

# Submission on *Building New Zealand's Long-Term Resilience to Hazards: Draft Long-Term Insights Briefing* (DPMC, 2025)

## Submitted by:

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# Executive Summary

We commend the Department of the Prime Minister and Cabinet for producing this Draft Long-Term Insights Briefing (LTIB), which rightly emphasises resilience as a national priority, recognises the catastrophic potential of hazards, and begins to sketch an anticipatory approach to risk governance. These are important foundations for a stronger, safer New Zealand.

Our submission builds on these strengths and offers the following recommendations for improvement:

- **Broaden hazard scope:** While the LTIB highlights major natural hazards, we recommend explicitly including global catastrophic and existential threats—such as nuclear war, supervolcanoes, bioengineered pandemics, advanced AI, systemic infrastructure collapse, and asteroid impacts—as well as conflict risks. A detailed and publicly accessible National Risk Register would help achieve this.
  - **Adopt systemic frameworks:** The LTIB notes that hazards are interconnected; we recommend going further by recommending that risk management embed systemic risk analysis that maps cascade pathways, interdependencies, and adaptive dynamics. Incorporating game-theoretic and evolutionary perspectives would help address the deeper causes of the global polycrisis, i.e. the mechanisms actually generating risk.
  - **Safeguard basic needs and Plan B:** The LTIB emphasises resilient infrastructure, and we suggest strengthening this by making continuity of food, water, energy, shelter, transport, and communications the core resilience objective. Government should also invest in alternative “Plan B” infrastructures to operate when primary systems fail.
  - **Strengthen forces for resilience:** We recommend that the LTIB highlight not only the drivers of risk but also the factors that enhance resilience, including New Zealand’s democratic institutions, regional cooperation, geography, renewable energy potential, and social capital. These are assets to be deliberately cultivated.
  - **Institutional reform and transparency:** To embed anticipatory governance, we recommend creating independent institutions (e.g., a Chief Risk Officer or Risk Commission) and mandating cross-silo collaboration. A commitment to transparency through a public National Risk Register and citizens’ assemblies would ensure informed consent on both action and inaction.
  - **Fair financing and systemic stress analysis:** We recommend ensuring resilience is funded immediately and fairly across generations, with alignment to infrastructure planning. The LTIB would also be strengthened by incorporating systemic stress analysis (climate, inequality, AI, institutional decay, etc.) to better understand the drivers of cascading crises.
  - **Oral presentation:** We are very happy to provide an oral summary or further details on any of the content below.
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# Introduction

[Islands for the Future of Humanity](#) commend the Department of the Prime Minister and Cabinet (DPMC), National Hazards Board, and Ministry for the Environment for producing the Draft Long-Term Insights Briefing (LTIB) on *Building New Zealand's Long-Term Resilience to Hazards* (2025). It is clear that considerable effort has gone into framing resilience as a long-term national priority, one that reaches beyond the short-term horizons of electoral cycles. The LTIB recognises that resilience is essential not only for hazard response but also for long-term wellbeing and prosperity. This acknowledgment is timely and welcome.

This submission offers constructive feedback aimed at strengthening the LTIB. Specifically, we argue for expanding the scope of hazards considered, embedding a systemic and evolutionary risk framework, ensuring that the focus of government is on safeguarding basic needs in all circumstances, and advancing institutional reforms that guarantee transparency, accountability, and informed consent. We also highlight the importance of reframing resilience as an opportunity for national growth, rather than primarily a narrative of risk and trade-offs.

By adopting these improvements, the LTIB has the potential to position New Zealand as a global leader in anticipatory governance of global risks and hazards.

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# Strengths of the Draft LTIB

The Draft LTIB already contains several important strengths that deserve recognition:

- **Shift in focus from response to resilience**

The document appropriately recognises that resilience-building, not just emergency response, is central to reducing long-term harm. This reflects international best practice (e.g. the recent [shift in focus](#) of the World Bank), which shows that upstream investment in resilience consistently produces better outcomes than downstream crisis management.

- **Acknowledgment of catastrophic hazards and abrupt crises**

The LTIB's recognition that hazards may have catastrophic consequences, and that abrupt crises may occur, is a significant step forward. This framing aligns with international literature on global catastrophic risk and highlights the necessity of coordinated national action.

- **Recognition of resilience as a foundation for wellbeing and prosperity**

The document appropriately connects resilience to long-term prosperity. This is critical: the iterative cycle of disaster and rebuild is not only costly but undermines growth and economic wellbeing. By contrast, resilient systems—backed by heterogeneity, redundancy, equality, and “Plan B” alternatives—support growth and security over time.

