Sport, Recreation and Climate Change

The heat is on

HOW THE SPORT AND
RECREATION SECTOR CAN
MITIGATE CLIMATE CHANGE AND
ADAPT TO ITS CONSEQUENCES

SPORT
NEW ZEALAND
IHI AOTEAROA

Te Kāwanatanga o Aotearoa
New Zealand Government

Within sport and recreation in New Zealand it is easy to think we are too inconsequential to influence climate change, that there is sufficient time to act, or we simply do not know what to do. The result can be inertia or paralysis.

But if we can understand what the future consequences of climate change might look like for us and explore the role we can play in both mitigating its advance and adapting to its consequences, we can overcome this and take meaningful action.

Why we as a sector must act

- Sport and recreation will not be immune to the consequences of climate change. The consequences are both direct – where and when activity can take place, and how people can participate – and indirect, as local, national, and commercial priorities and consumer behaviour and social expectations change in response to climate change.

- Sport and recreation has an important role in responding to climate change given our ability to reach and influence large volumes of people. We can champion progress and lead by example.

Building our understanding

Through stories (scenarios) of possible different global and local responses to climate change and the futures that result, we can build understanding and the required urgency for the sector to respond.

This report provides four such stories, narrated from 2040:

1. Globally, societies take material steps to achieve net-zero emissions. These mitigation measures begin to work, bringing climate change under control. **The sport and recreation delivery model is impacted.**

2. The world takes some measures to reduce emissions, but progress toward carbon neutrality is slower than hoped, and targets will be missed. **Mitigations and worsening climate consequences hit sport and recreation with a double whammy.**

3. Global cooperation significantly declines after initial collaborative efforts were unsuccessful and politically problematic. Carbon emissions are rapidly increasing. **Sport and recreation is struggling to adapt.**

4. With token efforts only to combat climate change, temperature increases are out of control. The world has turned its focus to adaptation rather than mitigation. **Sport and recreation is on the retreat.**

Authored by Futurist Dave Adams, this report supports Sport NZ's increased focus to work with the sector to mitigate climate change. By turning up the heat on ourselves and identifying the actions we can individually and collectively take, we can mitigate climate damage and to adapt to the consequences.

The science is clear

The scientific consensus on climate change is clear. Climate change is happening, caused primarily by human activities such as burning fossil fuels and deforestation, which release greenhouse gases into the atmosphere. Climate change projections represent a serious and urgent threat to human society and the natural world. Significant action is needed now to reduce greenhouse gas emissions and mitigate the impacts of climate change[1]. This message is stressed in the final report of the Intergovernmental panel on climate change (IPCC).

WATCH VIDEO
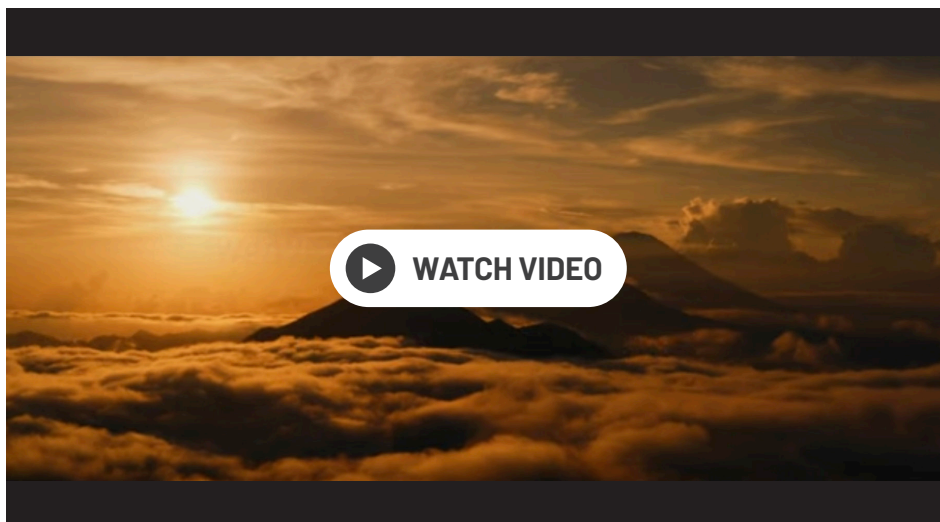
Globally led action is underway with the signing of treaties and incentivising of new technology solutions to decrease greenhouse gas emissions. The strongest international treaty to date was adopted in Paris in December 2015, with the goal to cap the rise in temperatures to as close as possible to 1.5 degrees Celsius compared to pre-industrial levels to avoid the most devastating impacts of climate change. This requires achieving net zero greenhouse gas emissions by 2050.

The number of countries that have pledged to reach net zero has grown, but even if their commitments are fully achieved, there will still be 22 billion tonnes of carbon dioxide worldwide in 2050 which would lead to temperature rise of around 2.1C by 2100[2].

New Zealand is a signatory to the Paris Treaty. While we make up just about 0.17 per cent of the world's gross emissions, on a per capita basis we are one of the highest emitters among developed nations[3]. New Zealand passed the Zero Carbon Act in 2019 with the aim of reaching net zero carbon emissions by 2050. It has also reformed the Emissions Trading Scheme to reduce climate polluting emissions more effectively, established the Climate Change Commission to provide advice to Government on climate change mitigation and adaption, and to monitor progress of a National Adaption Plan. In 2020, NZ declared a climate emergency. The extreme weather events over the past two years have illustrated why.

