehouse to be transformed into a school

Education
Lee Kenny
lee.kenny@stuff.co.nz

In what might just be the ultimate eco-build, a former supermarket warehouse is being converted into Christchurch's newest school.

Marian College will be retrofitted inside a former Foodstuff distribution centre - one of the largest commercial buildings in the South Island.

The college's Shirley site was destroyed during the 2011 earthquake, leaving it facing a nomadic decade of hopping from one school to another to share facilities.

Its new permanent home in Papanui will open in 2023, consisting of 26 classrooms, a chapel and a full sports hall.

But instead of demolishing the existing building, architects have designed the two-storey school inside the giant warehouse.

While security fencing, hazardous chemical signs and the coming and going of heavy goods vehicles currently give few clues as to the site's future, in two years landscaped gardens, sports pitches and parent drop-off spots will reflect its new incarnation as a school, albeit an unconventional one.

Principal Mary-Lou Davidson said she was surprised when she first heard the

Idea but is now proud the school will have such an "innovative" and environmentally-friendly new home.

"I was expecting a traditional school, but we looked at the fact we need to be sustainable, we need to live on the planet carefully - that's a really big focus for us as a Catholic school," she said.

"I don't know that there is another school like it."

Marian College is an all-girls faith school and the 3.16 hectare site, off Lydia St, was bought by the Diocese of Christchurch in February 2019 for \$17 million. The build is estimated to cost an additional \$25m.

Jasper van der Lingen, director at Christchurch-based architects Sheppard and Rout, the firm behind the design, said it was an "amazing concept" which challenges conventional ideas about what a school should look like.

"We have treated the warehouse as a big covered canopy and the school is sitting inside it," he said.

"It's as if the roof floats over it, which will give a really lovely environment, particularly on those days when we have a southerly whipping through."

"We've taken away the roof in one corner to make an outdoor garden, so students can still get out in the good weather."

He said "one of the big drivers is sustainability", and as well as repurposing the existing warehouse they will use prefabricated timber grown and milled in the South Island for the internal structures.

"If you can re-use an existing building it is one of the most sustainable things you can do."

Although the classroom and corridors will feel like a school, the designers did not want to disguise the building's industrial heritage, and exposed steel and rafters will be left visible, he said.

"We wanted to show that off, to an extent, but soften it and make it more school-friendly."

Marian College opened in 1982 with the merger of St Mary's College and McKillop College.

It was located in North Pde but following the 2011 quake the school was forced to leave the site after the banks of nearby Dudley Creek slumped and the land suffered significant damage.

For the rest of that year, Marian was hosted by its brother school, St Bede's College, before moving to its current location in Barbadoes St in 2012.

"We expected to be here for two to four years, but good things take time," said Davidson.

"This is a lovely ending to our journey and it's been worth the wait."

The new location will be close to St Bede's College and St Joseph's School, creating a "Catholic hub", she said.

The plans were unveiled to students and parents this week and the school has been heavily involved during the planning process, Davidson said.

"We did an extensive consultation with the community."

Students and staff gave their views on the types of spaces they wanted, as well as how the building will contribute to the school's culture.

"As a church school that's very important for us."

Marian College currently has a maximum roll of 430, but the new building will allow further growth.

Its former North Pde site is on the market, with the sale helping to fund the new build.

The 17,352 square metre warehouse was built in the early 1970s for the Four Square grocery group and was the second biggest such building in the country at the time.

Foodstuffs put it on the market in 2013, and it was bought by Bayview Property Ltd in 2014 for \$7m.

Mary-Lou Davidson

An artist's impression of what the new Marian College building could look like once completed.

This philosophy has been slow to catch on in New Zealand and we think it behoves the Climate Change Commission to encourage this approach to help mitigate global warming. We find it ironic that while the mantra 'reduce, retain, reuse (re-cycle)' is embedded in public consciousness in relation to a wide range of consumables, the application of it to the built environment is minimal. Buildings with 'good bones', or even damaged bones, are demolished left, right and centre with the following result:

- (i) embodied energy of that building (the total of all the 'energy construction/ environmental transactions' during its creation) is largely or totally lost. Particularly egregious examples in the post-2011 demolition blitz were the former Christchurch Railway Station, an extremely strong Ministry of Works-built structure and the former Millers Building (later the CCC offices), solidly built of reinforced concrete (see demolition image below). The demolition of both scheduled / listed heritage buildings involved heavy CO2 emissions in the building phase, with loss of embodied energy and heavy cartage energy use to waste disposal in 2012 and 2014.
- (ii) the demolition process itself will **a)** use energy / create CO2 which could have been employed in strengthening, re-purposing the building **b)** often lead to a repetition of the building process, from CO2 creation (steel, glass, cement manufacture), energy consumption / Co2 emission (transportation etc), dumping of construction waste (up to 50% NZ landfill with some harmful gaseous discharges). Please note following correspondence 4 on this aspect with Hon Eugenie Sage in 2018.

2 Extract from a CCT letter to Labour Coalition

Government Ministers 2018, on the fate of PMH



The Christchurch Civic Trust Inc. PO Box 1927, Christchurch 8140, New Zealand

Minister of Health Hon Dr David Clark
Minister for the Environment Hon David Parker
Minister for Arts Culture and Heritage Rt Hon Jacinda Ardern
Minister for Climate Change Hon James Shaw
Minister for Greater Christchurch Regeneration,
Minister of Energy and Resources Hon Dr Megan Woods
Minister for Housing and Urban Development Hon Phil Twyford
Minister of Conservation Hon Eugenie Sage

Dear Ministers,

The Christchurch Civic Trust is writing to support the Save Princess Margaret Hospital Group in its bid to retain this major Christchurch health facility for the benefit of the community and for *Christchurch* as a whole. ***As an NGO which has played an active part in the development of Christchurch since 1965, the Christchurch Civic Trust shares SPMH Group's fears that in the medium term the CDHB will consider it expedient to sell the hospital, a very substantial asset, in order to raise capital for its other ventures in Christchurch.*** Cashmere in particular has the oldest age demographic in the city, yet is furthest away from many essential health care services. In view of this we agree with the SPMH Group that it is imperative that the CDHB meets its responsibilities towards the ongoing and increasing health and welfare needs of the members of the community.

In the letter of 14.11.17 to Dr Clark (copied to Jacinda Ardern and Ruth Dyson) from spokesperson Lee Sampson, ***the SPMH Group also expressed its concern about the potential impact on the environment which demolition of this substantial physical asset would cause. Engineering advice suggests that the complex suffered low to moderate damage in the earthquakes and that the buildings can be remediated to the required standard, a course which we consider should be followed.***

The Christchurch Civic Trust is alarmed at the possibility of further unnecessary environmental degradation, with the huge loss of embodied energy (and flow-on effects), which demolition of this imposing 40,000 m2 steel, concrete and brick structure would cause. You will all be aware of the enormity of the demolition loss of buildings following the Canterbury earthquakes, including character buildings and some 250 listed heritage buildings, historical and modern. The Princess Margaret Hospital was opened in 1959 and as such represents a relatively rare species of local public building, given the demolition of the former Christchurch Railway Station (designed 1939, opened 1960), the former Millers building (1939) and the Majestic Theatre (1930). Although PMH is not a listed heritage building, it does represent an important part of the cultural legacy of leading Christchurch architectural firm the Luttrell Brothers (in various manifestations) over many decades.

We are given to understand that the building complex has the structural capability, with suitable seismic remediation, to provide for the ongoing needs of Christchurch citizens and that, should a limited future medical role for it be required it would be highly amenable to an adaptive wing by wing and floor by floor reuse approach which could combine affordable community apartment living as well as supporting community medical and social facilities gathered in a very distinctive environment. The building's location is currently well served by the Orbiter and Blue Line public transport Bus routes and has sufficient paved car parking for use by any residential tenants and their visitors. The grounds present scope for further landscaping. It is a desirable location for high density residential development through repurposing the existing buildings.

We refer you to the Stop Heritage Destruction Petition 2011/0062 (Ross Gray on behalf of the Christchurch Civic Trust, 15 October 2015), part of which drew attention to the environmental impact of building demolition. Reference was made to the research of world renowned US heritage economist Donovan Rypkema, who, on his second post-quakes visit to New Zealand in March 2015 was the Christchurch Civic Trust's guest for a day, en

route to Auckland where he was hosted by Civic Trust Auckland. His example of the energy losses incurred with the demolition of a building of modest scale (the negating of the environmental gains from the recycling of 1.334m aluminium cans) provides a measure for imagining the effects of the demolition of the enormous PMH complex: non-renewable energy consumption and greenhouse gases production from thousands of 50 tonne truck journeys dumping hardfill, loss of the energy embodied in the building's original construction – all this to reach bare land at which point the energy/greenhouse gases cycle starts again.

Our concerns are framed within the wider environmental context which global warming and non-renewable energy depletion necessitate and in relation to the recent enormous loss of Christchurch architectural heritage, along with urgent current and future health and housing needs. We would like to think that, when time allows within your hectic first days in government, the concerns of the Save Princess Margaret Hospital Group, supported by the Christchurch Civic Trust, will be carefully considered by you all.

Prof. Chris Kissling Chair Christchurch Civic Trust
Ross Gray Deputy Chair Christchurch Civic Trust,
Convenor Heritage, Urban Design and RMA Subcommittee

3 From Civic Trust Newsletter April 2018: the future for PMH?

WHAT IS THE FUTURE FOR THE PRINCESS MARGARET HOSPITAL?

Some members may be aware of recent developments with The Princess Margaret Hospital which has been an important part of the history of the city since 1959. In a nutshell, the hospital is to be declared surplus to requirements by the CDHB and expressions of interest are to be called for it on an "as is" basis, thus raising the very real possibility of demolition.

Although this news will probably not come as a complete surprise to members, it is a shock to think that this incredible building, a major part of the built identity of Cashmere and surrounds for nearly 60 years, could end up as pile of rubble. It suffered minor to moderate damage in the earthquakes with current seismic ratings generally varying between 35% and 100% of New Building Standard (NBS). There has already been far too much needless heritage and character building demolition in Christchurch following the earthquakes: this major asset must not itself become a demolition casualty!