- **Early movement towards anticipatory governance**

The LTIB begins to sketch an anticipatory approach to hazards, recognising that proactive identification and mitigation is superior to reactive crisis management. This is an important first step.

These strengths provide a solid foundation. However, there are also significant gaps and opportunities for improvement.

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# Key Gaps and Opportunities for Improvement

## Narrow Hazard Framing

While the LTIB identifies major natural hazards (earthquakes, floods, severe weather, droughts) and some biological and technological threats, the hazard framing is narrow compared with emerging international understanding.

- **Missing existential and global catastrophic risks**

Notably absent are several hazards that international research identifies as potentially catastrophic for New Zealand and the world, and not unlikely, including:

- Nuclear war and nuclear winter.
- Supervolcano eruptions, both in New Zealand, but especially abroad.
- Catastrophic electricity loss (cyber attacks, EMPs - eg vs AI weapons).
- Bioengineered pandemics.
- Risks from advanced artificial intelligence.
- Cascading global system failures (e.g., telecommunications, energy grids, shipping, fuel supply).
- Asteroid or comet impacts.

These hazards are particularly salient as risks that tend to originate elsewhere, but spread to affect the entire world, putting them outside of New Zealand's traditional risk management activities. Yet such hazards could be triggers that tip any number of global systems that New Zealand depends upon into catastrophic disequilibrium (see below). A single distant event could trigger a national crisis should critical supplies or global systems fail. For example [research](#) indicates that a global catastrophe could be precipitated by a large magnitude volcanic eruption at a critical global pinch point.

There is precedent for these hazards being treated seriously: recent US [legislation](#) on global catastrophic risk management, the RAND Corporation's [assessment](#) of global catastrophic risks for the US government, and the UK's [National Risk Register](#) all identify such risks. New Zealand risks not just falling behind if these are excluded from national consideration, but there is potential for national societal collapse if these hazards are left unaddressed.

- **Conflict risks conspicuously absent**

A key opportunity to strengthen the LTIB is to expand its scope to include the cascading effects of international conflict. As an island nation deeply reliant on global trade, New Zealand's resilience is intrinsically linked to geopolitical stability. War is the defining feature of human history and must be publicly addressed. Given the recent UN resolution to prioritise the [study of nuclear war](#) impacts, and the US National Academy of Sciences' [report](#) on nuclear conflict, the omission is particularly concerning. Citizens have a right to know what the government's conflict risk analysis is, and what prevention and mitigation plans exist, or still need to be developed.

A complete list of hazards facing New Zealand can be found in the Appendix of our 2023 [report Aotearoa NZ, Global Catastrophe, and Resilience Options](#) (p.101–103).

**Recommendation:** The LTIB should commit to a comprehensive National Risk Register, publicly accessible, which includes all significant hazards and risks—both local and global catastrophic risks—and presents analysis of their likelihoods, consequences, and potential prevention and mitigation options.

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## Systemic and Cascading Risk

The LTIB acknowledges that hazards are interconnected but stops short of providing a robust framework for [systemic and cascading risks](#) and does not emphasise the generator mechanisms driving global risk.

- **Hazards treated as isolated shocks**

Current framing risks portraying hazards as discrete events. In reality, crises often cascade across systems: for example, a pandemic can trigger supply chain failures, economic shocks, political unrest, and technological vulnerabilities.

- **Need for systemic risk frameworks**

A recent *Nature Communications* [paper on systemic risk](#) in the global polycrisis provides a benchmark. It emphasises examining system stakeholders, power structures, and cascading interactions across systems. There is a need for something like the Cascade Institute's 'stress-trigger-crisis' model (detailed in the paper) to become widespread parlance. This is directly applicable to New Zealand's hazard planning, which sometimes seems stuck considering just natural hazards and incremental climate change, when there are at least 13 other global systemic stresses at play and interplay (see below).

- **Evolutionary perspective**

A systemic framework can be extended by exploring an [evolutionary](#) and game theoretic lens: hazards, governance structures, and socio-ecological systems all interact and evolve (or stagnate) under selective pressures and game theoretic interactions. By examining these dynamics, policy can deliberately get to the deeper causes of our 'polycrisis' and foster adaptive rather than maladaptive responses, instead of merely responding to crises that are regenerated again and again. This perspective helps prepare for "unknown unknowns" and can help transform systems ensuring resilience over generations. The world saw some success in applying game theory to nuclear disarmament in the 1980s and 1990s. We must address the goals of our systems (eg what is a food system for?), and the systemic rules which encourage or discourage the generation of risk.

**Recommendation:** The LTIB should adopt, and promote investment in further understanding, a global and systemic risk assessment framework, explicitly acknowledging polycrisis dynamics

and analysing cascade pathways, interdependencies, and adaptive dynamics. The required information does not yet all exist, and long-term resilience necessitates investment in global and local knowledge generation.