While 2050 is the date for critical targets, significant action is required within the next decade. 2030 is an important deadline because it marks the midpoint of the critical decade during which emissions must peak and begin to decline rapidly to meet the 1.5°C target by 2050. If emissions continue to rise beyond 2030, it will become increasingly difficult and expensive to limit global warming to safe levels, and the greater the risk of severe and irreversible impacts on people and the planet.

The heat is on – action is required now.

1   Intergovernmental Panel on Climate Change | UNFCCC
2   An updated roadmap to Net Zero Emissions by 2050 – IEA
3   United Nations Framework Convention on Climate Change (UNFCCC) Data Interface (2020)
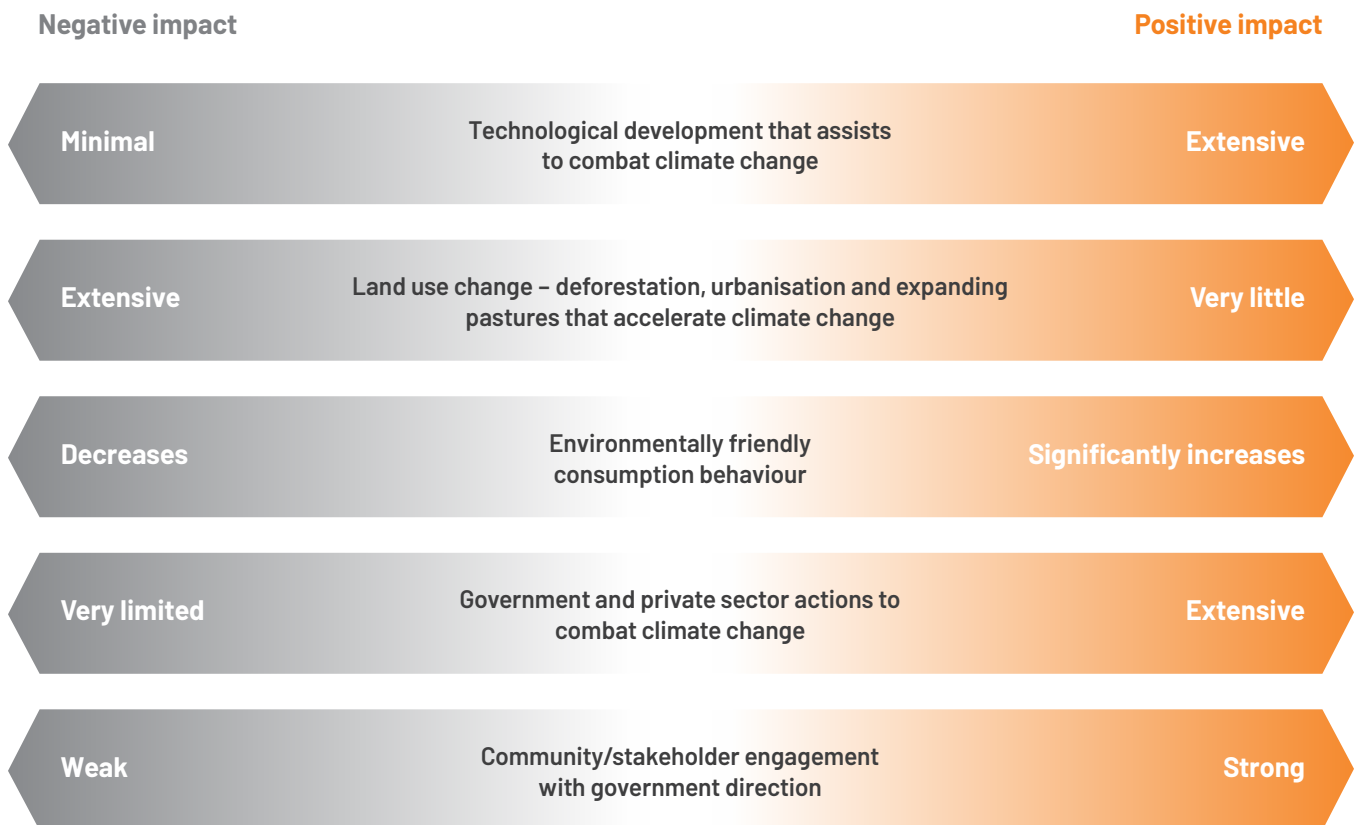
Stories of the future

Scenarios are stories that bring the future alive for people. This helps us to consider different possibilities and anticipate some of the elements to consider if the future evolves in different ways.

Scenarios are constructed by exploring how drivers of change may play out. There are several drivers that will impact climate change. Mitigation requires the use of new technologies, responsible use of land, improved sustainable agricultural methods, clean energy sources, sustainable population growth, and changes in individual and collective behaviour.

How these mitigation factors will play out is uncertain. Will governments respond strongly and collectively, or decide such response is economically and politically unpalatable?

Exploring different combinations provided the basis for the four future scenarios of climate change.

The drivers:

Negative impact		Positive impact
Minimal	Technological development that assists to combat climate change	Extensive
Extensive	Land use change – deforestation, urbanisation and expanding pastures that accelerate climate change	Very little
Decreases	Environmentally friendly consumption behaviour	Significantly increases
Very limited	Government and private sector actions to combat climate change	Extensive
Weak	Community/stakeholder engagement with government direction	Strong

The degree to which the driver has a positive or negative impact on climate change varies between scenarios and combines to describe four scenarios from a best-case through to a worse-case future.

