

Monday, 13 February 2023

*Te Hui o Te Kaunihera ā-Rohe o Heretaunga*

**Hastings District Council**

**Risk and Assurance Committee Meeting**

*Kaupapataka*

# Attachments Under Separate Cover

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*Te Rā Hui:*  
Meeting date: **Monday, 13 February 2023**

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*Te Wā:*  
Time: **9.00am**

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*Te Wāhi:*  
Venue: **Council Chamber  
Ground Floor  
Civic Administration Building  
Lyndon Road East  
Hastings**

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**TE KAUNIHERA Ā-ROHE O HERETAUNGA**

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**With you, every step of the way**

## **Hawke's Bay Councils Group (HB Councils)**

**Regional Earthquake Loss Limit Analysis for Property Assets**

**October 2022**

Regional Earthquake Loss Limit Analysis for Property Assets

Prepared for:

Hawke’s Bay Councils Group (HB Councils)

Aon New Zealand

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Version	File Name	Produced By	Reviewed By	Date
Draft	HB Councils – Regional Earthquake Loss Limit Analysis – Rev 0.4.docx	E. Jude M. Nayerloo	A. Wild	Oct'22
Final Draft				
Final				

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## Executive Summary

Hawke’s Bay Councils Group (HB Councils) engaged Aon to undertake an earthquake loss analysis for the insurance purchasing group. The overall aim of this report is to provide a high-level portfolio estimate of loss that might be experienced from an earthquake.

The analysis includes buildings, above-ground three-waters facilities (e.g., treatment plants, pump stations and reservoirs), swimming pools, park assets, quays and wharves, contents, sculptures, statues, and memorials owned by the HB Councils. As of 2021/22, the total replacement cost of infrastructure assets, as declared by the HB Councils was approximately \$1.5b.

In addition to this regional loss analysis, each member council engaged Aon to produce council-specific loss limits to aid in decision-making around potential sub-limit setting and premium allocation. The council-specific loss analyses are attached to this main report as separate appendices for each council. The same approach has been followed in both the regional and the local assessments.

There is a small percentage of the regional portfolio (<1.2% of the total insured value) that is insured for indemnity (and not replacement). Modelling the losses based on these indemnity values has the potential to understate the council-retained proportion of the real-world loss, as our damage and loss models are based on replacement costs. Where this was thought to have a material impact on the loss estimates, and estimation of the replacement costs was possible, two sets of results are presented.

The assessment uses probabilistic analysis to determine a scenario that is most likely to cause significant damage to property assets distributed across the entire Hawke’s Bay region, and then explores that earthquake scenario using a deterministic (scenario-based) approach.

The probabilistic investigation into the earthquake risk was undertaken to provide estimates of potential Material Damage (MD) loss from earthquakes with different return periods (RPs). An exposure model was developed using asset information and suitable vulnerability functions (relating ground shaking and potential additional damage from liquefaction and landslides to loss) for each asset in the model. Losses arising from each earthquake were estimated using OpenQuake for a synthetic catalogue of all possible earthquakes that could happen over the next 50,000 years to construct a probabilistic loss curve.

### Earthquake Material Damage

#### Probable Maximum Loss Expectancy (Median)

Hawke’s Bay Councils Group (HB Councils)  
Insured Property Assets

##### 500-yr RP

\$382m (insured)  
\$405m (ground-up)

##### 1,000-yr RP

\$ 477m (ground-up)  
\$454m (insured)

We recommend a **30% demand surge** on top of the above estimates.



The predominant seismic sources with the highest contribution to major losses were determined by disaggregation of the 1,000-year probabilistic loss for the entire region. These major scenarios were evaluated in greater detail to determine the Probable Maximum Loss (PML) for the portfolio. It was modelled that events on the Napier 1931 Fault accounted for approximately one-third of all simulated events that caused losses of \$477m or more (i.e., resulted in losses equal to or greater than the estimated 1,000-year level loss).

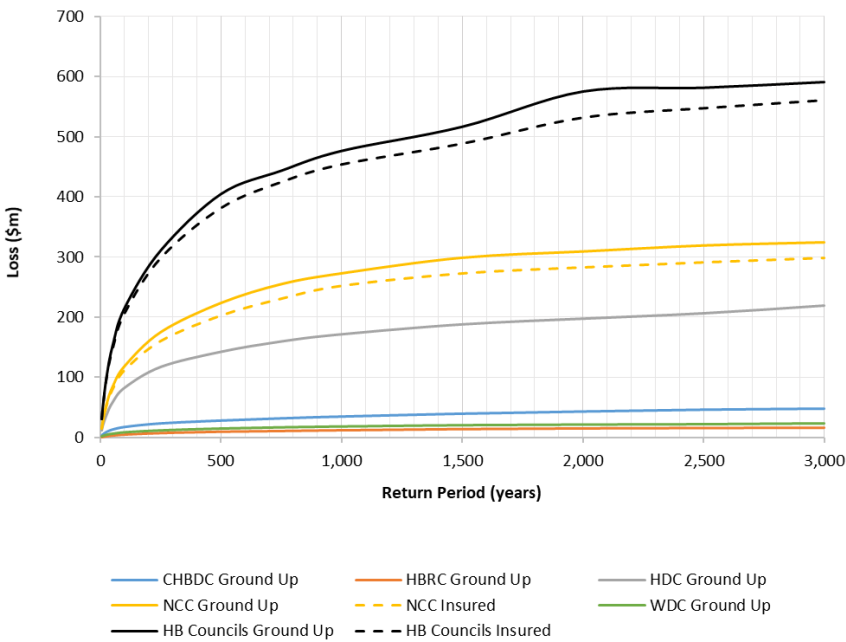
Predicted Losses

Key points of interest from the probabilistic loss curve are shown on the summary panel above. Assets were also subjected to 10,000 plus realisations of a Magnitude 7.6 event on the Napier 1931 Fault. Losses were estimated for each event to provide a distribution of likely losses from this source.

The median projected insured loss for the portfolio from this source was estimated to be \$643m and the 95<sup>th</sup> percentile insured loss to be \$822m (median projected ground-up loss of \$675m with a 95<sup>th</sup> percentile ground-up loss of \$860m).

Given the Napier 1931 Fault has a recurrence interval of approximately 2,800 years, the above median projected losses have a return period of ~5,600 years (with the 95<sup>th</sup> percentile losses having a return period of ~56,000 years). These return periods are well above the return periods normally considered for setting insurance loss limits. Therefore, it is recommended that the probabilistic losses are used for setting policy limits.

The following figure shows the portfolio level probabilistic loss curve for both ground up and insured losses. The council-specific loss curves are also present on the same graph. More details on the results for the combined HB Councils portfolio is provided later in the report. Details of the council specific loss estimates are provided in separate section in the appendix.



### Limitations

Whenever losses from natural catastrophe events are modelled prior to an event occurring, assumptions must be made. There are limitations to the analysis, and these are outlined later in the report. Portfolio loss assessments give indications of loss potential and should not be used in isolation when making decisions regarding insurance policy loss limits. We recommend a conservative approach is taken when determining loss limits – noting this current work considers material damage losses only.

Next steps to maximise the value of this assessment are discussed following the results section.

### New Version of the National Seismic Hazard Model

We acknowledge that the new version of the National Seismic Hazard Model (NHSM), released on 4<sup>th</sup> October 2022, could have a material impact on the loss estimates presented in this report. However, currently there are insufficient details released on the revised model to enable quantification of this impact.

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### Individual Council Earthquake Loss Limit Analyses

**Appendix A:** Central Hawke's Bay District Council

**Appendix B:** Hawke's Bay Regional Council

**Appendix C:** Hastings District Council

**Appendix D:** Napier City Council

**Appendix E:** Wairoa District Council

## Introduction

### Overview

Hawke's Bay Councils Group (HB Councils) has identified the need to undertake an earthquake loss modelling exercise to assess the group's shared property insurance loss limit prior to the 2022/23 insurance renewal.

This work will provide a high-level assessment of potential losses to HB Councils' buildings, above-ground three-waters assets (e.g., treatment plants, pump stations and reservoirs), swimming pools, park assets, quays and wharves, contents, sculptures, statues, and memorials due to earthquake damage, which has been identified as the predominant peril.

The predicted losses are limited to all assets declared on the property policy. The assessment uses probabilistic analysis to derive a loss curve (potential losses vs. their exceedance probabilities). The probabilistic losses are also disaggregated to determine a scenario that is most likely to cause significant damage to assets across the entire Hawke's Bay region. These worst-case scenarios are explored in greater detail using a deterministic (scenario-based) approach to determine a suitable Probable Maximum Loss (PML) for the group.

The Global Earthquake Model Foundation earthquake hazard and risk modelling tool, OpenQuake, was used to build an exposure model from the available information on the HB Councils' property assets, and to subject the model to a synthetic catalogue of earthquakes expected to occur over a very long period (50,000 years). Losses arising from each earthquake were estimated and the statistical results were extracted from the event losses to construct a probabilistic loss curve for the HB Councils portfolio. A supplement to the probabilistic analysis was a loss disaggregation to identify major seismic sources with highest contribution to the losses to enable an evaluation of the PML for the HB Councils portfolio.

### Aon Risk Management Approach

Our risk management approach is illustrated in the figure below. We aim to fully understand the exposure to enable us to develop innovative solutions that match our clients' specific challenges. The overarching steps of our approach are discussed in the following subsections.



Figure 1: Aon Risk Management Approach

#### Discover

An important first step is gathering the best practical understanding of the assets at risk. This means knowing where they are, what they are, and how much they are worth. Ideally, assets will have been valued for insurance purposes according to industry best-practice. Use of depreciated financial values will result in less accurate loss estimates.