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## Integrating 14 Global Stresses

Beyond discrete hazards, New Zealand must also account for systemic stresses that increase vulnerability and the likelihood of catastrophe. The Cascade Institute identifies [14 global systemic stresses](#), including climate heating, ecological degradation, toxicity, zoonotic disease transfer, demographic divergence, concentrated industrial food production, changing energy supply, financial interconnectedness, economic inequality, polarization, institutional decay, hegemonic transition, and artificial intelligence.

These stresses interact to create polycrisis conditions. All these stresses are moving towards destabilising conditions. In this context any one hazard may serve as a trigger, but it is the underlying stresses that determine whether systems tip into crisis - yet most global risk management is myopically focused on just one stressor, namely climate change.

Basically, as global connectivity increases without corresponding diversity in systems, we create systemic vulnerabilities. A pandemic can spread globally in weeks. A cyberattack can cascade across interconnected financial systems. Supply chain disruptions ripple through just-in-time production networks. Climate change affects agricultural systems worldwide simultaneously. Each trigger can propagate to a crisis and each crisis is a trigger for other crises. This creates systemic risk, defined as the potential for systems to collapse.

**Recommendation:** The LTIB should integrate systemic stress analysis, using models such as the stress–trigger–crisis [framework](#), to highlight systemic vulnerabilities and policy levers.

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## Forces Shaping Resilience

The LTIB includes a section titled “Forces that shape risk and resilience” but only describes forces shaping *risk*.

**Omitted are forces that shape resilience.** These include:

- **Egalitarian and democratic institutions**, which research shows improve adaptive capacity. New Zealand should strive for more egalitarianism with robust democratic, transparent, risk anticipation and [anticipatory management](#) institutions (including use of citizen assemblies/citizen juries)

- **Regional cooperation**, particularly with Australia and Pacific neighbours (e.g., joint vaccine manufacturing, shared shipping assets).
- **New Zealand's geographical advantages**: isolation, low urban density, abundant natural resources, good access to renewable energy (solar, wind, hydro and geothermal). All of which can be leveraged to our advantage with appropriate risk governance.
- **Social capital and trust**, which are critical for crisis response and recovery and must be actively maintained and invested in.

**Recommendation:** The LTIB should explicitly identify and strengthen the forces shaping resilience, not only address those driving risk.

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## Basic Needs and Plan B

The LTIB emphasises resilient infrastructure but does not adequately address what happens when infrastructure fails (as inevitably it does and will).

- **Ensuring basic needs**  
Government's primary focus must be on ensuring continuity of water, food, shelter, energy, communications, and transport under all scenarios. This should be clearly articulated as a priority resilience objective (ahead of other lesser needs).
- **Plan B infrastructure**  
Resilience requires not only strengthening existing systems but also developing alternative "Plan B" infrastructures—backup systems that can function when primary systems fail. For example, distributed food production, local energy generation, and resilient inter-island shipping. We detail this thinking extensively across sectors in our [report](#) on *Aotearoa NZ, Global Catastrophe, and Resilience Options*.
- **International models**  
The US *Global Catastrophic Risk Management Act* and the UK House of Lords report on *Preparing for Extreme Risks* both focus explicitly on ensuring basic needs under catastrophic scenarios. New Zealand should emulate these models.

**Recommendation:** The LTIB should highlight the need for resilience planning that guarantees continuity of basic needs, including through backup infrastructures and alternative systems.

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## Public Engagement, Informed Consent, and Transparency

The LTIB suggests that “striking the right balance in hazard disclosure is challenging.”

We recognize the government's difficult task of communicating severe risks. However, international experience suggests that curated, well-contextualised transparency is the most effective tool for building the high-trust, high-preparedness society New Zealand needs. We recommend a strategy that empowers the public rather than alarms them, perhaps through a tiered, detailed, and publicly-accessible National Risk Register

- **Transparency builds resilience**

Secrecy undermines public trust and weakens resilience. Sunlight, not secrecy, is the best protection against vulnerabilities. Full and detailed disclosure of risks enables citizens, communities, and businesses to prepare appropriately. The House of Lords Report mentioned above leaned strongly to a [presumption of publication](#) for national security and risk information.

- **Informed consent**

Citizens must be given the opportunity to provide informed consent not only for government action but also for government inaction. This requires full disclosure of all relevant hazards and risks, global stresses and potential cascading catastrophes, not just a selective presentation such as a focus on climate risks and local natural hazards.