Because climate change knows no boundaries, the stories provide a global, local and sport and recreation context. Everything is connected.

It should be noted these stories will likely not happen exactly as described. Rather, they provide an opportunity to explore a plausible future that could be encountered. The aim is to use them as prompts to highlight what may need to be considered over the coming period.
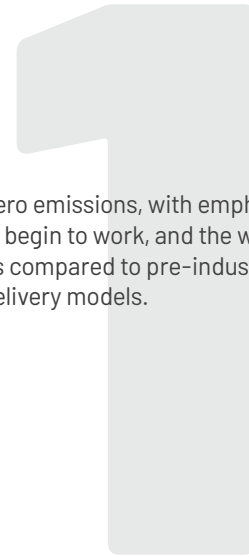
Scenario 1
It's sport Jim, but not as we know it

Globally, societies take material steps and make unprecedented changes to achieve net-zero emissions, with emphasis on promoting economic, social, and environmental sustainability. These mitigation measures begin to work, and the world looks like it will meet the Paris Agreement's goal of limiting global warming to 1.5 degrees Celsius compared to pre-industrial levels and avert the worst impacts of climate change. Mitigations impact sport and recreation delivery models.

Key drivers of this scenario:

- Technological Development (extensive)
- Environmentally friendly Consumption Behaviour (significantly increases)
- Government, private sector actions (extensive)
- Community/Stakeholder engagement (strong)
- Land Use Change (very little)

Scenario 1
Global context

- Countries to the Paris Agreement submitted and began to action more ambitious national climate action plans from 2025, leading to a snowballing of shared zero-carbon solutions. This involved dramatic shifts toward sustainability in all aspects of society, including regulations, tax systems, and government policies.

- While some of these shifts were challenging, community support was generally strong, in large part aided by technological developments that provided improved access to information and education on the effects of pollution and climate change and on the principles of a circular economy. This contributed to a shift in behaviour and attitudes towards a more sustainable lifestyle and accelerated the transition from resource-intensive consumption and business models to circular and green practices across the world.

- Collectively, this led to greenhouse gas emissions peaking in 2027, and declining thereafter, and the worst impacts of climate change being avoided. Although some extreme weather events continue to occur, ecological, societal, economic, and agricultural resilience is extremely high throughout the world.

Scenario 1
NZ context

- New Zealand has been at the forefront of global efforts to address the climate crisis, with a focus on investing to achieve social and environmental outcomes, a new economic model introduced in 2025 heavily reliant on circularity principles of reduce, reuse and recycle critical to this. Almost all electricity generation now comes from clean sources such as wind, solar, and geothermal power.

- Government and commercial efforts to combat climate change are generally supported, with significant weather events frequent enough to remind New Zealanders of the potential escalating consequences. This support was also fostered through cross-party agreement on emissions budgets and objectives in 2025.

- New Zealand's cities are more densely populated, with more vertical living options and an increased focus on public transport and cycling infrastructure. Cheap public transport increased the frequency, accessibility, and integration of transport services, while urgency in creating supply chains, supporting infrastructure, and subsiding purchase, hastened the uptake of electric vehicles, and saw them become the most common form of car ownership in NZ by 2030.

- Working from home was embedded following the early 2020's pandemic, and the introduction of a four-day work week in 2032 further contributed to emission reduction from work travel.

Scenario 1

NZ Sport and recreation in 2040

Sport and recreation is subject to considerably more formal and self-regulation to keep greenhouse gas emissions low.

- Sport and recreation facilities and school grounds must comply with stringent water and fertilizer use requirements, and more specialized management and maintenance practices to reduce energy and water consumption and minimise runoff and pollution. Facilities have been redeveloped to more stringent environmentally sustainable design principles.

- Urban redesign has in some cases benefited sport and recreation, through providing more accessible local green spaces following flood led redesigns to have cities act as giant sponges to absorb rain and prevent flooding.

- Sport and recreation continue to adapt to the changed urban areas and societal values. Forest football, for example, plays on "pitches" with randomly spaced trees, which provide additional game challenges, as well as stimulating new game tactics.

- Sport and active recreation has become less linked to just competitive spirit, health benefits, and fun. Some participate because it provides a sense of agency and possibilities to succeed in a heavily regulated world. More now prefer nature-based physical activities that support environmental, cultural, or spiritual values.

- A decline in participation in competitive school sport, partly due to environmental and cost concerns, has been balanced to an extent by the popularity of "wild play" at schools and in and around the green spaces.

- Inter-regional sport and recreation competitions remain common, but reporting requirements on climate and environmental impacts, sponsor acceptability, and insurance arrangements add additional effort and complexity to their organisation and management. Much of this can be automated, but transparency on data, calculations, and assessments is demanded.

- Large stadia have become economically unviable due to the decline of international sporting events and touring music concerts, as well as the very high insurance premiums. Most international sporting events are now watched remotely, with augmented reality either at home or at smaller venues to retain some of the big crowd atmosphere.

- International travel for sports people, and fans, is more limited. In a return to earlier 20th Century sport, teams and players often need to spend months on overseas tours. Our top players and teams are usually based in Asia, Europe, or North America to reduce the need for long distance travel.

- This has reduced the appeal for high performance sports for many talented young athletes, while others have moved to countries where there are fewer constraints, or it is easier to participate in international events. A consequence is that support for a national sports team is more challenging to maintain, with fans shifting to supporting their own favourite teams elsewhere, regardless of player origins. The top teams compete not only for the best players, but for the best environmental and humanitarian performance to attract supporters, audiences, and sponsors.