Once we understand the value at stake, we explore the ways in which this could be threatened. For the current work we have focused on earthquake and (associated liquefaction and landslides) as the primary driver of damage. We utilise both probabilistic and deterministic (scenario-based) hazard and loss modelling to quantify the expected financial losses.

#### Develop

The loss analysis results will help HB Councils decide how much risk they can retain, how much they should transfer, and what losses are sufficiently unlikely such that purchasing insurance is not considered suitable. This relationship is shown in the following figure.

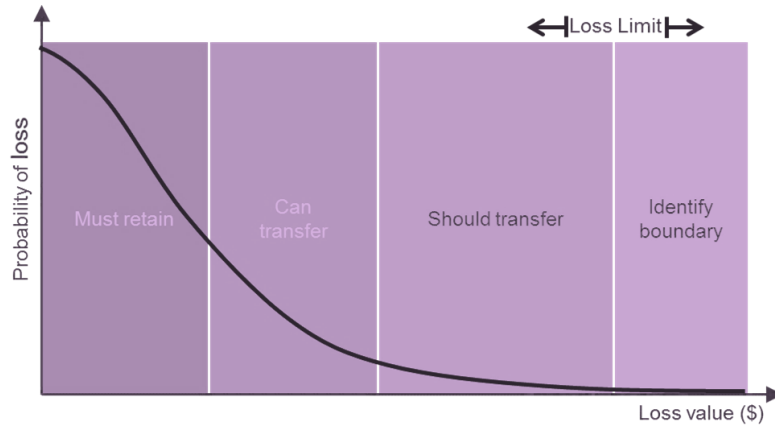


Figure 2: Loss Curve and Loss Limit Setting

#### Deliver

Better information allows Aon to deliver optimal risk transfer outcomes when placing the portfolio risk into insurance markets. Clients that understand their exposures are also better placed to deliver:

- Strategic recovery planning
- Enhanced resilience planning
- Cost-effective decisions around physical risk mitigation and financial risk transfer

#### Review

Asset portfolios, including asset values, as well as the insurance markets are in a constant state of change. We recommend regular updates, on a minimum of a 3-year cycle, to loss estimates.

## Summary of HB Councils' Assets

The HB Councils declared the total replacement value of their insured assets to be \$1,480.1m in the 2021/22 insurance year. This included predominantly buildings and associated plant and contents, and above-ground three-waters facilities and infrastructure, as well as a range of other above-ground assets. All line items on the schedule were included in the analysis, with a summary of the declared values by council and asset type shown in Table 1 and Table 2 below.

**Table 1: Cumulative HB Councils Portfolio Values, by Council**

Council	Value (\$m)	Proportion of Modelled Total (%)
Napier City Council	681.4	46.0%
Hastings District Council	545.6	36.9%
Central Hawke's Bay District Council	113.3	7.7%
Wairoa District Council	81.2	5.5%
Hawke's Bay Regional Council	58.6	4.0%
<b>Total</b>	<b>1,480.1</b>	<b>100.0%</b>

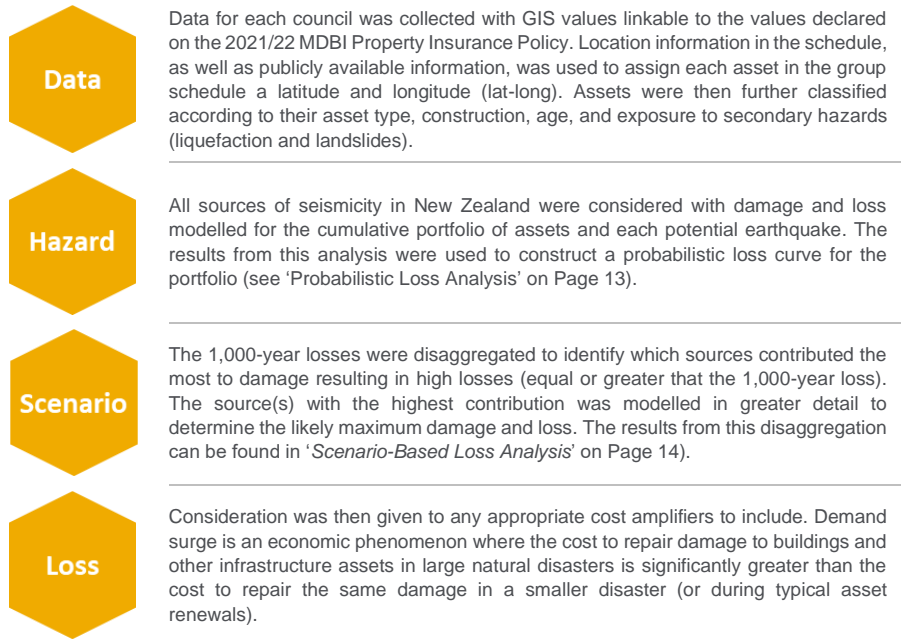
**Table 2: Cumulative HB Councils Portfolio Values, by Asset Type**

Category	HB Councils Group Declared Values		Proportion Attributed to Each Council				
	\$m	%	CHBDC	HBRC	HDC	NCC	WDC
Building	784.8	53.0%	7.8%	3.6%	35.6%	47.8%	5.2%
Three-Waters (incl. Facilities)	299.2	20.2%	14.9%	6.0%	40.8%	27.1%	11.2%
Sporting, Swimming Pools, Park Assets	153.0	10.3%	0.8%	-	60.9%	36.7%	1.5%
Inner Harbour	108.9	7.4%	-	-		100.0%	-
Contents, Plant and Equipment	77.2	5.2%	5.1%	12.7%	21.1%	55.8%	5.3%
Miscellaneous	24.6	1.7%	-	5.6%	75.5%	18.8%	-
Rubbish and Recycling	13.6	0.9%	8.8%	-	71.4%	19.8%	-
Art, Sculptures, Statues, Memorials	10.3	0.7%	11.3%	4.4%	20.5%	63.7%	-
Transport, Roading, Bridges, Pavements	8.4	0.6%	-	13.4%	51.3%	33.1%	2.2%
<b>Total</b>	<b>1,480.1</b>	<b>100.0%</b>	<b>7.7%</b>	<b>4.0%</b>	<b>36.9%</b>	<b>46.0%</b>	<b>5.5%</b>

## Loss Modelling Methodology

### Modelling the Group Portfolio

The following provides a high-level overview of the loss estimate methodology:



### Modelling the Individual Councils' Losses

Following the portfolio modelling, as described above, an additional earthquake loss analysis was undertaken for each of individual councils, applying the same methodology. Details for each of the council-specific analyses can be found in the appendices:

- Breakdown of declared value by asset category
- Commentary on schedule data completeness
- Probabilistic and scenario-based loss results
- Recommended next steps following the modelling

## Modelling the Hazard

### Earthquake Exposure

Earthquake activity in New Zealand varies regionally from moderate to very high on a global scale. Wellington lies in one of the most seismically active regions of New Zealand followed by Christchurch and Dunedin (moderate seismicity) and finally Auckland (low seismicity). The region encompassed by the HB Councils falls in the high seismicity region of New Zealand given the proximity to known active faults.

The differences in seismicity can be explained by the tectonic settings of the country (Figure 3). New Zealand straddles the boundary of the Pacific and Australian tectonic plates with the Pacific plate subducting beneath the east coast of the North Island and the northern part of the South Island (Hikurangi Subduction Zone), and the Australian plate subducting beneath the south-west corner of the South Island (Fiordland Subduction Zone). The relative plate motion is accommodated by many active faults in the area between the two subduction zones known as ‘axial tectonic belt’, which includes Hawke’s Bay

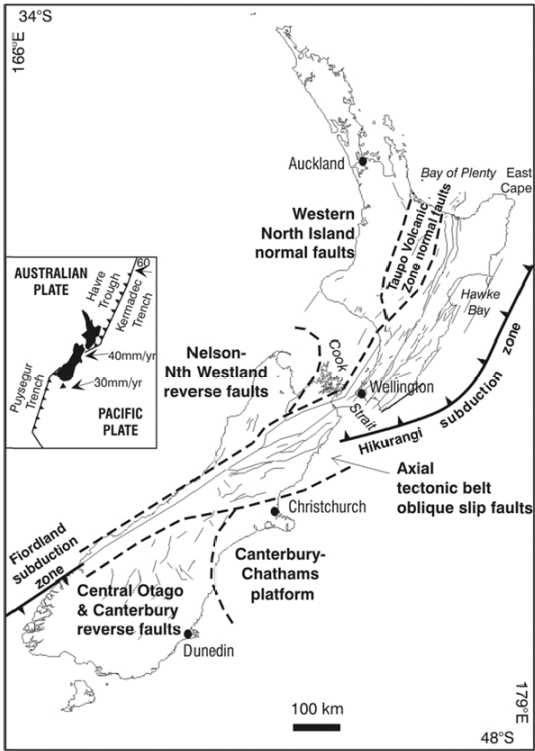


Figure 3: Tectonic settings of New Zealand (map from Cousins et al., 2014)

The variations in seismicity within the Hawkes Bay region have been represented in the New Zealand National Seismic Hazard Model (NSHM) developed and maintained by GNS Science (Stirling et al., 2012).

The model has two main components:

- **Active Faults:** Locations and characteristics (magnitude, mechanism, and mean recurrence interval) of 'known' active faults.
- **Background Seismicity:** Consists of magnitude and occurrence rate parameters defined at a grid of points that cover the country and extend to 90 km depth. The magnitude and occurrence rate parameters have been derived from historical earthquake data. The background seismicity component of the NSHM accounts for 'unknown' faults, e.g., the Greendale Fault that caused the 2010 Darfield Earthquake.