- **Public forums**

Citizens' assemblies, juries, and deliberative forums should be used to facilitate informed debate. Existing research (e.g., Natural Hazard Commission's work on risk tolerance) demonstrates the value of structured research and public engagement, but this shouldn't be limited to selected hazards. In order to make informed decisions, the public needs to have information across the full spectrum of risk. People won't find this information themselves, it is up to the government as the ultimate custodian of citizen wellbeing (safety net), to promote, disseminate, and actively share information through wide media and facilitate structured debate and decision making.

**Recommendation:** The LTIB should commit to full transparency through a publicly-facing National Risk Register, supported by government-facilitated public forums where citizens can debate and provide informed consent.

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## Institutional and Governance Reform

The LTIB acknowledges that short political cycles undermine long-term resilience, but the proposed solutions are vague.

- **Need for institutional reform**

Effective anticipatory governance requires dedicated, independent institutions. Options include:

- Establishing a **Chief Risk Officer** or **Commissioner for Extreme Risks**.
- Implementing a **three lines of defence** approach to risk management, as standard in the private sector.
- Creating a **national risk and resilience commission or think tank** to coordinate hazard assessment, systemic risk analysis, and resilience planning, including for global catastrophic risks.

- **Cross-sector collaboration**

The problem of isolated silos working on disparate risks is not addressed in the LTIB. Governance structures should mandate cross-silo information sharing and joint exercises across government agencies, private sector actors, and civil society. Prioritisation cannot be undertaken without an integrated eye across all risk (local and global, natural and anthropogenic) to establish cost-effectiveness of mitigations, across, not merely within, silos.

**Recommendation:** The LTIB should propose concrete institutional reforms to embed anticipatory governance and cross-sector collaboration, with the explicit goal of transformational change to steer systems away from states of risk and vulnerability.

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## **Funding and Fairness**

Resilience investments face the classic challenge of intergenerational fairness.

- **Invest now, pay fairly across generations**

The fair approach is to borrow now, build resilience immediately (so citizens now are not disadvantaged), and repay now and across generations according to benefits received. This avoids today's citizens bearing disproportionate risk due to delayed action, while also ensuring future citizens contribute to resilience they benefit from.

- **Alignment with infrastructure planning**

Resilience investment should be aligned with national infrastructure planning. At present, the Infrastructure Commission's Plan focuses primarily on climate risks, missing broader global systemic hazards. A transparent and integrated view of risk should inform all government initiatives, e.g. as we've detailed in [other submissions](#).

**Recommendation:** The LTIB should articulate a sustainable financing model based on intergenerational fairness and alignment with infrastructure planning.

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## Constructive Recommendations

Based on the analysis above, our charity Islands for the Future of Humanity recommends the following improvements to the LTIB to advocate the need for:

1. **Broader hazard coverage** to include global catastrophic and existential risks, conflict risks, and global systemic hazards.
  2. **Adopt a systemic and evolutionary risk assessment framework** that recognises interdependencies, cascade pathways, and adaptive dynamics (acknowledging and aiming to overcome issues of power, control, and the game-theoretic binds that trap the world in a polycrisis - i.e. propose addressing risk generator functions and transforming systems away from risk).
  3. **Explicitly identify forces that shape resilience**, including governance structures, social capital, and geography.
  4. **Guarantee continuity of basic needs** under all scenarios, with investment in Plan B infrastructures (eg, energy, transport, communications, and food system redundancies and innovations as agreed in informed public forums).
  5. **Commit to transparency and informed consent**, including a publicly facing national risk register and citizens' assemblies.
  6. **Advance institutional reform**, such as establishing a Chief Risk Officer and national risk commission, aim to transform systems away from risk.
  7. **Ensure fair and immediate investment in resilience**, financed equitably across generations.
  8. **Integrate systemic stress analysis** to account for the drivers of polycrisis, embed the centrality of nature.
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## Conclusion

The Draft LTIB is a valuable first step in repositioning long-term resilience as a national priority. It is timely given global macrotrends, and its recognition of catastrophic hazards, resilience as prosperity, and the importance of anticipatory governance are commendable. However, the briefing remains incomplete.

By expanding its scope to include global catastrophic risks, embedding systemic and power and evolutionary frameworks, focusing on continuity of basic needs, ensuring transparency and informed consent, working across silos, and advancing institutional reforms, the LTIB can become a world-leading stimulus for anticipatory governance.

Resilience should not be framed primarily as a matter of “tough trade-offs” and “difficult realities.” It is better understood as a national opportunity: an investment in prosperity, security, and innovation. With the right framing and reforms, New Zealand can position itself as a global leader in building resilience to hazards and preparing for the challenges of the 21st century.

### Oral submission

Please note that one of us would be most willing to present on this Submission to the DPMC at a Zoom or face-to-face meeting, and answer any questions.

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