What role for the Civic Trust? The board is helping, where possible, the Save Princess Margaret Hospital Group. Since late 2016 with Lee Sampson, Cashmere Spreydon Community Board member as its leader, the Save PMH campaign has been extremely active: a heavily attended public meeting with CDHB officials, an online petition, letter to Queen Elizabeth II, meetings with

David Meates, CE of the Canterbury and West Coast District Health Boards and so on. Before Christmas Lee wrote on behalf of Save PMH to Dr David Clark, Minister of Health seeking retention of community health services at PMH; a letter of support emphasising the value of retaining the building complex itself was sent by the Civic Trust to Minister Clark and the Ministers of Environment, Climate Change, Greater Christchurch Recovery.

Recently Civic Trust Board members Tim Hogan and Ross Gray met Lee Sampson and possible strategies were discussed, including obtaining the plans, possible re-uses of the building complex, eg shopping centre, entertainment, community facilities, apartment living. There has been a CDHB promise of some continuation of healthcare provision in the form of an Integrated Health Facility (largely private) as part of the building's re-use.

If you have ideas which you would like to share with us, please make contact either by phone or facebook or on our website secretary@christchurchcivictrust.org.nz Alternatively / in addition, your support to the SPMH group would be very welcome.

The city cannot afford to lose this highly significant structure, with a floor space of 40,000 sq m (4 hectares / 10 acres!) which contains a massive amount of embodied energy in the form of its steel, concrete and brick construction. The oft-repeated adage "the greenest building is the one standing" certainly rings true in this instance.

Ross Gray Convenor Heritage, Urban Design and Resource Management Subcommittee



The article below contains excerpts from Donovan D. Rypkema's presentation, Sustainability, Smart Growth and Historic Preservation, given at the Historic Districts Council Annual Conference in New York City, on March 10, 2007.

Let's start with the environmental responsibility component of sustainable development. How does historic preservation contribute to that? Well, we could begin with the simple area of solid waste disposal. In the United States, almost one ton of solid waste per person is collected annually. Solid waste disposal is increasingly expensive both in dollars and in environmental impacts. So let me put this in context for you. You know we all diligently recycle our Coke cans. It's a pain in the neck, but we do it because it's good for the environment. Here is a typical building in a North American downtown – 25 feet wide and 100 or 120 or 140 feet deep. **Let's say that today we tear down one small building like this in your neighborhood. We have now wiped out the entire environmental benefit from the last 1,344,000 aluminum cans that were recycled. We've not only wasted an historic building, we've wasted months of diligent recycling by the good people of our community.** And that calculation only considers the impact on the landfill, not any of the other sustainable development calculations like the next one on my list – embodied energy.

Embodied energy is defined as the total expenditure of energy involved in the creation of the building and its constituent materials. When we throw away an historic building, we are simultaneously throwing away the embodied energy incorporated into that building. How significant is embodied energy? In Australia, they've calculated that the embodied energy in the existing building stock is equivalent to ten years of the total energy consumption of the entire country. Much of the "green building" movement focuses on the annual energy use of a building. But the energy consumed in the construction of a building is 15 to 30 times the annual energy use.

Razing historic buildings results in a triple hit on scarce resources. First, we are throwing away thousands of dollars of embodied energy. Second, we are replacing it with materials vastly more consumptive of energy. What are most historic houses built from? Brick, plaster, concrete and timber. What are among the least energy consumptive of materials? Brick, plaster, concrete and timber. What are major components of new buildings? Plastic, steel, vinyl and aluminum. What are among the most energy consumptive of materials? Plastic, steel, vinyl and aluminum. **Third, recurring embodied energy savings increase dramatically as a building life stretches over fifty years.** You're a fool or a fraud if you say you are an environmentally conscious builder and yet are throwing away historic buildings, and their components.

Let me put it a different way – if you have a building that lasts 100 years, you could use 25% more energy every year and still have less lifetime energy use than a building that lasts 40 years. And a whole lot of buildings being built today won't last even 40 years.

The EPA has noted that building construction debris constitutes around a third of all waste generated in this country, and has projected that over 27% of existing buildings will be replaced between 2000 and 2030. So you would think that the EPA would have two priorities: 1) make every effort to preserve as much of the existing quality building stock as possible; and 2) build buildings that have 80 and 100 and 120-year lives, as our historic buildings already have.

4 Correspondence with Hon Eugenie Sage and TVNZ, 2018.

From: Ross and Lorraine Gray
Sent: Sunday, 22 July 2018 5:02 PM
To: Hon Eugenie Sage
Cc:
Subject: FW: building waste

Hello Eugenie,
It was great to see you on Q&A today and to see and hear your rational, unflustered approach! I think you made brief reference to building waste / landfill and I'd heard some rather astonishing figures at one stage. I sent the following to Corin, a bit late as we had recorded the programme, but indeed that 50% figure is astonishing.

Best wishes,

Ross

From: Ross and Lorraine Gray
Sent: Sunday, 22 July 2018 1:49 p.m.
To:
Subject: building waste

Hi Corin,
More attention needs to be paid to the extent of building and construction waste in the waste stream, landfill etc. Here's a section from a Rebri document: google building waste in the environment.

Waste is generated on building sites during each phase of the building life cycle. Evidence suggests that C&D waste may represent up to 50% of all waste to landfills in New Zealand and the majority of waste to clean fills or C&D dumps. That means that up to 1.7 million tonnes of C&D waste is sent to landfills every year and similar amounts to clean fills.

Kind regards,
Ross Gray

Ross
Thanks for the email and the good wishes. Yes you are right and by doing the analysis on extending the levy to more landfills I hope that we can encourage more re-use of concrete and other construction "waste."

Best wishes,
Eugenie Sage, Green Party List MP based in Christchurch

Parliament Buildings, Freepost, Private Bag 18888 Wellington 6160, New Zealand

5 A response in Letters to the Editor (The Press) from a CCT Board member to a reader's letter about the Stuff article by Eloise Gibson April 23, 2020 (Gibson is Stuff's climate change ed.)

'Covid-19: Trains, traps and pink batts – the govt's array of climate-friendly spending options'

Ross Gray response letter to editor The Press April 23, 2020

J C Glass's letter (April 25) dismissing Eloise Gibson's informative article on post-Covid-19 climate-friendly recovery, is very blinkered. While the article covers several vital aspects of the climate change-friendly way ahead, it barely touches on a much-overlooked but important factor, building construction. Cement production alone accounts for about 8% of the world's Co2 production; and building construction waste may constitute up to 50% of New Zealand's landfill. Post-earthquakes, Christchurch set a lamentable environmental example with the CERA-sanctioned destruction of hundreds of listed heritage and character buildings, much of it unnecessary. The result was a huge carbon footprint, with unnecessary embodied energy loss along with energy consumption from demolition and dumping – followed by resumption of the construction / consumption cycle. More than ever, it behoves local and central government to action and encourage more environmentally responsible building practices in our 'new' world. As has been stated, 'the greenest building is (still) the one standing'.



Demolition of former Millers Building 2014: massive innovative concrete construction 1939

**6 Increasing public awareness of damage to environment
by unnecessary demolition, 2015.**

Earthquake recovery causing environmental damage

Earthquake recovery environmental damage is finally getting a public airing: loss of embodied energy, non-renewable energy consumption, greenhouse gas emissions from unnecessary demolitions – and then the whole building cycle again!

During the Christchurch City Council Town Hall restoration vote, Mayor Dalziel deplored the demolition of reparable buildings. Johnny Moore (June 25) rightly condemns the demolition of the new (135 per cent of code!) Westende building. A recent *Press* front page (June 22) laments the extension of the Burwood Resource Recovery Park earthquake materials dumping.

With the 2012 Blueprint release, the Civic Trust, IConIC and Historic Places Canterbury drew attention to the “insupportable profligacy” it signalled, including the clearing of the former Millers building, the Majestic, Torrens House.

A 2013/2015 Christchurch heritage groups’ presentation to the Parliamentary Finance and Expenditure Committee noted the huge impact of the demolitions on the environment.

Since the quakes, Christchurch has punched well above its weight environmentally, yeah right: millions of tons of demolition destruction with all its environmental ramifications, much of it unnecessary and for which Cera should be deeply ashamed. The greenest building is the one standing.

22/ 23 JUNE 2015

ROSS GRAY
Fendalton

The Press

7 **CCT submission on NPS-UD October 2019**



1001, 1002, 1003
The Christchurch Civic Trust Inc. PO Box 1922, Christchurch 8140, New Zealand

10th October 2019
Ministry for the Environment
PO Box 10362
Wellington 6143

Submission on NATIONAL POLICY STATEMENT – URBAN DEVELOPMENT

This submission is made by the Christchurch Civic Trust, which welcomes the opportunity to comment on the proposed National Policy Statement on Urban Development (NPS-UD). We would like to say, however, that we think it is highly regrettable that the Ministry has allowed such a short space of time for people and groups such as ours to make submissions on this extremely complex and important matter.

At the outset we would like to comment that at this time, when climate change and environmental sustainability are at the forefront of attention, both national and international, a national policy statement on urban development must consider first and foremost the explicit and implicit environmental costs in any recommendations it makes.

The Christchurch Civic Trust has a long-standing concern for the quality of urban design and for the retention of the city's built heritage and urban spaces. Hagley Park in Christchurch, which is a case in point, is constantly under the threat of encroachment and privatisation of the commons involving commercialisation.

The Trust has considered the impact the proposed statement will make with respect to the country's heritage buildings and other buildings of importance, including character buildings; we believe that the NPS-UD has the potential to make radical and negative changes to the distinctive heritage character of sections of New Zealand urban environments.

Too often in New Zealand the demolition of existing buildings is seen as the only way to create higher density urban areas. The proclivity of developers for scorched-earth demolition of remediable buildings, heritage and other, needs to be replaced by a recognition of the need to "retain, restore, reuse", given that a significant part of the world's climate change problem is a direct result of the construction of the built environment. Cement manufacture alone accounts for about 8% of world CO2 production.

“The greenest building is the one standing”, a mantra often repeated by heritage advocates, means that the production of materials used in the construction of existing buildings has already wrought environmental damage. Unnecessary demolition means wasted energy, loss of the building’s embodied energy and waste removal of greenhouse gases production – all for a repeat of the building cycle: all environmentally irresponsible.