A synthetic catalogue of events, representing New Zealand seismicity, was generated in OpenQuake (GEM, 2022) using the OpenQuake version of NSHM developed by GNS Science<sup>1</sup>. OpenQuake is the Global Earthquake Model (GEM) Foundation state-of-the-art, open-source software, collaboratively developed for earthquake hazard and risk modelling. Ground shaking levels (Peak Ground Accelerations (PGAs), short- (0.3s) and medium-(0.7s) period Spectral Accelerations (SAs)) for each event in the synthetic catalogue were calculated in OpenQuake using the McVerry 2006 ground motion prediction equations (GPMEs) based on the source tectonic type (McVerry et al., 2006). One of the key inputs to the McVerry GMPE is site shear wave velocity (Vs30). The New Zealand Vs30 map, jointly developed by Canterbury and Auckland Universities (Foster et al., 2019), was used to assign suitable shear wave velocities to the HB Councils' sites, to provide an indication of potential for soft-soil amplification of shaking.

In an earthquake, assets located in areas susceptible to liquefaction or landslides can experience greater damage. We have made a high-level estimation of the liquefaction and landslide susceptibilities from available datasets for the region (many, see References). Once the susceptibilities were determined, additional potential losses from liquefaction and landslides were allowed for by scaling the shaking losses where liquefaction or landslides were expected. The loss enhancement factors were informed by the recommendations in Cousins et al. (2014b).

#### Prominent Faults for the HB Councils

The prominent faults for the region are:

- The Napier 1931 Fault, which ruptured and caused the Napier Earthquake in 1931.
- The Hawke Bay No. 8 Fault, which is part of the fault zone that comprises a series of unnamed submarine faults in the central Hikurangi Forearc.

More details on these faults are provided later in the report (Table 4).

#### Earthquake Vulnerability

Damage from an earthquake could be caused by a number of different factors. The majority of damage is expected to be caused by the effects of shaking. However, secondary perils such as fault rupture, co-seismic subsidence of land, liquefaction/lateral spread, and landslides have the potential to significantly contribute to the damage. Only liquefaction/lateral spreading and landslides were accounted for in the present assessment.

Modelling subsidence of land resulting in gradient changes or resulting in below mean sea level ground elevations (resulting in increased flood risk) requires detailed site-specific information and is beyond the scope of the present study. Similarly, assessment of loss from fault rupture requires site-specific fault trace mapping data, which were not available.

<sup>1</sup> Available at: <https://github.com/nzshim>

Shaking damage was modelled following the approach recommended in Hazus (2020) by classifying assets into appropriate fragility classes and using the corresponding fragility models. The fragility models relate shaking levels (or the resulting response levels, e.g., spectral acceleration) to a set of probabilities of experiencing different levels of damage (None, Slight, Moderate, Extensive and Complete). The equivalent-PGA-based models with necessary modifications for site class, event magnitude and source to site distance were used for buildings. For plant and contents, the appropriate 'spectral acceleration' based models were used. Once the probable damage levels were determined, a consequence model relating the damage levels to their expected loss ratio ranges was applied to calculate the dollar loss. This procedure was followed in OpenQuake for each asset and event in the synthetic event catalogue, and the event losses were compiled to construct a probabilistic loss curve for the portfolio. Where possible, uncertainty was included at every step of the modelling.

A range of other sources of vulnerability information, including ATC-13 (1985), combined with engineering judgement was used to determine loss ratios for other asset types present in the HB Councils' portfolio including grandstands, memorials etc. Similarly, the relevant ground condition loss amplifiers were determined using judgement.

In classifying the HB Councils' assets, the following sources of information were utilised:

- Council Valuation information
- Council GIS and asset information including seismic ratings (%NBS), where available and relevant
- Google Street Views
- Publicly available information.

#### Uncertainty in Loss Estimation

Earthquakes by the nature of the event and the frequency in which they occur create situations where there is large uncertainty in the damage and losses being estimated. This uncertainty increases as the average recurrence interval (ARI) increases. This is due to unfamiliarity with such sized events.

Every loss estimate produced is influenced by uncertainty. Two different loss estimates produced for the same ARI will indicate different loss levels due to uncertainty but will still be within the overall range of possible damage for a set event.

There are two high-level categories of uncertainty:

- Natural variability represents variables that are random and unpredictable by nature, these differ event to event or place to place.
- Knowledge uncertainty represents variables that are more or less constant, but we do not know their values

Specific uncertainties in the modelling include (but are not limited to):

- Earthquake magnitudes, return periods, depths, and locations.
- Ground motion resulting from earthquakes.
- Ground response in terms of liquefaction and lateral spread.
- Damage to assets considering installation quality, condition etc.
- Cost to repair assets considering traffic management, availability of resources and key staff, price of replacement parts, access to assets, repair vs replacement, damage inspection costs, temporary repairs, or equipment etc.

## Group Loss Estimates

### Probabilistic Loss Analysis

The following provides a summary of the loss estimates for the HB Councils. Figure 4 shows the estimated loss for different return periods for all assets in the cumulative HB Councils portfolio. Typically, the 1-in-1000-year loss is considered suitably conservative for insurance purposes (highlighted in Table 3).

A small proportion (1.2%) of the total portfolio value is insured for indemnity only, rather than replacement or reinstatement. Given that indemnity values are often less than the asset replacement values, using the ground-up loss estimates presented could potentially understate the losses retained by the group in a real event. This was thought to have a material impact on the loss estimates for Napier City Council's (NCC's) inner harbour assets and therefore on the estimated potential losses to Napier City Council. As a result, Aon Valuations were engaged to inform an estimate replacement value for each asset in the Napier City's inner harbour assets portfolio in order to estimate ground-up losses more accurately for the cumulative HB Councils group portfolio.

When considering a mix of indemnity and replacement for the NCC inner harbour assets, a second set of results could be derived for insured losses.

Figure 4: Probabilistic Loss Curve (Loss Vs. Return Period)



Table 3: Estimated Probabilistic Losses

Average Annual Exceedance Probability (AAEP)	Approximate Return Period (years)	Predicted Loss (\$m)	
		Insured	Ground up
0.10000	10	52.4	53.2
0.04000	25	99.1	101.6
0.02000	50	147.1	152.7
0.01000	100	206.6	215.7
0.00400	250	298.5	311.5
0.00200	500	381.6	405.3

Average Annual Exceedance Probability (AAEP)	Approximate Return Period (years)	Predicted Loss (\$m)	
		Insured	Ground up
0.00133	750	424.6	444.0
0.00100	1000	453.9	477.0
0.00067	1500	488.6	517.1
0.00050	2000	531.8	575.8
0.00040	2500	547.4	582.1
0.00033	3000	560.6	591.4

It is conceivable that losses of this scale, and exceeding it could also be seen, however the return periods of these losses are greater than those which would typically be considered for insurance purposes.

### Scenario-Based Loss Analysis

A supplement to the probabilistic loss analysis was a disaggregation of losses to identify major seismic sources with highest contribution to the losses to enable an evaluation of the Probable Maximum Loss (PML) for the HB Councils combined portfolio. Table 4 shows the results of the disaggregation analysis for a loss corresponding to a return period of ~1,000 years. The table shows seismic sources that generated losses of approximately \$477m (corresponding to approximately the 1,000-year level ground-up loss) or more during the probabilistic analysis and their percentage contribution to the total number of occurrences of such high losses (see Figure 5 from Litchfield et al. (2013) for the fault locations).

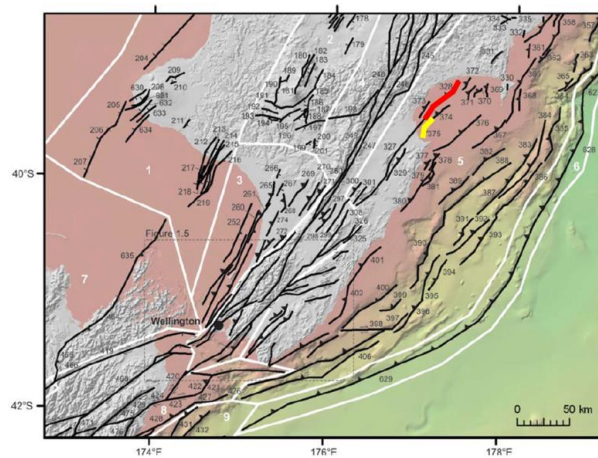


Figure 5: Napier 1931 (red) and Hawke Bay8 (yellow) Faults (map from Litchfield et al., 2013)

As expected for distributed portfolios, some faults are characteristically responsible for a greater proportion of risk than others. In the case of the HB Councils, the Napier 1931 and Hawke Bay (No. 8) Faults remain the most likely sources of major earthquake losses to the portfolio, causing approximately 60% of the total number of events that resulted in a loss of \$477m or more (corresponding to approximately the 1,000-year level loss). Table 4 below shows the faults with notable contribution to these high losses.

Table 4: Loss Disaggregation Results for HB Councils 1000-Year Loss Level

Fault Name	Figure 5 Colour and Reference	Magnitude (ref: NHSM)	Return Period (ref: NSHM)	Percentage Contribution to >1,000yr losses	
				Ground up	Insured
Napier1931	●	328	7.6	2800	34% 36%
HawkeBay8	●	375	6.2	700	26% 26%
All other faults together		various	various	40%	38%
Background seismicity		various	various	0%	0%

Assets were subjected to 10,000+ repeats of an event on each of these faults to provide a distribution of likely losses from each of these major sources and provide an estimate of Probable Maximum Loss (PML) for the portfolio. The results are presented in Table 5. Key point of interest from this table is that the median projected PML for the total portfolio from the simulated events on the Napier 1931 Fault is \$675m with a 95<sup>th</sup> percentile loss of \$860m (or a median of \$643m and a 95<sup>th</sup> percentile of \$822m when insured losses are considered), i.e., half of the loss estimates were below \$675m and the other half were above \$675m, but only 5% of the loss estimates during the analysis exceeded \$860m).