- To reduce environmental impacts the Olympics, world cups, and other international sports events have stopped rotating between countries and venues. As with local competitions, environmental accreditation for international tournaments is very difficult, with requirements increasing on a regular basis as environmental technologies and impact assessment methods improve.

Scenario 2
Double whammy

The world takes some measures to reduce emissions, but the progress toward carbon neutrality and sustainable development is slow, with technology not delivering progress at anticipated levels. Average temperatures are on track to hit 2 degrees Celsius above pre-industrial levels by 2050. Sport and recreation is impacted by mitigations and the worsening consequences of climate change.

The key drivers of this scenario:

- Government, private sector actions (large)
- Community/Stakeholder engagement (modest)
- Land Use Change (modest)
- Technological Development (modest)
- Changes in environmentally friendly consumption (modest)

Scenario 2
Global context

- Countries come together and cooperate on international agreements to reduce emissions and build resilient societies. Many countries also pass national laws and regulations as well as introduce carbon taxes, subsidies, and new trade policies to reduce carbon emissions. This accelerates the development and deployment of various technologies that can help mitigate emissions.

- However, technology does not deliver progress at the levels anticipated, contributing to growing distrust in government and large institutions, and discouraging community cooperation with some of the more challenging climate change mitigations. Amongst these are consumption patterns, with little change resulting in ongoing demand for resources and therefore on agriculture and forestry.

- Global resentment is growing as those countries least responsible for the climate crisis continue to experience its worst effects. With a waning commitment to tackling climate change, the concept of a global community is under threat.

Scenario 2
NZ context

- Progressive National Climate Change Adaptation Plans increased in ambition, scope, and progress from the mid-2020s shifting the emphasis from assessment and planning to implementation, with the latter being embedded through legislated institutional frameworks, including a strong requirement, and tagged funding for government agencies to report on their sustainability plans. However, this initial national impetus waned from 2030 when it became apparent that global efforts were not resulting in anticipated levels of progress.

- While increased weather disruptions were increasingly difficult to ignore, most New Zealanders continued to be more concerned about issues such as cost of living and quality of life. This included the undermining of property values due to increased difficulties obtaining insurance, and restrictions to air travel, imposed in the late 2020s.

- The government is consequently under significant pressure to balance its climate change ambitions with retaining the support from New Zealanders. This is not helped by bigger emission countries pulling back from their climate change programmes, raising the question among New Zealanders of "what's the point". This wavering response results in increasing intergenerational tensions, as the younger population seeks greater Government response to catch up for years of limited action.

Scenario 2

NZ Sport and recreation in 2040

Sport and recreation is struggling to both react to deteriorating climate-related events and adapt to imposed restrictions to mitigate these events.

- While increasing temperatures are not yet a significant problem for most people physically active outdoors, the growing frequency of extreme weather events is increasingly disrupting activities around the country. Shared all-weather facilities help reduce disruptions, but their limited capacities can create scheduling challenges at times. Outdoor events typically have Plan Bs and Cs involving cooperation agreements with other areas to quickly move event locations if necessary.

- Warming temperatures have encouraged people to get out and be physically active in their neighbourhoods and coastal waters. However, participation in some other sport and outdoor recreational activities is declining with high fees and transportation costs, reduced reliability, or attractiveness due to weather conditions, and/or concern about their environmental impacts the reasons. Interactive esports, and augmented reality games are growing in popularity across most age groups because of the weather independence and flexibility they provide.

- Coupled with regulatory requirements imposed in the late 2020s to measure and reduce carbon emissions, the complexity of sport and recreation delivery has increased, and is making it harder to attract and retain staff, with volunteering levels at 50% of what they were in 2015.

- Funding has become an increased barrier to participation with organisations forced to shift rising costs to the participant. The reprioritisation of government spending and lotto distributions in 2028 was compounded by the prohibition on fossil related sponsorships in 2026, and the demise of gaming funding in 2031 – caught up in the societal shift away from all matters relating to perceived harm.

- Rising temperatures and humidity are creating challenges for ground management. New pests and diseases are establishing, but the use of pesticides and fertilisers is becoming more constrained. The use of artificial surfaces to avoid these problems is difficult however, due to similarly stringent requirements for their use and operation as part of urban water management systems. Consequently, short to medium term closures are common, disrupting training sessions and games.

- High performance sport has found it increasingly challenging to adapt to the changing environmental, social, economic, and regulatory conditions. There is increasing questions asked by those under 40 about the efficacy of professional sport driven by environmental and economic philosophy. Athletes and teams' environmental sustainability profiles are now being used to determine rankings as well as starting or access times in competitions.

- Competition for the most promising athletes is intensifying due to a declining talent pool and many of the most talented athletes leaving for better sporting opportunities overseas.

- Internationally, outdoor competitions are experiencing more frequent disruptions due to extreme heat, storm events, under-financing, and/or protests. Many countries and multinational companies are less able or willing to underwrite major competitions. Climate-related geopolitical tensions and disputes are intensifying, further threatening, or complicating some sporting events.