Other countries - including many European ones - deal with retention of heritage buildings in a more considered and constructive manner.

The Christchurch Civic Trust is concerned that the proposed NPS-UD may well undermine the protection of historic heritage from inappropriate development which is a matter of National Importance under section 6(f) of the Resource Management Act 1991.

The proposals put forth in the NPS-UD will require high-growth cities to make room for growth regardless of their present planning and rules designed to protect historic heritage from inappropriate development.

While the Christchurch Civic Trust is not opposed to development or intensification per se, it is strongly opposed to inappropriate development which threatens heritage protection and has the potential to destroy heritage buildings and important urban spaces in New Zealand cities. It is also opposed to feeding developers’ desire for growth at the expense of the environment (as explained above.)

The NPS-UD undermines the RMA’s existing standard by its use of the weaker term “reflecting” heritage in the scope of what constitutes a quality urban environment.

We advocate for all urban regeneration and green-field developments to consider the energy efficiencies of alternative design elements, taking into account energy consumed in alternative transport systems that serve those developments, with encouragement for use of renewable energy sourced as locally as possible. In addition we support protection for highly productive soils and avoidance wherever possible of covering those agriculturally productive soils with housing.

The Christchurch Civic Trust urges the Ministry of the Environment to produce a NPS-UD which acknowledges heritage in a much more positive and definitive manner and also ensures that future urban development is undertaken in a way that is as environmentally responsible as possible.

Prof Chris Kissling
Chair Christchurch Civic Trust

Contact:
Ross Gray
Deputy Chair Christchurch Civic Trust
Convenor Heritage, Urban Design and Resource Management Subcommittee

8 Being kind to the environment – and to heritage

[The Guardian - Back to home](#)

Architecture

'Sometimes the answer is to do nothing': unflashy French duo take architecture's top prize

Spellbinding pragmatism ... the Palais de Tokyo in Paris. Photograph: Courtesy of Philippe Ruault

The Pritzker prize, once reserved for flamboyant creators of icons, has gone to Lacaton & Vassal, whose rallying cry is: 'Never demolish, never remove – always add, transform and reuse'



Spellbinding pragmatism ... the Palais de Tokyo in Paris. Photograph: Courtesy of Philippe Ruault

The Pritzker prize, once reserved for flamboyant creators of icons, has gone to Lacaton & Vassal, whose rallying cry is:

Never demolish, never remove – always add, transform and reuse

W

hen Lacaton & Vassal were commissioned to redesign a public square

in Bordeaux, their response was unusual. The French architects told the client to leave it alone. They thought the square was perfectly good as it was, and that public money would be better spent elsewhere.

“When you go to the doctor,” said Jean-Philippe Vassal, “they might tell you that you’re fine, that you don’t need any medicine. Architecture should be the same. If you take time to observe, and look very precisely, sometimes the answer is to do nothing.” In Bordeaux, the architects’ diagnosis was that the square just needed some new gravel.

Vassal and his partner, Anne Lacaton, have built a 30-year career on knowing how to intervene with the most economical of means, for which they have now been recognised with the Pritzker prize, architecture’s highest honour. In an age of demolishing public housing and replacing it with shiny new carbon-hungry developments in the name of “regeneration”, Lacaton & Vassal have worked tirelessly to expand and upgrade existing buildings with surgical precision, transforming the lives of thousands of people in the process.



Low rise ... an example of social housing in Saint-Nazaire by Lacaton & Vassal. Photograph: Courtesy of Philippe Ruault



Modernist hopes ... Anne Lacaton and Jean-Philippe Vassal. Photograph: Courtesy of Laurent Chalet

From social housing to contemporary art centres, they always begin with a forensic assessment of what is already there, and how it could be improved with a minimum of resources. They prefer spreadsheets to slick computer-generated images, stretching shoestring budgets and using simple, off-the-peg materials with elegant economy, to “make more and better with less”. Their powerful rallying cry has become all the more **urgent in light of the climate emergency**: “Never demolish, never remove or replace, always add, transform, and reuse!”

It is a fitting moment for a prize once reserved for flamboyant sculptors of icons to be awarded to a practice that would prefer you didn’t notice their presence at all. “Lacaton & Vassal have proposed an adjusted definition of the very profession of architecture,” said the Pritzker jury. **“The modernist hopes and dreams to improve the lives of many are reinvigorated through their work that responds to the climatic and ecological emergencies of our time, as well as social urgencies.”** Their architecture, it concluded, is “as strong in its forms as in its convictions, as transparent in its aesthetic as in its ethics.”

The architects’ fiercely pragmatic approach is most visible in their pioneering work on public housing in France, where they have transformed a number of blocks in Paris and Bordeaux, enlarging the flats and drastically improving their environmental performance. In the early 2000s, when the French state was allocating €167,000 for the demolition and rebuilding of each apartment, they argued that it was possible to redesign, expand and upgrade three flats of the same size for that amount. And they proved it. Working with Frédéric Druot, **they completely transformed the 1960s Tour Bois le Prêtre in Paris in 2011**, extending the floors of the tower block by three metres on all sides and wrapping the building with a new skin of glass, creating an insulating overcoat of covered

balconies, or winter gardens. Miraculously, the residents could remain living there throughout the construction process – no “decanting” necessary.

They used a similar strategy at the Grand Parc estate in Bordeaux, with Druot and Christophe Hutin, where three ailing council blocks were given a new lease of life in 2017. Once again, the flats were upgraded and extended with a second skin, some nearly doubling in size – all for just €65,000 per home, about a third of the cost of demolishing and building anew.

“Demolishing is a decision of easiness and short term,” said Anne Lacaton. “It is a waste of many things – a waste of energy, a waste of material, and a waste of history. Moreover, it has a very negative social impact. For us, it is an act of violence.”

Transformed ... the Tour Bois le Prêtre in Paris. Photograph: Courtesy of Philippe Ruault
Lacaton & Vassal take the same surgical approach to their cultural projects, too, creating poetry out of pragmatism, most successfully in the spellbinding form of the Palais de Tokyo in Paris. Here, over several years, they have carved out a beguiling sequence of gallery spaces from the shell of a palatial 1930s expo building, excavating a range of different rooms that makes visiting this contemporary art gallery feel like exploring an archaeological dig.

In Dunkirk, they were charged with transforming a postwar ship-building factory into an arts centre. But they decided that the majestic ship hall was too powerful a space to fill with new floors of galleries, so they elected to build a ghostly doppelganger of the building right next door, using translucent materials to create the effect of an ethereal twin. The compelling void of the hall was left empty, creating a dramatic backdrop for performances and events.

“Radical in their delicacy and bold through their subtleness,” in the words of Pritzker jury chair Alejandro Aravena, Lacaton & Vassal’s new buildings are equally as inventive and sparing as their renovations. For a new architecture school in Nantes, they built an open three-storey concrete armature, kitted out with retractable polycarbonate walls and sliding doors, allowing multiple configurations of use, with all the floors connected by a wide sloping ramp. Their approach allowed them to provide almost double the space outlined in the brief for the same budget. “Economy,” they said, “is not a lack of ambition, but a tool of freedom.”



Ethereal twin ... FRAC Nord-Pas de Calais, Dunkirk. Photograph: Courtesy of Philippe Ruault

But their no-nonsense pragmatism doesn't always work in their favour, particularly when it comes to architectural competitions. While most architects present seductive images, Lacaton & Vassal prefer to submit line-drawn plans and financial tables. "We don't know what the final result will look like," said Vassal, "and we're not going to pretend that we do."

9 New Zealand examples of the L&V approach

New life for old buildings

- The Press
- 16 Jan 2019
- marta.steeman@stuff.co.nz Marta Steeman



Window units being installed during the redevelopment of Wellington's Charles Fergusson tower.

Commercial building specialists are eyeing the Government's \$100 million "green" investment fund, launched in December, to help upcycle old buildings. Engineering consultancy Beca said there was a huge opportunity to improve the country's building stock, which is now believed to be belching out 20 per cent of New Zealand's total carbon pollution.

Beca building services engineer Ben Masters said the 20 per cent estimate included the carbon emissions impact of extracting raw materials, manufacturing building components and demolishing and disposing of construction waste.

New builds generated a huge amount of carbon pollution, Masters said. "So rather than turning our cities into building sites, why aren't we upcycling our existing building stock first?"

The trend for developers to consider low-emissions options such as timber missed the bigger possibilities of reusing buildings. The redevelopment of Aorangi House, a 1970s building in Wellington's Molesworth St that was abandoned and leaking and saved from the wrecking ball, was a prime example of what could be achieved.

Beca won the World Green Building Council's Leadership in Sustainable Design and Performance Award last year for the transformation of Aorangi House. The project cost \$9m versus \$25m for a new build, with far less carbon emissions than demolishing and building new.

Natural ventilation, new solar controlled double glazing, external solar shading, and use of the building's concrete mass to store heat in winter and cool the interior in summer were features of how Beca and design partners Studio Pacific Architecture achieved a building that consumed 64 per cent less energy than a typical office building and performed better than most new commercial properties. Masters said there were plenty of small "refurbs" but only a few full-blown upgrades like Aorangi House taking place.

Seismic upgrades provided another opportunity to upgrade energy systems and help reduce the country's carbon footprint, but a lot of that work was being completed at a bare minimum to comply with the new national building standard (NBS). The green fund, New Zealand Green Investment Finance Ltd (NZGIF), could help building owners grapple with energy refurbishments, Masters said.

The Government announced the fund at Beca's offices in Aorangi House. Energy efficiency in commercial buildings was one of the projects mentioned as suitable for fund investment along with electric vehicles, manufacturing processes and low emissions farming practices. Beca disagreed with an analysis that the fund's goals were conflicting and that there was inherent risk in funding projects the market had failed to back.

Many landlords were strapped for cash, so if capital was available on attractive terms from NZGIF, that might persuade more landlords to tackle major energy refits, he said. "We see huge potential for it as long as it was structured in the right way."