Table 5: HB Council Group Distribution of Potential Fault Losses

Percentile	Fault Segment Loss (\$m)			
	Napier1931 (ARI 2,800)		HawkeBay8 (ARI 700)	
	Insured	Ground Up.	Insured	Ground Up.
5th	488.4	468.8	223.9	217.5
10th	529.6	506.1	252.4	243.1
15th	558.2	533.0	272.7	262.1
20th	580.8	553.7	289.7	277.4
25th	599.1	571.7	304.3	291.1
30th	615.4	587.3	318.4	303.6
35th	631.4	602.1	331.1	315.3
40th	646.6	616.4	343.4	326.4
45th	660.7	630.2	355.8	337.6
50th	675.5	643.4	368.0	349.0
55th	690.2	657.9	380.5	360.2
60th	705.8	671.4	393.3	372.2
65th	720.0	685.9	406.7	384.2
70th	734.3	700.4	420.8	397.2
75th	752.7	716.9	436.3	411.4
80th	771.7	737.9	452.9	426.9
85th	793.8	758.5	473.0	445.7

Percentile	Fault Segment Loss (\$m)			
	Napier1931 (ARI 2,800)		HawkeBay8 (ARI 700)	
	Insured	Ground Up.	Insured	Ground Up.
90th	821.5	783.5	497.2	468.5
95th	860.1	822.4	532.2	501.7
mean	675.3	644.7	372.1	353.0

Recommended Modelling Basis for Insurance Purposes

Given ruptures on the Napier 1931 Fault are expected to have a return period of ~2,800 years, the estimated 50<sup>th</sup> percentile loss (median) for events on this fault has an approximate return period of 5,600 years (less than 0.02% chance in any given year), which is beyond return periods commonly considered for insurance limit setting purposes. Therefore, it is suggested that the 1,000-year level loss predicted when modelling with all sources or any other more conservative loss estimate from the probabilistic curve is adopted.

Individual Member Council Predicted Losses

Figure 6 shows the estimated probabilistic losses for different return periods (or probabilities of exceedance) for each council separately. The probabilistic loss curve for the combined portfolio of the five councils is also shown for comparison. The same results are tabulated in

Table 6.

The probabilistic loss estimates provide a common basis for comparing risks to each council member and therefore can be used to inform an equitable risk-based premium allocation model for natural disaster. The loss estimates can also be used to inform setting sub-limits in the group policy. More details on the council-specific losses are provided in the appendix.

Figure 6: Council-specific Probabilistic Loss Curves (Loss Vs. Return Period)

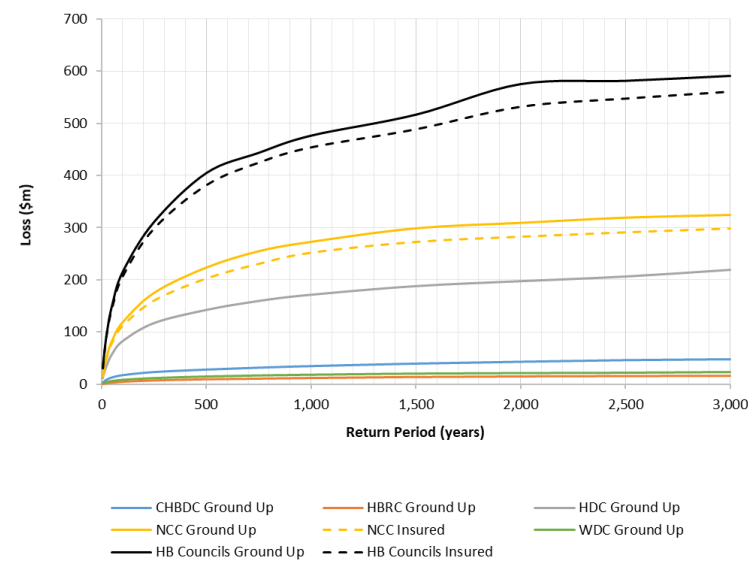


Table 6: Estimated Probabilistic Losses for each Council

Average Annual Exceedance Probability (AAEP)	Approximate Return Period (years)	Predicted Loss (\$m)					
		CHBDC	HBRC	HDC	NCC	NCC	WDC
		Ground Up.	Ground Up.	Ground Up.	Ground Up.	Insured	Ground Up.
0.10000	10	4.9	1.2	19.8	28.0	27.5	2.3
0.04000	25	8.9	2.3	37.3	56.3	53.8	4.1
0.02000	50	12.9	3.4	57.8	84.9	80.2	6.0
0.01000	100	17.1	4.8	82.2	119.2	111.9	8.4
0.00400	250	23.1	7.2	116.7	175.7	160.3	11.6
0.00200	500	27.8	9.3	141.9	224.3	202.5	14.9
0.00133	750	31.5	10.4	159.1	255.6	230.4	16.9
0.00100	1000	34.5	11.6	171.0	273.5	251.6	18.4
0.00067	1500	39.3	13.4	187.4	299.5	272.2	20.6
0.00050	2000	42.9	14.5	196.9	309.8	282.1	21.6
0.00040	2500	45.9	15.0	205.8	319.8	290.5	22.3
0.00033	3000	47.6	15.5	218.7	325.0	297.8	23.7

## Determining an Insurance Loss Limit

Loss modelling provides loss estimates that are a representation of what is the likely consequence (loss or damage) from a given event. The variability of the outcomes, and inherent uncertainty, is considered as part of the statistical analysis. However, there are always unknown factors and complexities that can impact actual loss outcomes compared to a theoretical representation.

It is therefore important that loss estimates are not converted immediately into a loss limit, but instead are used as part of the process to determine policy loss limits.

The following are additional considerations that should be included in the process for defining loss limits:

- Generally, the cost of capital reduces as the likelihood of loss decreases. However, the availability of capacity and the underwriters view of risk mean that this can only be ascertained by asking the insurance markets for either a formal quote, or indicative costs for additional capacity.
- The loss modelling in this report has only considered Material Damage loss, however the associated policy limit will be a combination of Material Damage *and* Business Interruption.
- A policy limit, particularly for a group of insured entities, is the maximum amount that is payable under the insurance contract. The limit therefore has to be sufficient for events that impact multiple member councils at the same time.
- Demand surge should be added to the loss estimates. A more detailed definition for demand surge\* is provided below. There is specified limit to cater for demand surge potential within the policy (extra expense). The adequacy of this line item should be reviewed on a regular basis.
- The loss modelling analysis is a probabilistic assessment of loss potential, with a more detailed analysis of the most likely and significant event for the combined portfolio. The events considered in this report are low probability high consequence events, but more extreme events of lower probability can still occur (similar to the 2011 Christchurch Earthquake). Loss limits can be set to cater for these types of events, assuming that cost benefit for this additional insurance capacity is deemed economic.
- Asset values, for asset reinstatement, generally trend upwards over time. Loss limits should be set to allow for some value increase over the period of time between loss modelling re-evaluations.

### Demand Surge Amplifier

Demand surge is an economic phenomenon where the cost to repair damage to buildings and other infrastructure assets in large natural disasters is significantly greater than the cost to repair the same damage in a smaller disaster (or during typical asset renewals).

The key factors that contribute to demand surge are (but are not limited too):

1. Magnitude of damage and size of affected area; a significant event such as the rupture of the Hikurangi Trench would have a significant impact on the majority of NZ.
2. Growth stage of the local and natural economy – variation over time and across the region.
3. The size of the construction sector - variation over time and across the region.
4. Industry wage levels.
5. Resource availability – labour and resources.
6. Global consideration such as supply chain disruption and increased costs caused by the current pandemic and war/conflict.

The high-impact low-probability scenarios modelled, including an earthquake event on the Napier 1931 Fault, create significant damage, both in terms of severity and spread. This coupled with potential labour and resource limitations, due to transportation and availability, is expected to push demand surge towards the upper end of the scale. The demand surge modifier can be a damage amplifier of between 1 and 1.6 times depending on the above factors. Although difficult to accurately calculate for an individual portfolio we suggest a minimum demand surge factor of 1.3.

Adding a 30% demand surge suggests a \$620m loss limit based on the estimated 1,000-year ground-up loss estimate.

**Aon brokers can advise on the practicalities of implementing demand surge into the insurance placement.**

## Next Steps

Aon recommends the following to improve the accuracy of the earthquake loss estimates in future:

- Asset valuations are reviewed on a regular basis and are based on an insurance-based reinstatement cost, not financial- (or depreciation-) based valuations (which may not consider costs associated with demolition or inflation costs when reinstating an asset).
- Use the individual council loss assessment results to develop a risk-based premium allocation model to ensure an equitable allocation of premium to member councils.
- Additional damage due to liquefaction and landslides was allowed for in our estimates by relying on regional liquefaction and landslide susceptibility maps. However, these maps often did not have enough resolution for the susceptibility levels to be confidently determined. This could be addressed in more detailed susceptibility assessments for high-value assets.
- Investigate the impact of more frequent events, such as floods, and how that would impact the retention levels (deductibles) that individual councils within the HB Councils would be comfortable holding.
- Investigate potential additional damage from fire and tsunami following a Napier 1931 scenario earthquake to evaluate whether any adjustment to the estimated earthquake PML is required.