- Concerns about greenwashing at major sports events remain high, with protests about the adverse environmental and social impacts of big sports events commonplace. The IOC and FIFA are perceived as making minimal attempts to reduce greenhouse gas emissions and ignoring human rights issues, even as their venues and formats change to reduce environmental impacts.
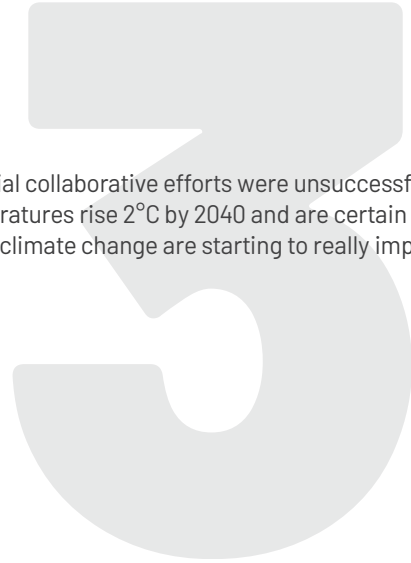
Scenario 3
Go it alone

Global cooperation to combat climate change has significantly declined after initial collaborative efforts were unsuccessful and politically problematic. Carbon emissions are increasing, and average temperatures rise 2°C by 2040 and are certain to go higher. Sport and recreation endeavours to forge on as before but the impacts of climate change are starting to really impact.

The key drivers of this scenario:

- Technological Development (modest)
- Changes in environmentally friendly consumption (large)
- Land Use Change (large)
- Government, private sector actions (modest)
- Community/Stakeholder engagement (modest)

Scenario 3
Global context

- After yet another inconclusive COP, it is clear the World is failing to tackle increasing emissions, and the gulf between the asset rich and poor has continued to expand. Water is such a hot topic globally that it is increasingly creating global conflict.

- Countries become increasingly isolationist and international trade declines. While this can slash greenhouse gas emissions, countries pursue their own interests and prioritise their own security and resources over global cooperation and the collective good.

- The world's movement toward protectionism and a decrease in global efforts to tackle global warming leads to intensifying climate change.

Scenario 3
NZ context

- New Zealand's motivation to continue to champion climate change mitigations is severely dented by declining global efforts. Heeding public sentiment, the government has turned its focus to adaption, and eased some of its more unpopular mitigations.

- Among these are the opening of international travel and downgrading of efficient farming practices that had resulted in significant job losses and predictably been met with resistance from the tourist and rural communities.

- Other earlier mitigations such as the shift away from personal vehicle ownership remain embedded. Electric bikes, scooters, and walking remains the dominant modes of neighbourhood transport,

- New Zealand experiences worsening climate change impacts but is comparatively less affected than other countries and has become an attractive place to settle and work. Immigration has increased substantially, and many innovative organisations have staff working remotely around the country delivering digital products and services, locally and globally. As a result, the diversity of roles, skills, and cultures has risen significantly to the local economy's benefit. This is welcomed, as to this point, Gross Domestic Product has been dropping year on year since 2031.

Scenario 3

NZ Sport and recreation in 2040

Sport and recreation sector is freed from some of the more restrictive mitigations, but a return to business as usual has proven unsuccessful given the worsening climate-related impacts.

- Changing Government priorities has resulted in reduced support for sport and recreation. As a result, organisations and clubs have generally fewer staff and declining budgets. Algorithms have replaced some administrative and coaching tasks, but organised sport is struggling. Competition for funding is intense, with more organisations seeking support, at the same time as available funds are declining.

- Despite improvements in water infrastructure, stormwater systems still get overwhelmed during some weather events, resulting in closed beaches. Some coastal walkways and tracks have also been destroyed or closed, with sections of the Te Araroa Trail being rebuilt further inland or with improved river crossings.

- The warmer conditions have increased the popularity of surfing, but this has come at increased risk, both from more dangerous or unpredictable ocean conditions and increased toxic algal blooms, requiring full body protection suits and face coverings.

- Engagement with esports and virtual activities continues to rise. Relatively affordable good quality motion-capture gear, more immersive environments, and digitally connected home equipment provide an attractive, realistic, weather independent alternative to outdoor active recreation, at least for more affluent households.

- Environmental values have become an important driver of change for sport and recreation. Activities with higher participation are those with a strong commitment to reducing greenhouse gas emissions and improving environmental and social outcomes.

- Some outdoor sport and recreational activities are adapting, dropping their traditional longer games or events, in favour of shorter, more intense, forms. Club amalgamation, and declining participation, has also led to hybrid games, while other new games are taking up ideas from virtual games and creating real world versions.

- New Zealand remains comparatively less climate impacted than other countries and has become an attractive sports event destination, notably with the Australian professional leagues, with most now basing their competitions in New Zealand.

- The international sports fixture calendar is also significantly lighter. This is a consequence of weather disruptions making outdoor events more uncertain, along with the rapidly increasing costs for running large events and getting to them. Regional rather than global events are becoming more common for in-person sporting competitions.

- Virtual and esports are now significant global competitive events, with the upcoming eFIFA world cup likely to be the most watched event in history. However, like their real life counterparts, virtual games are also closely scrutinised for adverse environmental impacts. Public protests and commercial boycotts are common when events (virtual and in-person) are seen as making insufficient effort to reduce event-related emissions, or are suspected of "greenwashing". This has detracted from the prestige of events such as the Olympics and Paralympics, and much of New Zealand's high-performance focus now resides domestically, and with Australia and the Pacific.