Energy efficiency made more sense than investing in new technology that was not proven. Tuning a building's energy systems using computers would pay for itself in less than two years and would have a big impact on the 1200 large office buildings in New Zealand that were responsible for over half of the emissions from office buildings, Masters said. "We're saying energy efficiency is low risk because it's proven to work."

Engineering building specialist David Fullbrook at eCubed said it was mostly the corporate property companies that were undertaking wholesale redevelopments of existing buildings. Hundreds of commercial buildings were owned by smaller firms, which were focused on the rentals rather than on maintenance or retrofitting.

Tenants were attracted to shiny new buildings, Fullbrook said, so it might take a shift in thinking for redeveloped buildings to compete. He said about 90 per cent of New Zealand's building stock was existing and older buildings, while the remaining 10 per cent was new. So to reduce carbon emissions the older stock had to be upgraded for greater energy efficiency.

One of the issues was that lower energy bills following retrofits benefited tenants rather than landlords because of the way rental payments were structured. New buildings might have new energy systems but they were not managed well in New Zealand, Fullbrook said.

Many buildings could save 30 per cent of their energy consumption simply through better tuning and management systems, he said.

Green Building Council chief executive Andrew Eagles said the new green fund was welcome and "at least some form of support".

The single most important thing the Government could do was require a NABERSNZ energy efficiency rating on the buildings it leased, Eagles said. The Government paid for the NABERS rating tool from Australia but it did not require the owners of buildings it leased to supply NABERS ratings.

"Obviously you can throw money at things but perhaps the bigger step forward would be just for the Government to say: 'When we are leasing we would expect a NABERS certificate on that building.'"

Landlords would react to that and over time they would improve their energy systems, he said.

9.1 Letter to Editor re article "New Life for Old Buildings" by Marta Steeman The Press Jan 16, 2019

Marta Steeman's article (The Press January 16) "New Life for old buildings" is extremely heartening. Post-earthquakes the message that the greenest building is the one standing has often been said in letters to the editor and was put forward to a parliamentary select committee in 2014 by heritage advocates.

The negative environmental impact of hundreds of heritage and non-heritage buildings' demolition by the previous government (Civil Defence, CERA and CCDO) could have been greatly reduced had there been acknowledgement of the effects of demolition and new building construction as outlined in Marta's article.

Restoration of the Isaac Theatre Royal, the Arts Centre, Trinity Church, the former Public Trust building (and many more), not to mention Christchurch Cathedral and McLean's Mansion, are all wins for the environment – and for our civic identity. In terms of Marta's article, an environmentally friendly future for a re-purposed Princess Margaret Hospital will be extremely important.

Ross Gray

10 Some CCT Questions for Climate Change Commission

- In approximate terms, what was the scale of the Canterbury earthquakes' demolition carbon footprint?

Guide: c. 250 heritage buildings were demolished, many remediable / c 1200 city (non-heritage) buildings were demolished, primarily commercial / CCT understands that c 8 million tonnes of 'waste' material was dumped in landfill.

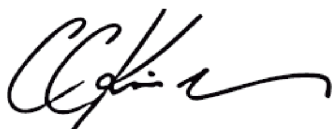
'Following the Canterbury earthquakes, it was estimated that approximately 8.75 million tonnes of construction and demolition waste would be generated, equating to roughly 40 years of waste normally sent to landfill from the city'.

ECAN website entry: [Managing disaster waste | Environment Canterbury](#)



- What changes might CCC make to give more emphasis to this aspect of climate change mitigation?
- Is CCC actively pursuing this building and construction/ demolition avoidance course of action as part of nation-wide energy/emissions reduction guideline?
- Has the construction carbon footprint of Te Pae been calculated? (This should include the loss of embodied energy in the demolition of the former Public Library and other buildings within the two city blocks occupied).
- Does CCC agree that planning for all central and local government building projects must be subjected to a comprehensive 'carbon footprint / climate change audit' which examines total energy consumption / greenhouse gases production to be associated with the build (including demolition environmental impacts)?

Prof Chris Kissling Chair Christchurch Civic Trust

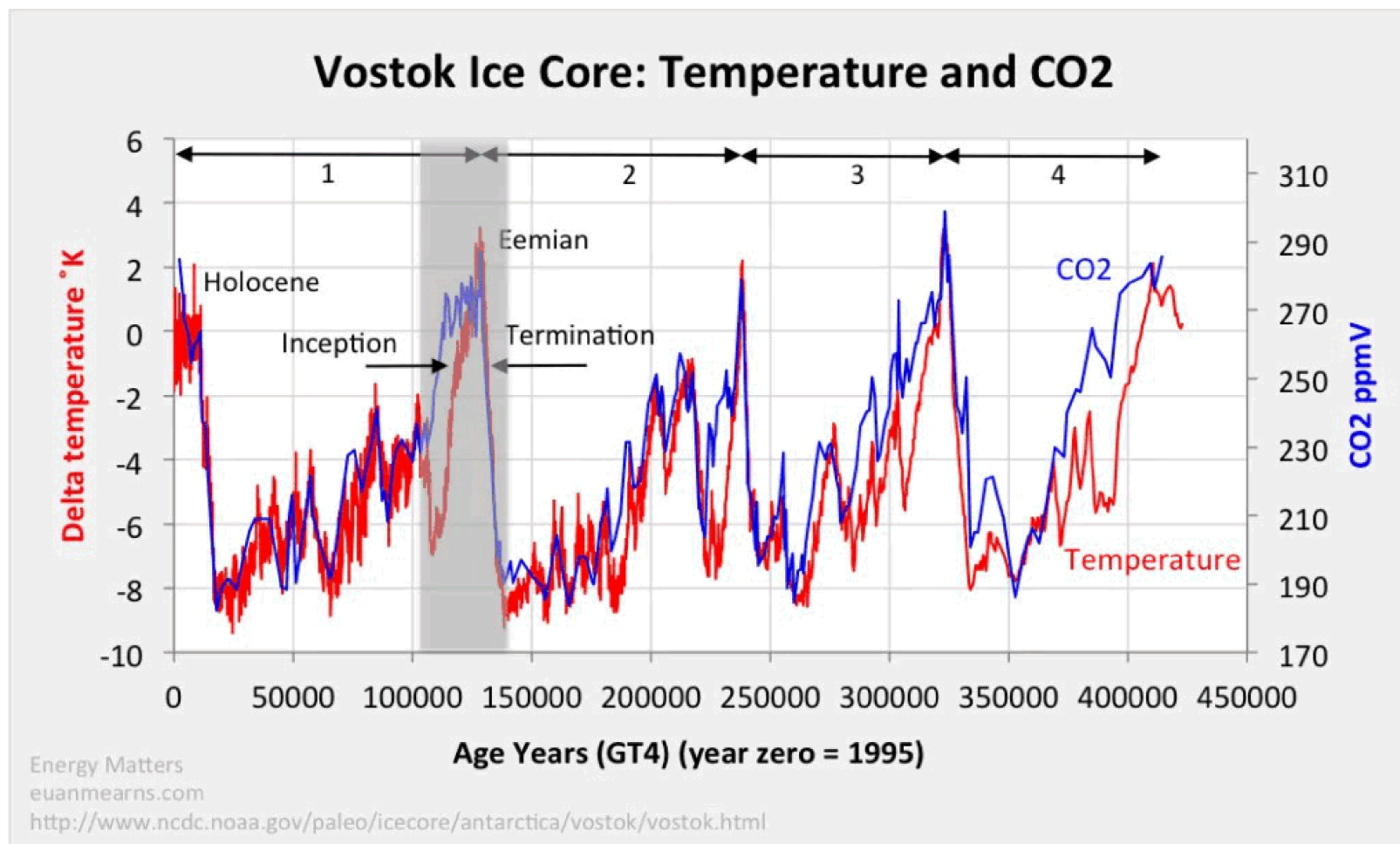


Ross Gray Deputy Chair
Convenor Heritage, Urban Design & Resource Management Subcommittee



Ice cores show Temperature leads CO₂ by the order of several hundred years ALWAYS.

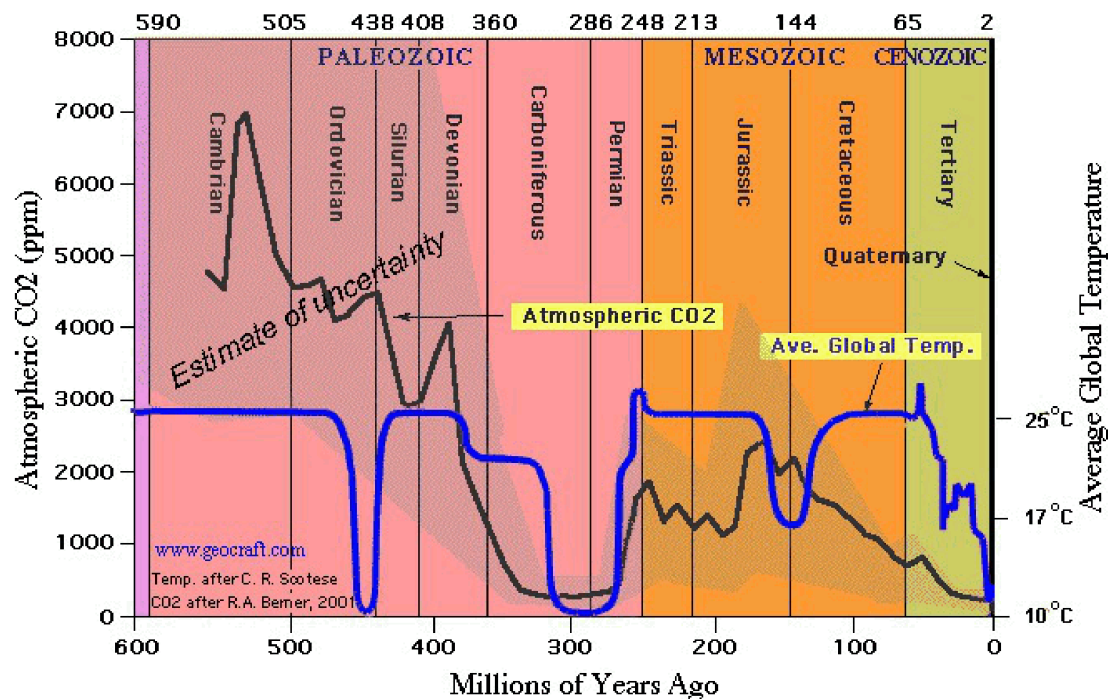
<https://wattsupwiththat.com/2018/09/09/empirical-evidence-shows-temperature-increases-before-co2-increase-in-all-records/>