Aon (and its partner consultants) can offer assistance to Hawke's Bay Councils Group (HB Councils) with implementation of the above recommendations and any follow-up extension of the present loss assessment. This would be an additional stage of work, beyond that currently undertaken and would require further engagement with the HB Councils. Such work, if undertaken, will also bring cost benefits, i.e., risk mitigation by asset hardening may reduce the loss estimate from a natural hazard – reducing the cost or requirement for risk transfer.

## Limitations and Disclaimer

### Limitations

This report has been produced by Aon (We, we, Our, our) to assist in the understanding and quantification of potential earthquake material damage losses for property assets owned by Hawke's Bay Councils Group (HB Councils) (the Client). The loss estimates are considered pragmatic and at an appropriate level and in line with good practice for loss estimations associated with severe earthquake events. The content of this report is only intended to be used for risk transfer and as such has been modelled to the detail required for this purpose. When used for other purposes, such as post-disaster response, land use planning and so forth, it may not be sufficiently robust or detailed. When used for other purposes, it could be useful as a starting point for further work provided the limitations are understood and acknowledged. Some of these limitations are listed below:

- The estimates do not provide for additional damage that could be sustained during large aftershocks, nor does it factor in cascading events or another major event in the same insurance period.
- The estimates do not provide for additional damage that could be sustained as a result of fire or tsunami following earthquake.
- The estimates are for potential material damage losses only, and do not include associated costs such as claims preparation, expediting expenses and additional increased cost of working, however these should be considered when determining policy limits.
- No allowance has been made for enablement costs in the assessment. This should form part of an additional assessment.
- Catastrophe models assume high correlation between characteristics of insured assets and those of the model features (such as vulnerabilities) designed to represent them. Specific individual risks however may have very different attributes to those assumed by the catastrophe models. This means that real-life losses from a single risk or small group of risks concentrated at one or more locations could potentially exceed modelled losses calculated using the catastrophe models.
- Building seismic ratings, where available, are used to inform some of the assumptions made in this loss assessment. However, these seismic ratings are undertaken with reference to the building standard with the primary intention of protecting lives not the building itself. Therefore, the assessment ratings provide only an indication of potential loss. Without in-depth structural and geotechnical investigations, the actual loss potential cannot be accurately pre-determined. When determining loss limits for insurance purposes, the potential for additional damage to high-value assets within the portfolio of assets considered can be improved by undertaking more specific and detailed assessment for those assets.
- No site-specific assessment, e.g., landslide or liquefaction potential assessment, has been undertaken as part of the present assessment to evaluate potential implications associated with earthquake actions.
- As natural hazard events are intrinsically highly unpredictable, there is a margin of uncertainty attaching to the results. The results and findings in this report have been reached through a series of qualitative and quantitative assessments in combination with various assumptions and limitations.
- Aon recommends that the results presented in this report should not be relied upon in isolation when making decisions regarding policy limits.
- The loss estimates are desktop-based, and their accuracy is reliant on the information supplied by the Client and/or selected third party sources. We accept no responsibility for the accuracy or completeness of the underlying information provided.

#### Declaration

The Client acknowledges the assumptions and limitations noted above and agrees to the following:

- Where this report includes a recommendation or an assessment of risk, this is an expression of our opinion only and not a statement of fact. Any decision to rely upon any such recommendation or assessment will be solely at the risk of the Client, for which we accept no liability, and the Client acknowledges that the analysis provided does not replace the need for the Client to make its own assessment.
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- The primary aim of the analysis contained in this report, prepared by Aon (we, our) has been to ascertain and determine material damage loss estimates for earthquake events for the Client. The loss estimates provided are considered pragmatic and at an appropriate level and in line with good practice for loss estimations associated with severe earthquake events.

## References

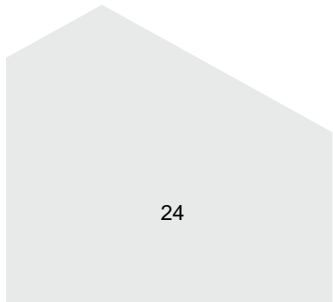
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## **Appendix C: Hastings District Council (HDC)**

Earthquake Loss Limit Analysis

## Summary of HDC Assets

HDC declared the total replacement value of their insured assets to be \$545.6m in the 2021/22 insurance year. This included predominantly buildings, park assets, and above-ground three-waters facilities and infrastructure, as well as a range of other above-ground assets. All line items declared on the schedule were included within the modelling.

Table 1 below contains the declared value, split into high-level asset categories.

**Table 1: Declared Value by Asset Category**

Category	Value (\$m)	Proportion of Value (%)
Building	279.2	51.2%
Sporting, Swimming Pools, Park Assets	122.2	22.4%
Three-Waters (incl. Facilities)	93.2	17.1%
Miscellaneous	18.5	3.4%
Contents, Plant and Equipment	16.3	3.0%
Rubbish and Recycling	9.7	1.8%
Transport, Roading, Bridges, Pavements	4.3	0.8%
Art, Sculptures, Statues, Memorials	2.1	0.4%
<b>Total</b>	<b>545.6</b>	<b>100.0%</b>

### Data Completeness

A few comments on the data underlying this analysis:

- The document 'Renewal Schedule 2021-2022.xlsx' provided by the Aon broker for the Hawke's Bay Councils group (HDC's insurance purchasing group) was the primary source of valuation information and asset data. This was supplemented by information made publicly available by council.
- The total value of HDC assets modelled by Aon was \$545.6m. No items on the schedule had a blank, negative, or zero-reinstatement cost.
- There are 307 line items declared on the schedule, to which we have assigned 178 unique locations (noting a number of co-located assets declared, such as Splash Planet constituting more than 20 line items alone).
- Some assets were unable to be assigned a suitable unique location, and therefore required prorating into locatable assets of similar types. The three high-value line items prorated are:
  - 'District Wide Wastewater Plant & Equipment', with a value of \$57.9m (10.6%)
  - 'District Wide Water Treatment/Pumping – Plant & Contents', \$6.6m (1.2%)
  - 'District Wide Contents of Every Description...', \$3.0m (0.5%)

C.4



## HDC Probabilistic Loss Analysis

The following provides a summary of the loss estimates for HDC. Figure 1 shows the estimated loss for different return periods for all assets in the cumulative HDC portfolio. Note that the 1-in-1,000-year loss is typically suitably conservative for insurance purposes (highlighted in Table 2).

Figure 1: Probabilistic Loss Curve (Loss Vs. Return Period)

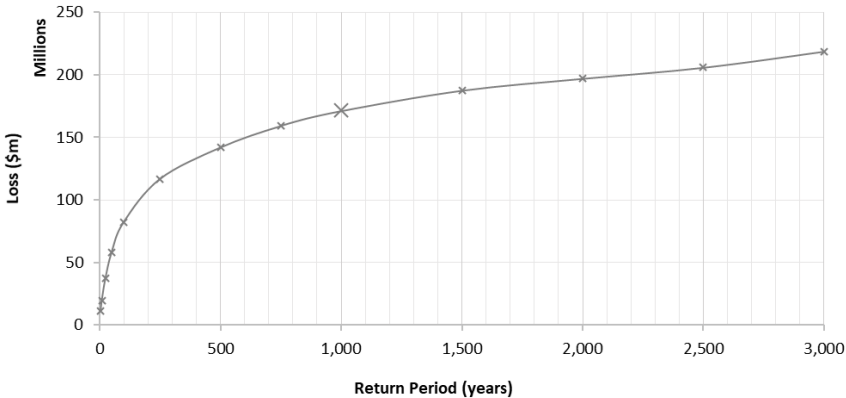


Table 2: Estimated Probabilistic Losses

Average Annual Exceedance Probability (AAEP)	Approximate Return Period (years)	Predicted Loss (\$m)
0.10000	10	19.8
0.04000	25	37.3
0.02000	50	57.8
0.01000	100	82.2
0.00400	250	116.7
0.00200	500	141.9
0.00133	750	159.1
0.00100	1000	171.0
0.00067	1500	187.4
0.00050	2000	196.9
0.00040	2500	205.8
0.00033	3000	218.7

It is conceivable that losses of this scale and even exceeding it could be seen, however the return periods of these losses are greater than those which would typically be considered for insurance purposes.

C.5



## HDC Scenario-Based Loss Analysis

A supplement to the probabilistic loss analysis was a disaggregation of losses to identify major seismic sources with highest contribution to the losses to enable an evaluation of the Probable Maximum Loss (PML) for the HDC combined portfolio. Table 3 shows the results of the disaggregation analysis for a loss corresponding to a return period of ~1,000 years. The table shows seismic sources that generated losses of approximately \$171.0m (corresponding to approximately the 1,000-year level loss) or more during the probabilistic analysis and their percentage contribution to the total number of occurrences of such high losses (see Figure 2 from Litchfield et al. (2013) for the fault locations).