Scenario 4
Emergency on planet sport

After ineffective efforts to combat climate change, temperatures have hit 2.5°C above pre-industrial levels by 2040 and are now out of control, anticipated to climb to 4.4°C by 2100. It is accepted this will bring catastrophic and irreversible consequences, with the world turning its attention to adaption rather than mitigation. The soaring global temperature is fuelled by the resource-intensive lifestyles, total failure of green transition and global CO2 limiting agreements, and the increased exploitation of fossil fuels. Sport and recreation is on the retreat.

The key drivers of this scenario:

- Land Use Change (extensive)

- Government, private sector actions (weak)

- Technological Development (minimal)

- Changes in environmentally friendly consumption (decreasing)

- Community/Stakeholder engagement (weak)

Scenario 4
Global context

- Many countries withdraw from the Paris Agreement. This leads to the United Nations Framework Convention on Climate Change (UNFCCC) and the role of United Nations itself losing substance.

- Countries reduce investments in nuclear power, hydrogen, renewables, carbon capture, and the circular economy and accelerate the exploitation coal and other fossil fuels. In addition, businesses, and individuals, especially the growing global middle class, increase energy-intensive consumption, leading to a greater demand for fossil fuels, and in turn, generating even more carbon emissions both per capita and in total, than ever before.

- The world's most vulnerable populations suffer the most due to their low financial and technological ability to adapt to the changing climate. This leads to mass migration of hundreds of millions of people and societal and economic chaos in numerous developing but also some developed countries.

Scenario 4
NZ context

- New Zealand is fully focused on adapting to climate change in the face of more frequent and severe weather events such as heatwaves, droughts, floods, and storms that lead to more frequent natural disasters, significantly impacting infrastructure, property, and people.

- Ironically, agriculture and tourism, the two industries that advocated the strongest to have the government change its focus to economic rather than environmental issues are suffering the most. Crops are struggling to grow in the new climate, and livestock are suffering from heat stress, resulting in reduced yields and higher prices for food. A reduction in in snowfall, and beaches affected by rising sea levels, erosion and pollution have resulted in fewer tourists and lower revenue for the industry.

- Rising sea levels have started to displace people in low-lying areas and coastal communities and driven internal migration and added to housing pressure on big cities.

- Climate change has also impacted New Zealand's social fabric, notably health and wellbeing. Extreme weather events have led to physical injuries and mental health problems, while food and water insecurity is also impacting people's health and livelihoods.

- The Government introduction of a disaster recovery lotto and related taxes has done little to slow inequality that has been growing since the mid-2030s and has become a source of significant tension.

Scenario 4

NZ Sport and recreation in 2040

The worse projections from climate change are being realised and sport and recreation is losing its battle to adapt.

- The coastal retreat, in response to rising sea levels and frequent intense storms, has resulted in many traditional kiwi activities becoming rare. Surf lifesaving, for example, only occurs at a select few beaches, and most people do not go to beaches or rivers to swim anymore. In northern regions algal blooms have made many bodies of water too dangerous or unappealing to enter for much of the year.

- Some outdoor events now only occur in the cooler regions or have shifted seasons to avoid higher temperatures. Many people use wearable electronics that alert them when body and ambient temperatures are becoming potentially dangerous during summer.

- The increasing incidence of, and reportage on, environmental risks is strengthening the view that the outdoors is an unsafe, or at least an unreliable place for physical activities. Increasingly, sport and recreation activities are moving indoors to avoid weather and temperature disruptions.

- With freshwater treated as a strategic national asset, stringent water conservation practices are in place year-round, severely limiting water use for sport and recreational activities. Despite the use of recycled water, many recreation facilities limit showers to 90 seconds, and household water metres have also reduced water usage contributing to the increasing preference for less strenuous physical activities.

- Smart" connected exercise machines, such as cycles, treadmills, rowing machines, and swim spas, are becoming popular among those clubs and households able to afford them. In addition to allowing weather-independent activity, they offer an extensive range of simulated scenic and more challenging environments, and digitally-enabled social connections and competitive activities.

- But there has also been a rise in the popularity of "extreme weather sports". Official and unofficial outdoor races or games during severe storms attract those wanting to test themselves against the elements, and large online audiences who get vicarious thrills from the human vs nature spectacles. Oil and mining companies often are key sponsors of these events.

- International competitions for many individual sports are more commonly online only, incorporating augmented and virtual realities to link competitors and audiences together. One consequence of this has been the need to better police "digital doping", where some athletes, teams, or countries attempt to cheat through illegal modifications of devices and internet transmissions.

- Another consequence of the digitisation of sports is the adoption of AI based trainers and coaches. High performance sport, where it exists, is often managed by technology companies and algorithms.

- The geopolitical and economic instabilities caused by the rapidly warming climate are also making it increasingly difficult to hold large international sporting events. Some events have become uninsurable. The Commonwealth games ended in 2034.

- 2044 was scheduled to be the last in-person Olympic Games, before a virtual version took over. However, the millions who died earlier this year across the Indian subcontinent, due to the failed monsoon season, record high temperatures, and catastrophic flooding from rapid Himalayan glacial melting, seems likely to result in the cancellation of this year's Olympics due to global public outrage.

What actions have sport and recreation taken to-date?

Sport and recreation needs both to take action to mitigate its contribution to climate change – estimated to be 0.8% of global emissions[4] - and adapt to the consequences.