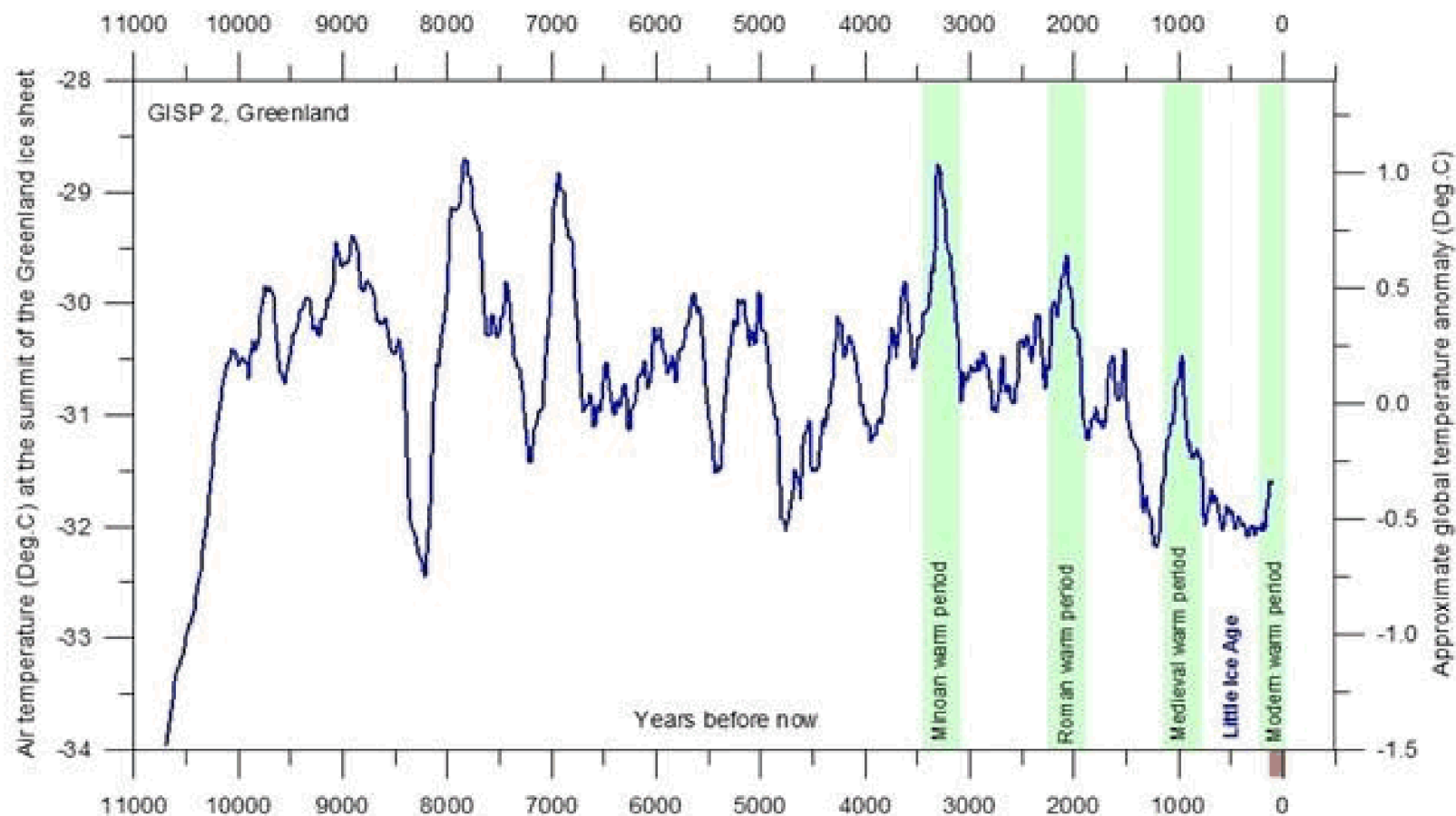
Ice cores are likely not good for absolute concentrations of CO₂

Plant stoma, tree rings, ...

Because it can take many decades for snow to compact to ice the gasses can mix through layers.

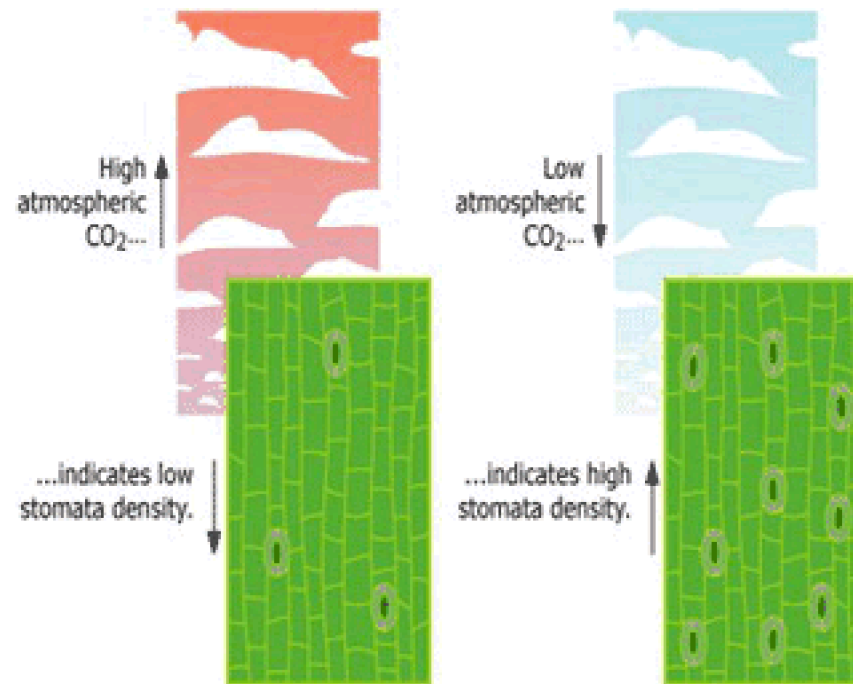


<https://wattsupwiththat.com/2016/07/31/a-warm-period-by-any-other-name-the-climatic-optimum/>



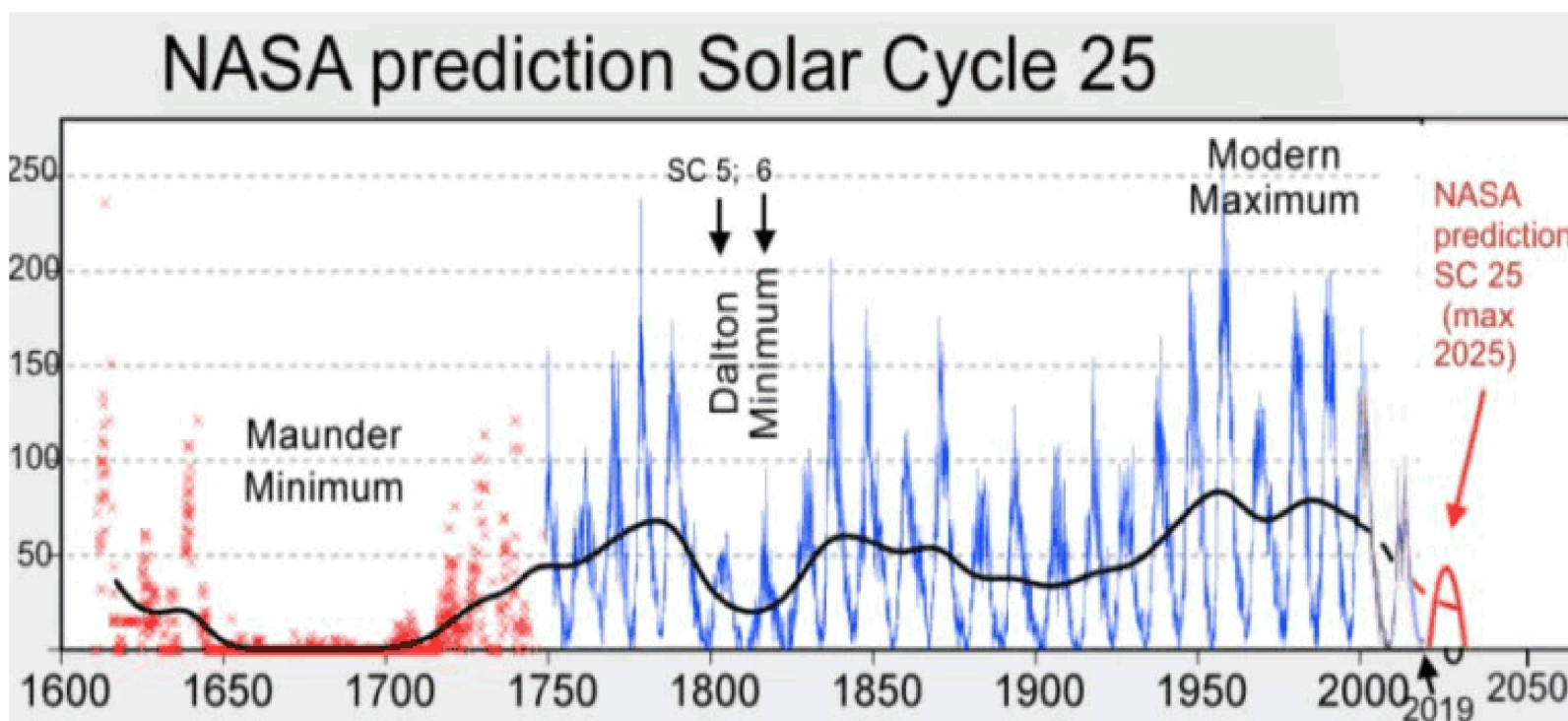
Plant stomata indicate greater changes in CO₂ than indicated by ice cores.