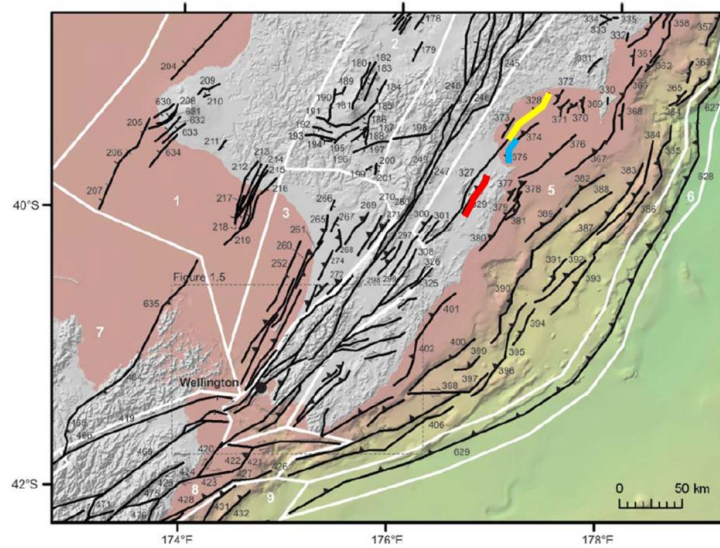


Figure 2: TukiTukiThr, Napier1931 and HawkeBay8 Faults (map from Litchfield et al., 2013)

As expected for distributed portfolios, some faults are characteristically responsible for a greater proportion of risk than others. In the case of HDC, the Tuki Tuki Thrust, Napier 1931 and Hawke Bay No. 8 faults remain the most likely sources of major earthquake losses to the portfolio, causing approximately 62% of the total number of events that resulted in a loss of \$171.0m or more (corresponding to approximately the 1,000-year level loss). Table 3 below shows the faults with notable contribution to these high losses.

Table 3: Loss Disaggregation Results for HDC 1000-Year Loss

Fault Name	Figure 2 Colour and Reference	Magnitude (ref: NHSM)	Return Period (ref: NSHM)	Percentage Contribution to >1,000yr losses
TukiTukiThr	Red 329	7.1	3,500	26.0%
Napier1931	Yellow 328	7.6	2,800	20.0%
HawkeBay8	Blue 375	6.2	700	16.0%
All other faults together		various	various	34.0%
Background seismicity		various	various	4.0%

C.6



Assets were subjected to ~10,000 repeats of an event on these faults to provide a distribution of likely losses from these specific events and enable estimation Probable Maximum Loss (PML) for the portfolio. The resulted loss distributions are presented in Table 4. Key points of interest from the results are:

- The median projected loss for the total portfolio from the distribution of likely losses from a Magnitude 7.6 earthquake on the Napier 1931 Fault is estimated to be \$257m with a 95<sup>th</sup> percentile loss of \$336m (i.e., half of the loss estimates were below \$257m and the other half were above \$257m, but only 5% of the loss estimates during the analysis exceeded \$336m).
- The median projected loss for the total portfolio from the distribution of likely losses from a Magnitude 7.1 earthquake on the Tuki Tuki Thrust is estimated to be \$169m with a 95<sup>th</sup> percentile loss of \$245m (i.e., half of the loss estimates were below \$169m and the other half were above \$169m, but only 5% of the loss estimates during the analysis exceeded \$245m).

Table 4: Distribution of Potential Fault Losses

Percentile	Fault Segment Loss (\$m)		
	TukiTukiThr (ARI 3,500)	Napier1931 (ARI 2,800)	HawkeBay8 (ARI 700)
5 <sup>th</sup>	113.0	180.4	73.6
10 <sup>th</sup>	124.2	196.2	83.2
15 <sup>th</sup>	132.0	207.4	90.3
20 <sup>th</sup>	138.4	215.8	96.3
25 <sup>th</sup>	143.7	223.7	102.0
30 <sup>th</sup>	149.2	231.1	107.1
35 <sup>th</sup>	154.3	238.0	112.3
40 <sup>th</sup>	158.9	244.7	117.4
45 <sup>th</sup>	163.8	250.9	122.5
50 <sup>th</sup>	168.5	257.0	127.7
55 <sup>th</sup>	173.6	263.2	133.0
60 <sup>th</sup>	179.2	269.7	138.5
65 <sup>th</sup>	184.8	275.9	144.2
70 <sup>th</sup>	191.1	282.6	150.5
75 <sup>th</sup>	197.4	290.3	157.4
80 <sup>th</sup>	204.6	299.8	165.3
85 <sup>th</sup>	214.3	309.0	173.9
90 <sup>th</sup>	226.5	320.1	184.7
95 <sup>th</sup>	244.5	336.3	200.1
mean	172.4	257.5	131.1

C.7



## Next Steps

### Recommended Loss Estimate for Insurance Purposes

Given ruptures on the Napier 1931 and Tuki Tuki Thrust faults are expected to have a return period of 2,800 – 3,500 years, the estimated 50<sup>th</sup> percentile losses (medians) for the simulated events on these faults have an approximate return period of 5,600 – 7,000 years (between 0.014 – 0.018% chance in any given year). This is beyond return periods commonly considered for insurance limit setting purposes. Therefore, it is suggested that the 1,000-year level loss estimated when modelling with all sources (or any other more conservative loss estimate from the probabilistic loss curve that the council would feel comfortable) is adopted. The high-impact low-probability scenarios modelled, including an earthquake event on the Napier 1931, or Tuki Tuki Thrust faults, create significant damage, both in terms of severity and spread. This coupled with potential labour and resource limitations, due to transportation and availability, is expected to push demand surge towards the upper end of the scale. Adding a 30% demand surge, consistent with the group level modelling, suggests a \$222m loss limit based on the estimated 1,000-year probabilistic loss.

### Future Improvements

Aon recommends the following to improve the accuracy of the earthquake loss estimates in future:

- Disaggregate the high-value district wide line items to give a clearer picture of the asset types contained within them, and their locations. This would give HDC (and the insurer) a clearer understanding of the exposure, would allow a more accurate distribution of the value in modelling exercises, and would support the selection of specific vulnerability models more suitable in estimating the damage to assets owned by HDC.
- Asset valuations are reviewed on a regular basis and are based on an insurance-based reinstatement cost, not financial- (or depreciation-) based valuations (which may not consider costs associated with demolition or inflation costs when reinstating an asset).
- Additional damage due to liquefaction and landslides was allowed for in our estimates by relying on regional liquefaction and landslide susceptibility maps. However, these maps often did not have enough resolution for the susceptibility levels to be confidently determined. This can be improved by detailed site-specific susceptibility assessments for high-value assets.
- Investigate the impact of more frequent events (i.e. floods), and how that would impact the retention levels (deductibles) that HDC would be comfortable holding.
- Investigate the potential implications of damage to any of the sites labelled as having an asbestos construction (4.1% of the declared value, with potentially an additional 1.3% labelled fibre cement). This is relevant to 14 line items including several high-value pensioner flats (with the top three values \$11.5m, \$4.4m and \$2.1m). In the event of damage to one of these sites, it is likely residents would require relocation until the hazardous material has been removed, which could have additional financial and business interruption implications.
- Investigate additional damage from fire and tsunami following the two offshore earthquake scenarios to evaluate whether any adjustment to the earthquake PML is required. Note buildings with Expanded Polystyrene Sandwich Panel (EPS) construction are likely to be a complete loss in the event of a fire, affecting \$2m of HDC's portfolio.

Aon (and its partner consultants) can offer assistance to Hastings District Council (HDC) with implementation of the above recommendations and any follow-up extension of the present loss assessment. This would be an additional stage of work, beyond that currently undertaken and would require further engagement with HDC. Such work, if undertaken, will also bring cost benefits, i.e., risk mitigation by asset hardening may reduce the loss estimate from a natural hazard – reducing the cost or requirement for risk transfer.

C.8





Aon offers holistic risk management services to help our clients identify, assess and manage existing and emerging risks. We assist with the selection and implementation of appropriate risk transfer, risk retention and risk mitigation strategies and provide the right advice following a major claim. We add distinctive, long-term value to optimise your overall insurance programme and enhance your risk management.

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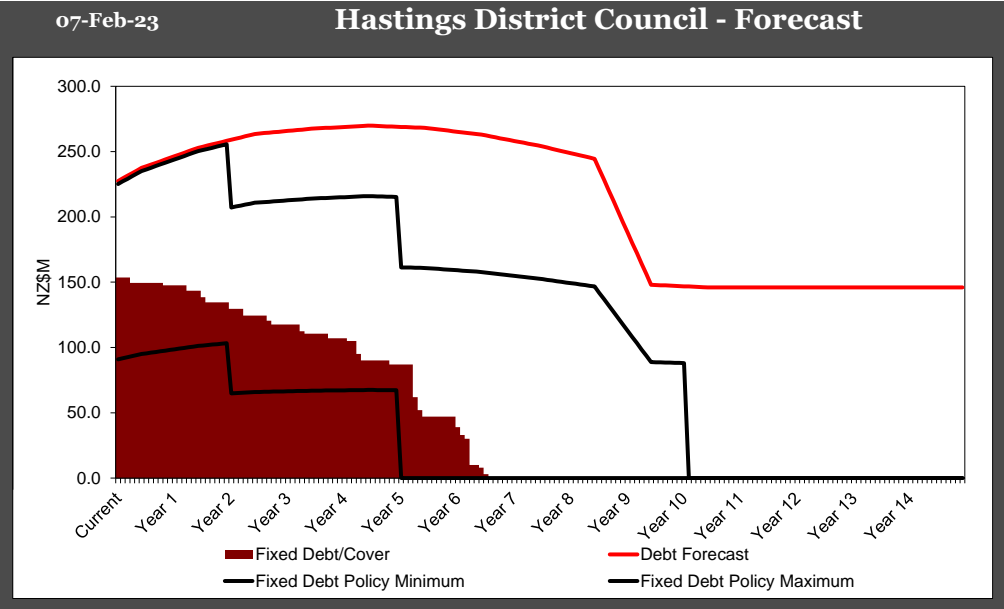
Summary of 2022/23 Insurance Proposals