Globally, the sport and recreation sector has generally been slow to respond, although some action is underway. In 2018 the Sports for Climate Action Framework was launched to meet the goals of the Paris Climate Change Agreement. Representatives of the global sports industry, working with UN Climate Change, created the framework to reduce sports emissions and engage millions of fans in the effort. The International Olympic Committee and UN Climate Change have also cooperated to produce publications to assist sport to combat climate change and have included sustainability as one of the three strategic priorities of the body's Olympic Agenda 2020 vision.

Athlete, sport and event driven climate advocacy groups and initiatives are also growing in number. These include:

Green Sports Alliance:

A coalition of sports teams, venues, and leagues that are committed to reducing their environmental impact and promoting sustainable practices in sports.

Sports Environment Alliance:

An Australian non-profit organization that works with sports organizations to promote sustainability and reduce their environmental impact.

World Athletes for a better world:

A World Athletics group advocating for more sustainable practices across athletics and encouraging other athletes to take a more active role in addressing their environmental concerns.

Frontrunners:

An Australian athlete led movement advocating for climate action

SailGP:

Aims to become the first climate positive sports and entertainment institution through using natural resources to power its race and sport boats, the use of clean energy for its event and business operations and assessing the legacy impact that hosting its events has on cities.

4   Playing_Against_The_Clock; David Goldblatt, 2020
5   LGFA_Climate Emergency DRC_2022-F.pdf

Within NZ we are seeing an increase in sustainability programmes, including:

Yachting New Zealand:

Includes initiatives such as sustainable clean clubs through reducing waste, promoting sustainable transport including the time coach boats spend on the water and GPS driven marks requiring less fossil fuel, and marine environment restoration including working with sailors to raise awareness of ocean health.

Golf New Zealand:

Includes initiatives such as reducing water usage, improving energy efficiency, and promoting sustainable transport. GNZ also work with golf courses to promote biodiversity and reduce their environmental impact.

Recreation Aotearoa:

Includes reducing carbon emissions, advocating for climate change, promoting sustainable practices, and integrating climate change into planning and management.

Local Councils:

Sixteen of New Zealand's 76 Councils have declared a climate emergency covering 74.6% of New Zealand's population.[5] Queenstown Lakes District, Wellington City, Hutt City and Auckland Councils have the most comprehensive responses.

What more can we do?

Use our sector's strengths to impact climate change.

Reach:

Sport and recreation has a global reach and can engage all of society with its unique ability to influence change through championing causes via global, wide-spread attention.

Finance:

Investment in physical infrastructure can be used to help deliver reduced emissions, affordable and clean energy and promote responsible consumption and production e.g. via recycling and waste management programmes, green space etc.

Collaboration:

Partnerships within sport and recreation allow organisations to leverage each other's position in the market to achieve a shared goal. Sport and recreation can move towards more sustainably responsible partnerships that encourage positive behaviours.

Resource:

The sport and recreation ecosystem has a large employee-base across a wide variety of roles. Even a small contribution of a workforce's time towards sustainable initiatives, for example the training of staff or enabling them to dedicate time towards climate action, can be a significant force for good and help create a sustainable culture.

Actions we can take today

Set out an ambitious vision for climate action, setting targets and embedding them into all aspects of your operation.

Public targets and commitments:

Articulate clear goals to achieve net zero carbon emissions across your operations, reduce waste and resource use.

External engagement:

Promote climate action messages in stadia, broadcast to millions around the world or thousands locally, as well as social media campaigns to raise climate awareness and activism amongst fan bases.

Implement climate action roadmaps to deliver on your stated ambitions with the required investment, innovation, and collaboration.

Operational net zero:

Take steps to achieve net zero across operations, from renewable energy contracts to electric vehicles, sustainable materials, and estates. This requires a clear and robust approach to carbon measurement and accounting.

Net zero fan base:

Engage with key stakeholders across the value chain to encourage climate action across transport, merchandise, ticketing, and other aspects of sporting fandom. Deliver ambitions around climate action messaging and communication.

Sustainable culture:

Work with employees and other key stakeholder groups to improve understanding of the importance and relevance of sustainability, explore methods for embedding a commitment to climate action within ways of working and everyday interaction.

Ensure climate action continues over time, with progress monitored and tracked through a culture of transparency, oversight, rigour, and continuous improvement.

Climate reporting and oversight:

Mandated, competition-wide reporting of carbon emissions increases the transparency of operations and encourages organisations to take more urgent action on climate change. Results being made public can allow comparison between peers, acting as an incentive to comply and improve. Appointing climate champions on Boards and within senior executive committees will improve ongoing oversight.
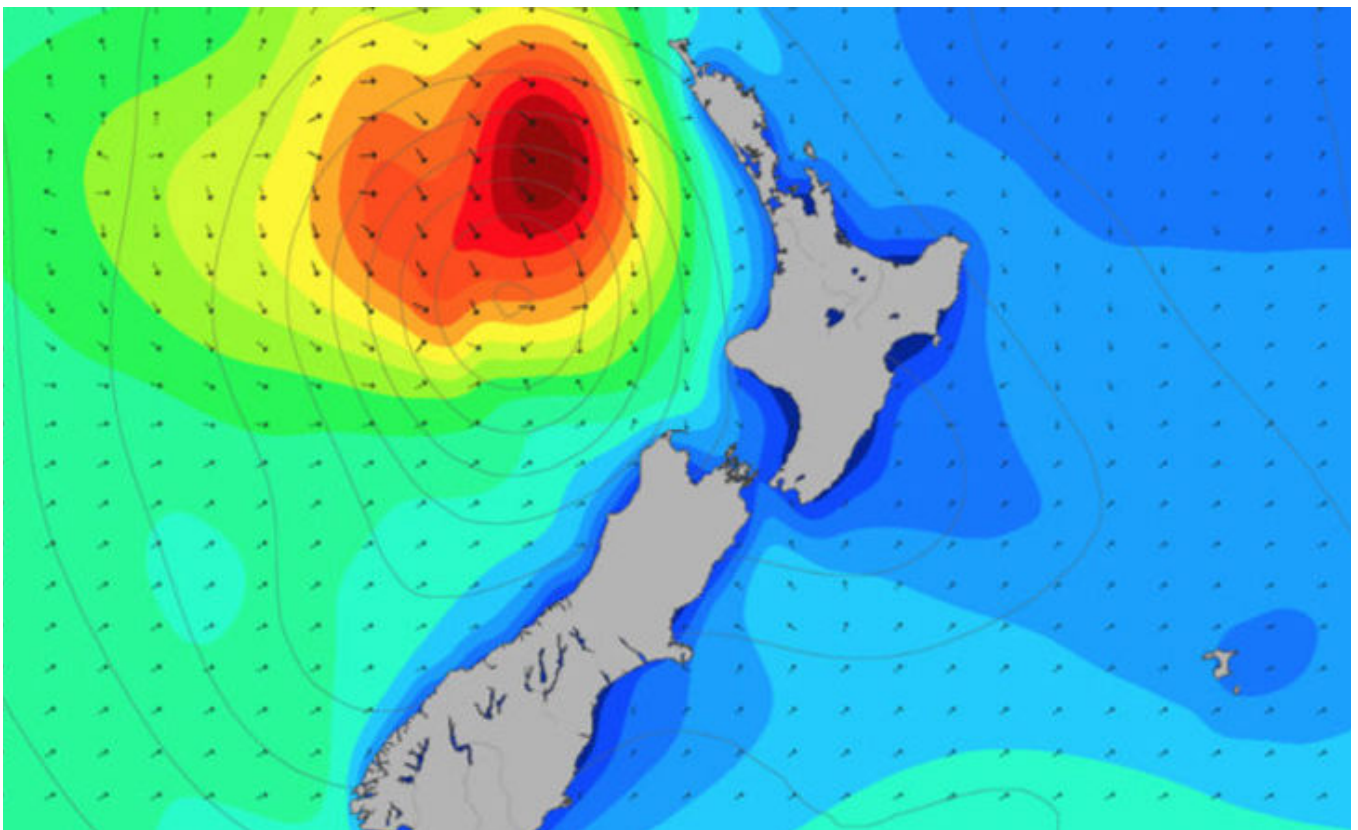
Workshops to educate fans and players:

Raising awareness of climate change can help and empower a large stakeholder base to act and to continuously improve.
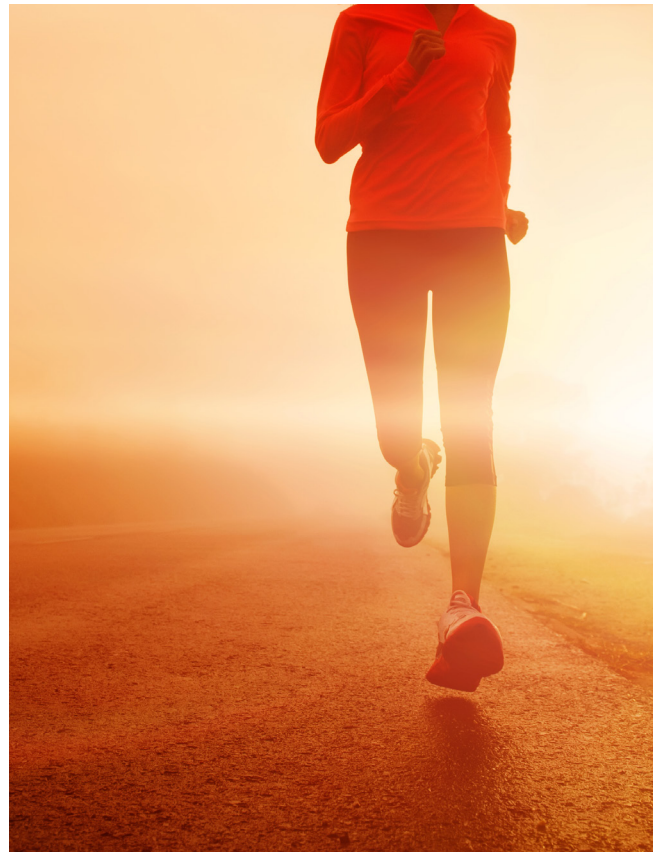
Useful further reading

- Sport NZ's scan on climate change
- Playing_Against_The_Clock; David Goldblatt, 2020
- Sports for Climate Action Framework
- Olympic Agenda 2020
- Levelling-the-playing-field-green-spaces-as-vital-urban-infrastructure – Parliamentary Commissioner for the Environment
- AR6 Synthesis Report: Climate Change 2023 - IPCC
- NZ's climate change work programme; Min Environment
- An updated roadmap to Net Zero Emissions by 2050 - IEA
- Synthesis Report of the Sixth Assessment Report - IPCC
- LGFA_Climate Emergency DRC_2022-F.pdf
- Vulnerable: The quantum of local government infrastructure ...
- The Environment is Now - Koi Tū: The Centre for Informed Futures