<http://www.geocraft.com/WVFossils/stomata.html>



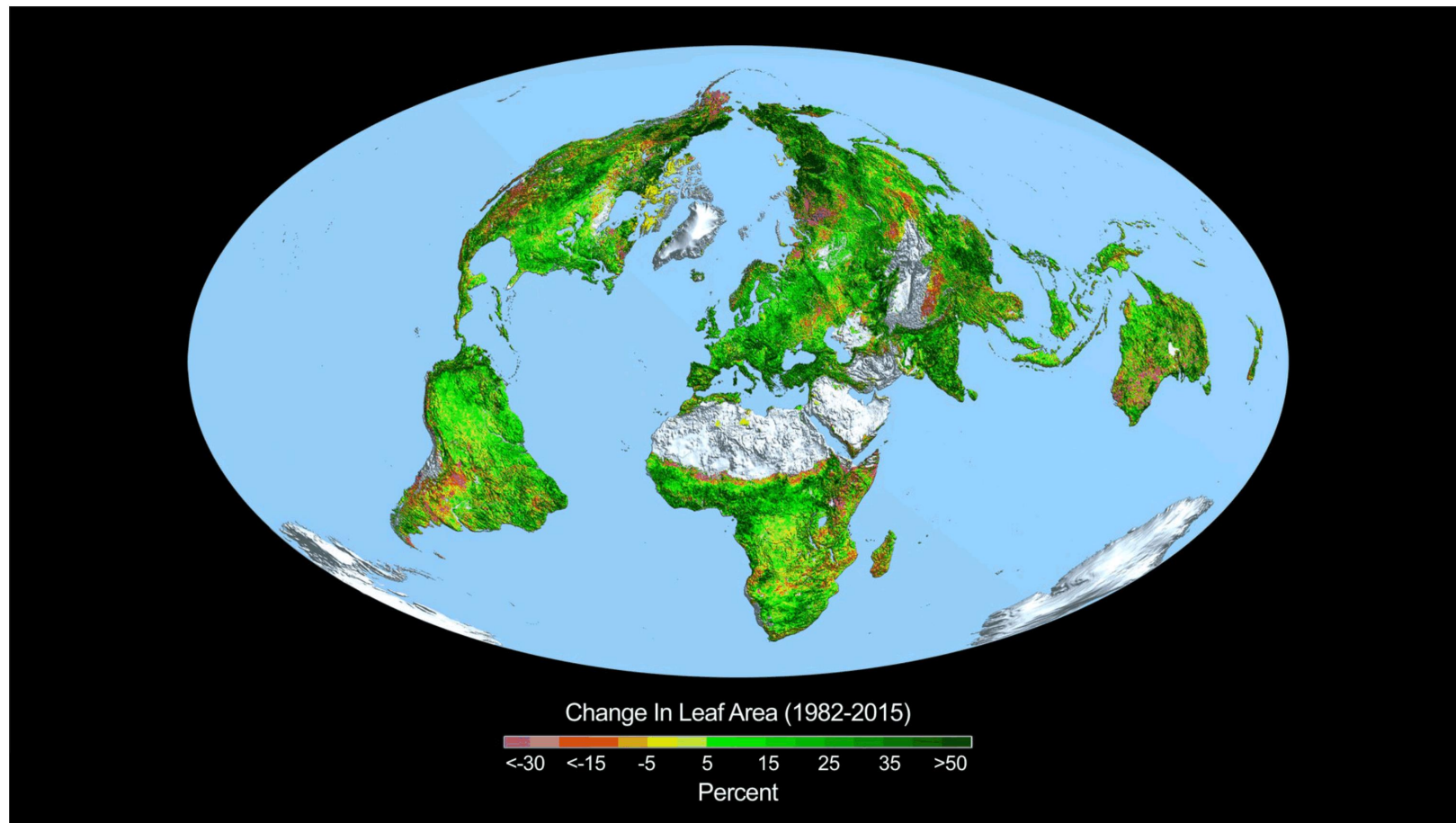
Solar Cycle 25 is likely to be the weakest in 200 years - NASA.

<https://electroverse.net/nasa-predicts-next-solar-cycle-will-be-lowest-in-200-years-dalton-minimum-levels-the-implications/>



Earth Greening – NASA

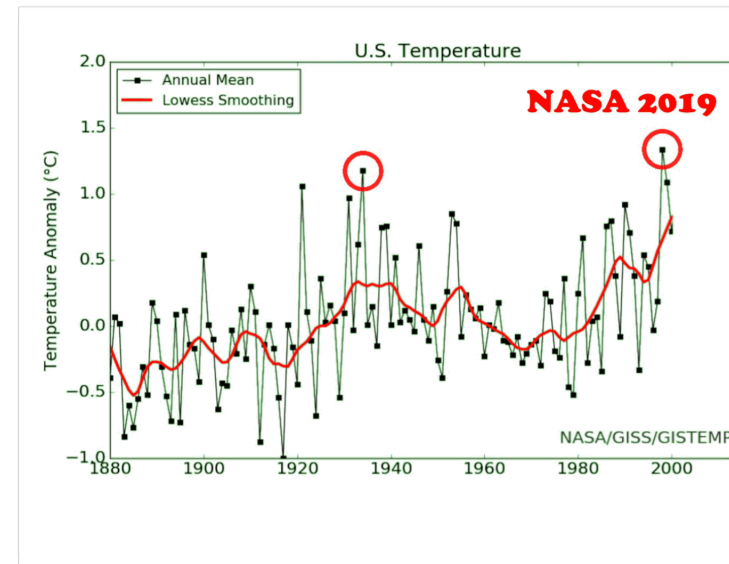
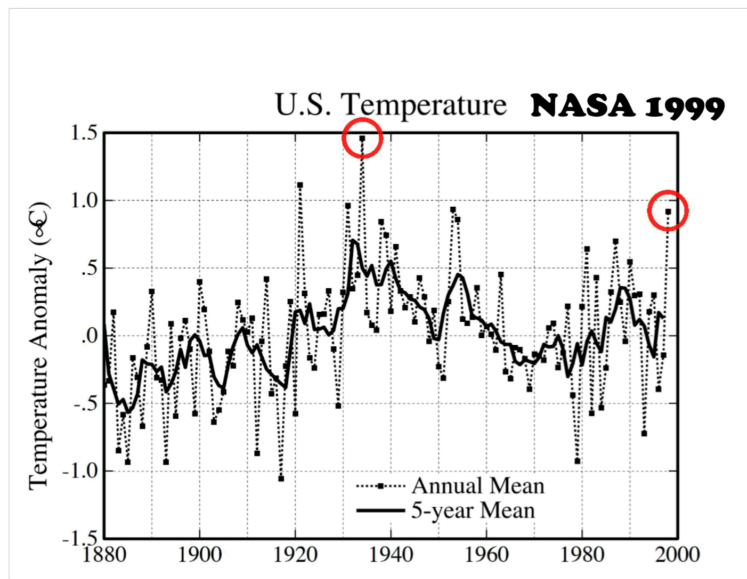
<https://www.nasa.gov/feature/goddard/2016/carbon-dioxide-fertilization-greening-earth>



Temperature records have been altered.

<https://realclimatescience.com/2020/10/alterations-to-the-us-temperature-record/>

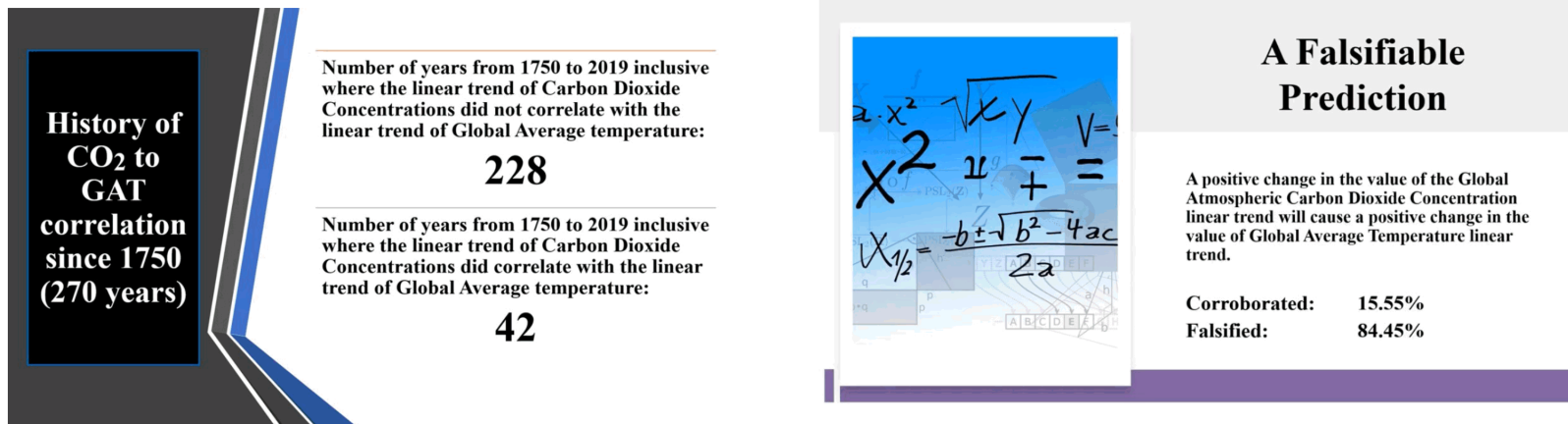
This adjustment is the opposite to the adjustment expected to counter the heat island effect of expanding cities.