Policy Type		2021/22	2022/23	2022/23	2022/23	2022/23
		AON Proposal	Budget	AON Proposal	Cover	Deductibles
Material Damage &	Provides cover for all Council buildings, contents and other property. Does not provide cover for underground services, roads or bridges.	1,490,824	1,525,060	1,779,935	609,036,293	\$10,000 deductible and Loss limits across all of HB group of \$600m
Business Interruption	Loss resulting from interruption to the business as a result of damage to property insured by the Material Damage Policy. Sum Insured includes revenue as well as increased costs of working.	31,273	33,000	32,080	4,510,000	
Less: Premium On Charges Estimate only		-135,247		-152,829		
Net Premium Material Damage & Business Interruption		\$1,386,850	\$1,558,060	\$1,659,186		
Motor Vehicle	All vehicles, mobile plant or similar whether owned, borrowed, leased or hired when under care, custody or control of the insured.	51,954	60,000	55,620	4,155,183	1,000
Sub Total		\$1,438,804	\$1,618,060	\$1,714,806		
Crime Manager	Indemnity for loss through any fraudulent or dishonest act (including theft or criminal damage) committed by an employee or any other person acting alone or in collusion with others.	22,714	27,500	24,417	1,000,000	25,000
Personal Accident	Provides cover for death by accident plus scheduled benefits for Mayor, Councillors and Executive Management Team. Payment to Council to cover costs of by-election.	2,353	2,600	2,590	Mayor & Councillors \$100,000 Exec 350000 CE 600000	nil
Statutory Liability	The defence costs and fines arising out of an allegation of or breach of any Act of Parliament other than an 'excluded' Act.	21,060	24,000	22,115	4,000,000	10,000
Employers Liability	Provides cover for damages & defence costs as a result of any employee sustaining personal injury in the course of their employment.	4,785	5,500	5,026	1,000,000	5,000
Museum Fine Arts/Exhibition	Loss or damage to Fine Arts being property of the insured or entrusted to the insured for exhibition.	3,060	3,200	3,065	1,000,000	nil except earthquake 25000
Overseas Travel Policy	Cover while undertaking overseas travel in connection with business of the insured, including associated private, personal and family travel.	88	500	171	various	various
Fees	(Estimated allocation of fees)	21,400	23,000	22,700		
Total Commercial Insurance		\$1,514,264	\$1,704,360	\$1,794,890		
Professional and Public Liability	This policy is the only policy that we still hold with Marsh	116,301	174,000	143,988	300,000,000	10,000 & 5,000
LAPP	Disaster relief scheme to enable participating Local Authority's to meet their 40% share (60% met by Central Govt) of costs following major disaster. This relates primarily to underground services.	340,276	375,000	561,108	65M, 105M & 150M	600,000
AON	Bridge cover	66,652	80,000	78,932		
TOTAL		\$2,037,493	\$2,333,360	\$2,578,918		

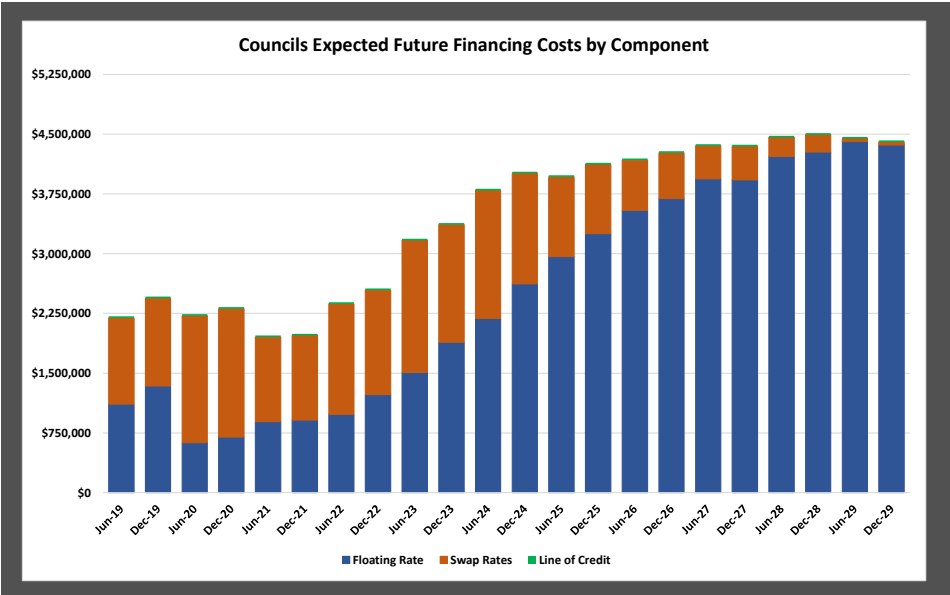
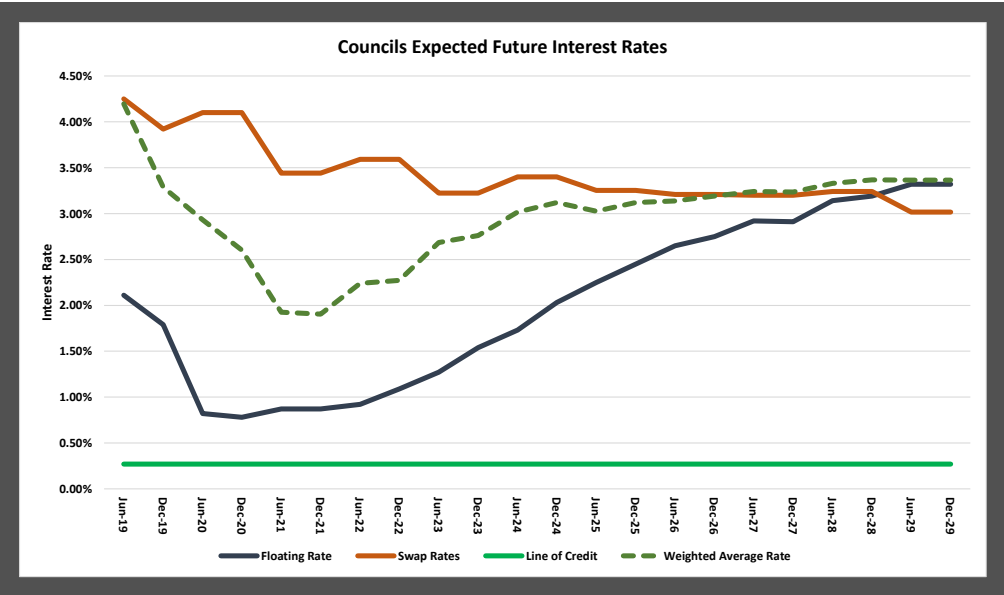


Interest Rate Risk Position

7 February 2023



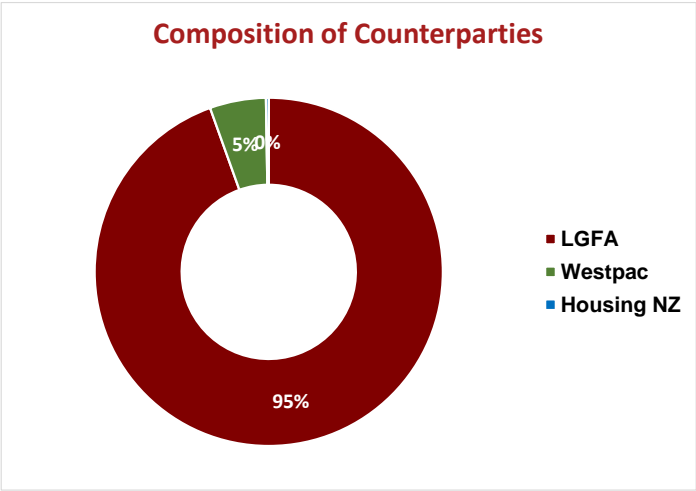
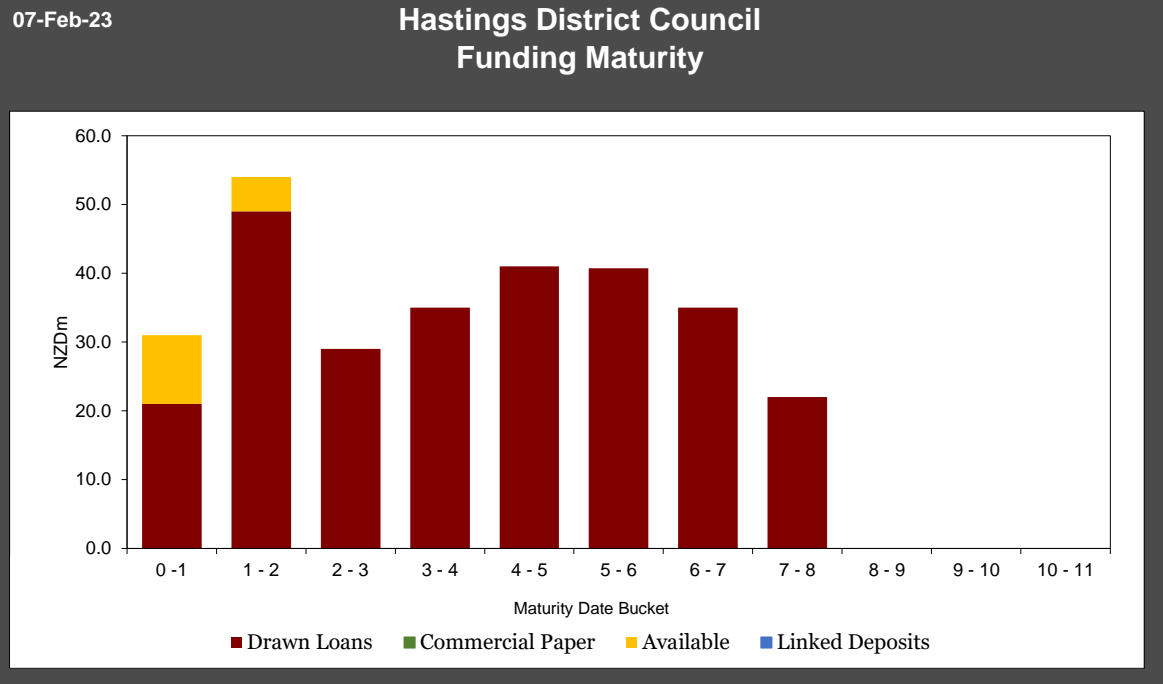
Debt Interest Rate Policy Parameters					
(calculated on rolling monthly basis)					
Debt Period Ending	Debt Forecast	Minimum %	Maximum %	Actual	Compliant (Y/N)
Current	273	40%	99%	53%	Yes
Year 1	246	40%	99%	60%	Yes
Year 2	259	25%	80%	50%	Yes
Year 3	266	25%	80%	44%	Yes
Year 4	269	25%	80%	40%	Yes
Year 5	269	0%	60%	32%	Yes
Year 6	265	0%	60%	15%	Yes
Year 7	258	0%	60%	0%	Yes
Year 8	249	0%	60%	0%	Yes
Year 9	188	0%	60%	0%	Yes
Year 10	147	0%	60%	0%	Yes
Year 11	146	0%	0%	0%	Yes
Year 12	146	0%	0%	0%	Yes
Year 13	146	0%	0%	0%	Yes
Year 14	146	0%	0%	0%	Yes
Year 15	146	0%	0%	0%	Yes
Weighted Avg Cost of Fixed Rate Instruments				3.30%	
Value of Live Fixed Rate Instruments				\$ 143,500,000	
Weighted Avg Length of Fixed Rate Instruments				4.49 Years	