https://www.youtube.com/watch?v=VRoFW5_9e-8

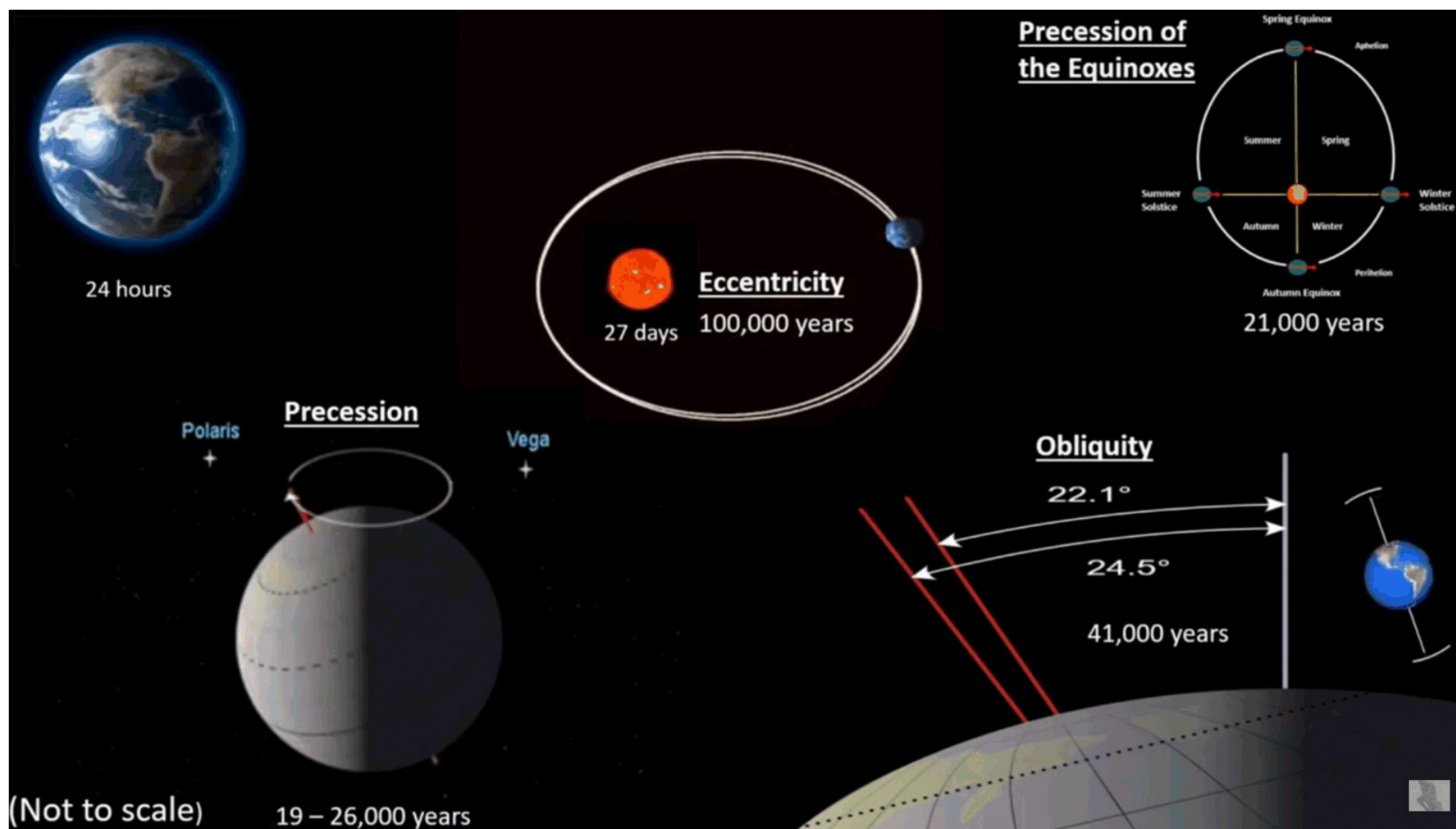
Causation of CO₂ / Temperature?

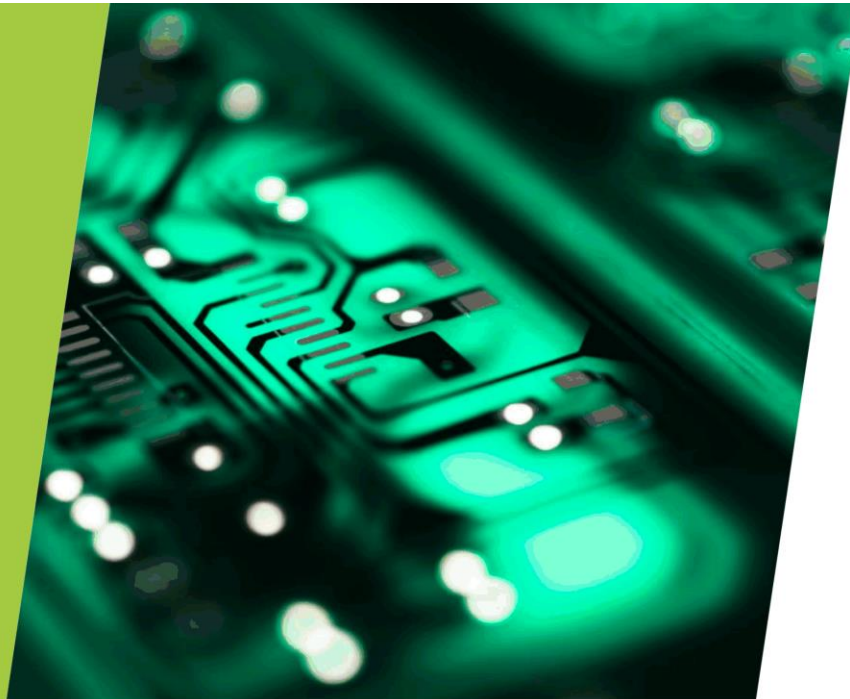
https://www.youtube.com/watch?v=VRoFW5_9e-8



Milankovitch Cycles

<https://www.youtube.com/watch?v=1Z1Lk4tnFKE>





Safer Technology Aotearoa/NZ

STANZ Submission on
Ōtautahi Christchurch Climate Strategy

Introduction Safer Technology Aotearoa/NZ (STANZ)

- ▶ STANZ was created in 2020 by concerned citizens to help inform, educate and advocate in the public interest about the safe use of technology.
- ▶ STANZ in general agrees with the goals outlined in the Ōtautahi Christchurch Climate Strategy 2021 for Christchurch.
- ▶ STANZ wants to make the central point that under **Goal 3** and **Programme 6** that the move away from resource intensive and high greenhouse emission industries needs to include digital and wireless technology e.g. ICT, Cloud computing and wireless 4G/5G systems, mobile smart phone use and the infrastructure and data centers required to run them (both locally and globally).

ICT & Wireless Systems Rapidly Increasing Greenhouse Gas Emissions

- ▶ *“Behind each byte we have mining and metal processing, oil extraction and petrochemicals, manufacturing and intermediate transports, public works (to bury the cables) and power generation with coal and gas. As a result, the carbon footprint of the global digital system is already 4% of global greenhouse gas emissions, and its energy consumption rises by 9% per year.” - Jean-Marc Jancovici, President of The Shift Project, member of the French High Climate Council.*
- ▶ **Action Point - 1**
- ▶ The CCC needs to develop a plan that moves toward economic transformation and innovation that is part of a sustainable climate future for Christchurch that does not include mobile wireless 4G/5G systems.

4G/5G/6G & IOT

Driving Massive Increase in Energy Demand

“A lurking threat behind the promise of 5G delivering up to 1,000 times as much data as today’s networks is that 5G could also consume up to 1,000 times as much energy.”

“The 5G revolution that the cell phone industry is so proud about is likely to prove to be an ecological disaster that could easily wipe out the carbon emissions savings of the Paris accord.”

► Action Point – 2

- STANZ recommends that there be a moratorium on the use and continued roll-out of the 5G system in Christchurch as to such time it can be proven safe for the climate, people and the environment. The CCC needs to lobby central government to help make this a reality.

► Action Point – 3

- STANZ recommends that the CCC follow a similar process to the French High Council on Climate and assess new mobile phone 4G & 5G technologies from a climate perspective including the economic, financial, social, health and environmental impacts (including the material footprint).

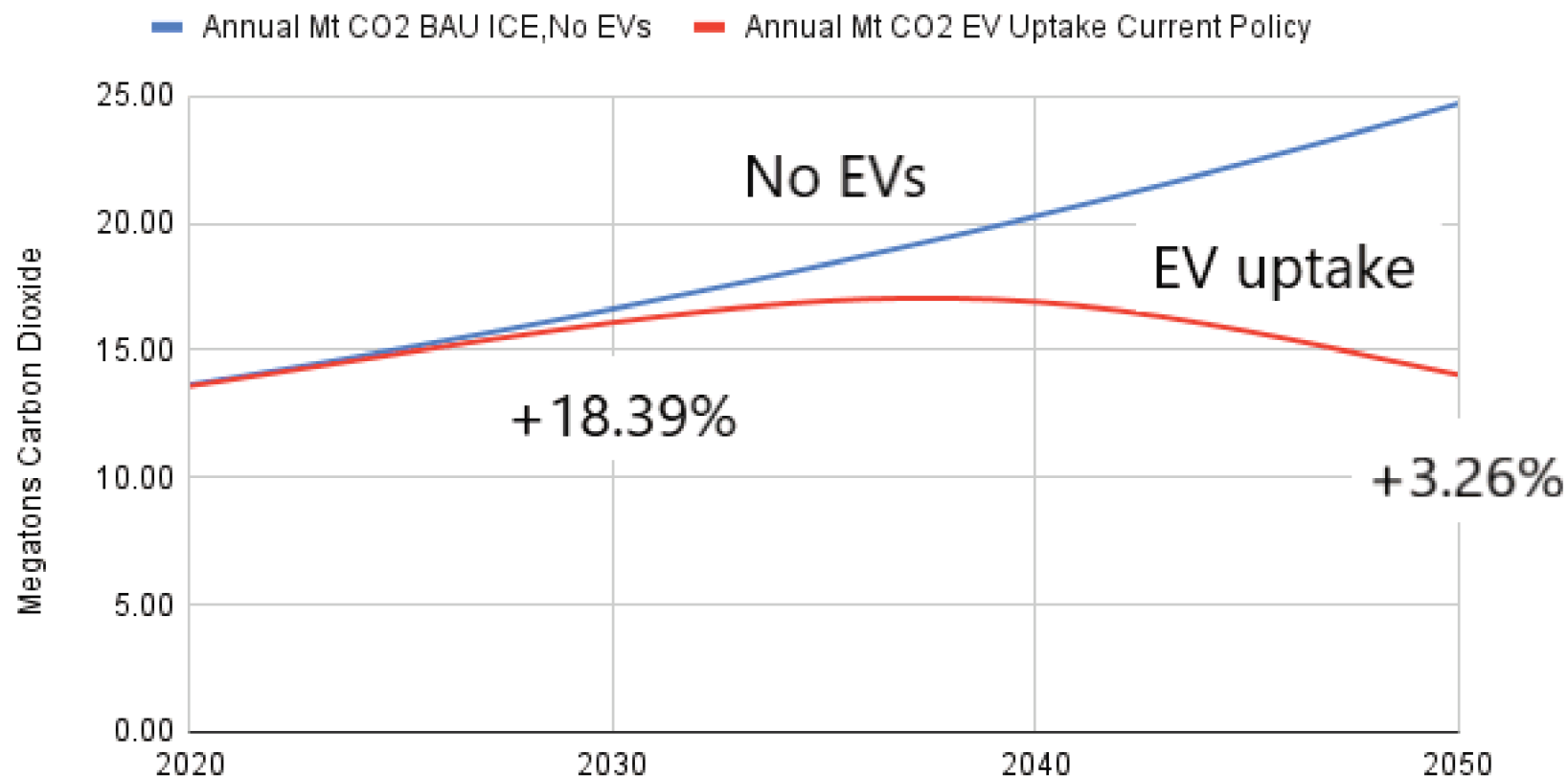
Dumb Phones are the Smartest Future for Gen Less

- ▶ The massive growth in the mobile phone industry over the past 25 years has led to a massive increase in greenhouse gas emissions to power it. The 4G system from 2014 onwards has helped facilitate this massive increase in mobile phone data use and the necessary servers and this is only expected to increase massively again with the rollout of 5G.
- ▶ **Action Point - 4**
- ▶ The CCC need to directly address the fact that so-called wireless mobile technologies are increasingly contributing to global greenhouse gas emissions. In order to protect the environment, the CCC needs to do a full life-cycle assessment (environmental, climate and social) analysis of how Christchurch can have wireless communication devices without endangering the climate and environmental and human health.
- ▶ STANZ recommends a move to the new “dumb phones” on the 2G/3G systems to help mitigate any risk to the climate while providing for basic mobile communication needs e.g. CCC staff should only have Council issued “Dumb Phones”.

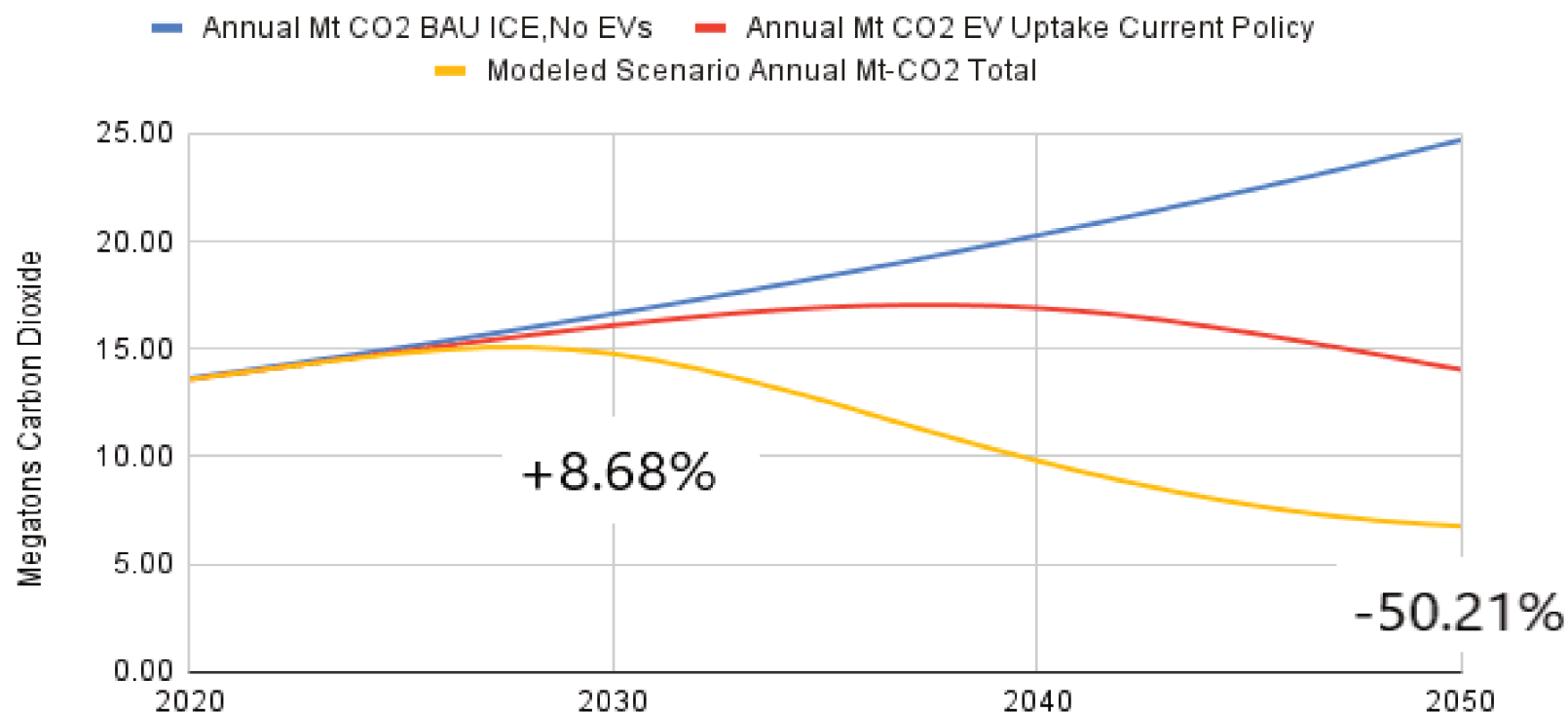
Summary: The Emperors New Clothes Wireless Digital Economy is a Climate Fraud

- ▶ STANZ has identified that the CCC needs to take into account the fact that the mobile wireless digital economy is resource intensive and a high greenhouse emitting sector of the economy that is unsustainable for the climate.
- ▶ Just when we need to be moving as a society to reduce greenhouse gas emissions the mobile wireless 4G/5G sector of the economy and its supporting ICT and Cloud infrastructure is massively increasing its requirements for energy and massively increasing its greenhouse gas emissions all of which will only make climate change worse.

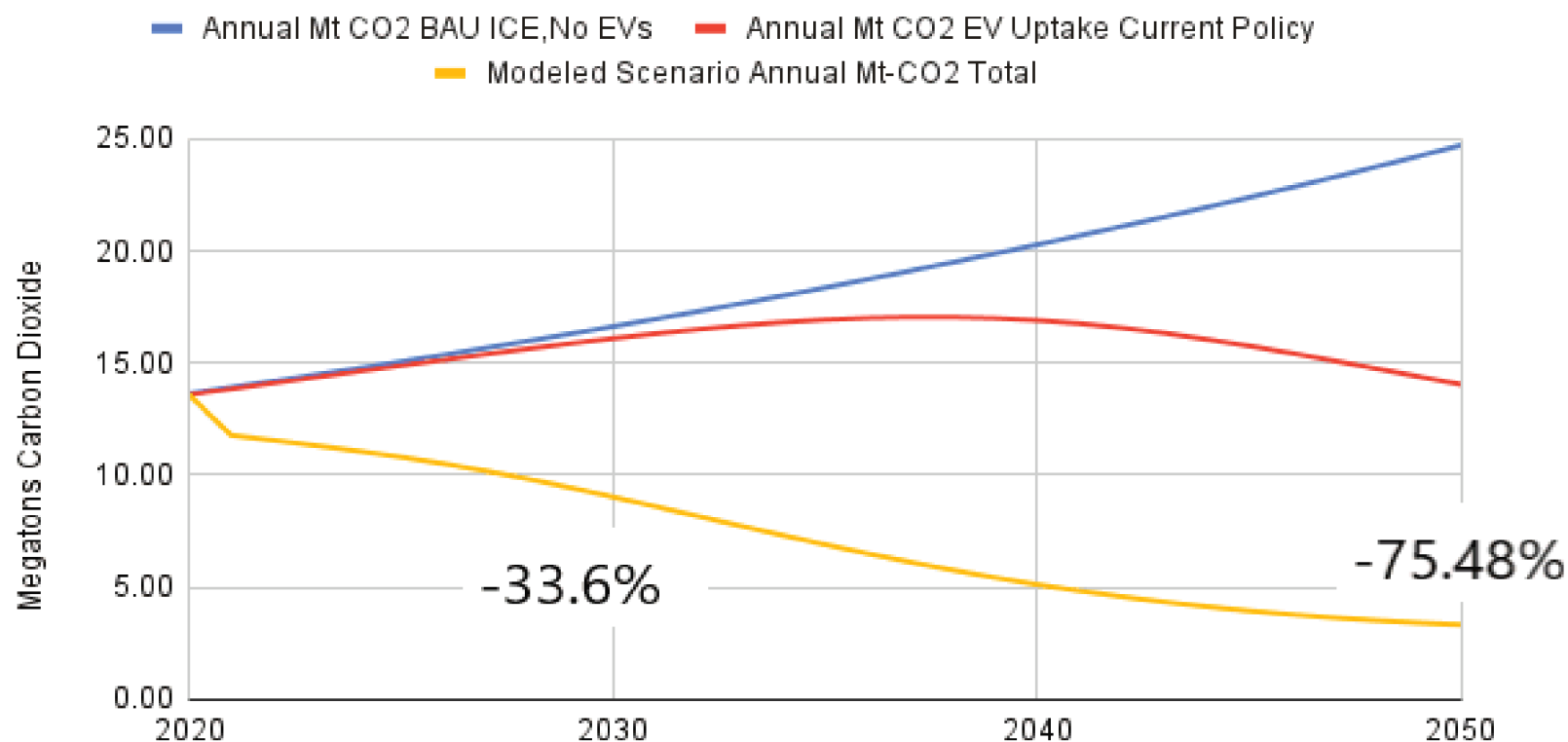
Annual Emissions With Current Path



Heavily Incentivised EV Uptake; 50% Annual growth in Market Share



50% EV Market Share Growth, 2% Annual Decline of Fleet Size





Can We Become Like Copenhagen?