Cost of Holding Fixed Interest Position				7-Feb-23				30-Jun-22				Movement for Year			
Live Interest Rate Swaps				Notional Swap Value	Avg Int Rate	Valuation		Notional Swap Value	Avg Int Rate	Valuation		Notional Swap Value	Avg Int Rate	Valuation	
Forward Starting Interest Rate Swaps				85,500,000	3.79%	3,813,612		85,500,000	3.79%	1,170,926		0	0.00%	2,642,686	
Fixed Rate Cover Live & Forward				15,000,000	3.95%	312,825		15,000,000	3.95%	51,174		0	0.00%	261,651	
Total Interest Rate Swaps				68,000,000	1.82%			68,000,000	1.82%			0			
				168,500,000	3.01%	4,126,437		168,500,000	3.01%	1,222,100		0		2,904,337	
Average Cost of Funds				7-Feb-23				30-Jun-22				Movement for Year			
Fixed Rate Loans with LGFA				Notional Value	Avg Int Rate			Notional Value	Avg Int Rate			Notional Value	Avg Int Rate		
Floating Rate Loans with LGFA				58,000,000	2.58%			58,000,000	2.58%			0	0.00%		
Live Interest Rate Swaps				214,000,000	4.85%			179,000,000	3.45%			35,000,000	1.40%		
Westpac Lines of Credit					3.79%				3.79%			0	0.00%		
Fixed Rate Loans with HNZ					0.27%				0.27%			0	0.00%		
Total External Loans / Average Cost of Borrowing				740,000	0.00%			740,000	0.00%			0	0.00%		
				272,740,000	4.35%			237,740,000	3.58%			35,000,000	0.78%		

Funding and Liquidity Risk Position

7 February 2023



Funding KPI's				
	Minimum %	Maximum %	Actual	Compliant (Y/N)
Liquidity	110%	170%	113%	Yes
Fixed Interest Debt	40%	99%	53%	Yes
Funding Maturity Profile				
0-1 Year	0%	33%	17%	Yes
1-2 Year	0%	33%	18%	Yes
2-3 Year	0%	33%	9%	Yes
3-4 Year	0%	33%	11%	Yes
5-6 Year	0%	33%	13%	Yes
6-7 Year	0%	33%	13%	Yes
7-8 Year	0%	33%	11%	Yes
8-9 Year	0%	33%	7%	Yes
9-10 Year	0%	33%	0%	Yes
10-11 Year	0%	33%	0%	Yes
Net Debt as % Equity		20%	8%	Yes
Net Debt as % Income		175%	103%	Yes
Net Interest as % Income		15%	3%	Yes
Net Interest as % of Rates		20%	6%	Yes

Funding and Liquidity Characteristics	
Total External Council Drawn Debt	272,740,000
Forward Start Contract	21,000,000
Funds Drawn from LGFA	272,000,000
Undrawn Bank Facilities	15,000,000
Cash on Hand	20,000,000
LIQUIDITY RATIO	1.13
Definition: (Cash Reserves + Lines of Credit + Drawn Debt) / Drawn Debt	
Weighted Average Length of Funding	3.26 Years







# Treasury Management Policy

(Incorporates LTP Treasury Policy plus more detailed management delegations and performance measures)

Policy expert	Aaron Wilson, Financial Controller
Policy owner	Bruce Allan, Group Manager Corporate Services
Owner Department	Finance
Approval date	14 February 2023
Version	PMD-02-06-03-
Review date	February 2023

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# 1. Introduction/Scope and Objectives

## 1.1. Purpose of Policy

The purpose of the Treasury Policy is to outline approved policies and procedures in respect of all treasury activity to be undertaken by the Council. The formalisation of such policies and procedures will enable treasury risks within the Council to be prudently managed.

As circumstances change, the policies and procedures outlined in this policy will be modified to ensure that treasury risks within the Council continue to be well managed. In addition, regular reviews will be conducted to test the existing policy against the following criteria:

- Industry “best practices” for a Council the size and type of Hastings.
- The risk bearing ability and tolerance levels of the underlying revenue and cost drivers.
- The effectiveness and efficiency of the Treasury Policy and treasury management function to recognise, measure, control, manage and report on the Council’s financial exposure to market interest rate risks, funding risk, liquidity risks and other associated risks.
- The operation of a pro-active treasury management in an environment of control and compliance.
- The robustness of the Policy’s risk control limits and risk spreading mechanisms against normal and abnormal interest rate market movements and conditions.
- Assist the Council in achieving strategic objectives relating to ratepayers.

It is intended that the Policy be distributed to all personnel involved in any aspect of the Council’s financial management. In this respect, all staff must be completely familiar with their responsibilities under the policy at all times.

## 1.2. Scope

- This document identifies the policy and procedures of the Council in respect of treasury management activities.
- The policy has not been prepared to cover other aspects of the Council’s operations, particularly transactional banking management, systems of internal control and financial management. Other policies and procedures of the Council cover these matters.

## 1.3. Objectives

The objective of this Treasury Policy is to control and manage costs that can influence operational budgets and public equity. Specifically:

### 1.3.1 Statutory Objectives

- All external borrowing, investments and incidental financial arrangements (e.g. use of interest rate hedging financial instruments) will meet the requirements of the Local Government Act 2002 and its subsequent amendments and incorporate the Liability Management Policy and Investment Policy.
- HDC is governed by the following relevant legislation:
  - Local Government Act 2002, in particular Part 6 including sections 101,102, 104, 105 and 113.
  - Local Government (Financial Reporting and Prudence) Regulations 2014, in particular Schedule 4.

- Trustee Act 1956. When acting as a trustee or investing money on behalf of others, the Trustee Act highlights that trustees have a duty to invest prudently and that they shall exercise care, diligence and skill that a prudent person of business would exercise in managing the affairs of others. Details of relevant sections can be found in the Trustee Act 1956 Part II Investments.
- All projected external borrowings are to be approved by Council as part of the Annual Plan or the Long Term Planning (LTP) process, or resolution of Council before the borrowing is affected.

#### 1.3.2 General Objectives

- Minimise the Council's costs and risks in the management of its external borrowings and maximise its return on investments.
- Minimise the Council's exposure to adverse interest rate movements.
- Monitor, evaluate and report on treasury performance.
- Borrow funds and transact risk management instruments within an environment of control and compliance under the Council approved Treasury Policy so as to protect the Council's financial assets and manage costs.
- Arrange and structure external short and long term funding for the Council at a favourable margin and cost from debt lenders.
- Optimise flexibility and spread of debt maturities within the funding risk limits established by this Policy statement.
- Monitor and report on financing/borrowing covenants and ratios under the obligations of the Council's lending/security arrangements.
- Monitor the Council's return on investments in Council Controlled Organisations ("CCO's"), Council Controlled Trading Organisations (CCTO's), property and other shareholdings.
- Maintain liquidity levels and manage cash flows within the Council to meet known and reasonable unforeseen funding requirements.
- Manage funding requirements to ensure an appropriate spread of debt maturities.
- Comply with financial ratios and limits stated within this Policy.
- Ensure that future capital expenditure will not impose an unequitable spread of costs/benefits over current and future ratepayers.
- To minimise exposure to credit risk by dealing with and investing in creditworthy counterparties.
- Develop and maintain relationships with financial institutions, credit rating agencies, the Local Government Funding Agency (LGFA), investors and investment counterparties.
- Ensure the Council, management and relevant staff are kept abreast of the latest treasury products, methodologies, and accounting treatments through training and in-house presentations.

## 2. Management Responsibilities

### 2.1. Delegations of Authorities

Pursuant to schedule 7, clause 32 (2), of the Local Government Act 2002, the Council may make delegations to officers of the Council in order to allow for the efficient conduct of Council business. Schedule 7, Clause 32 (3) of this Act allows officers to delegate those powers to other officers.

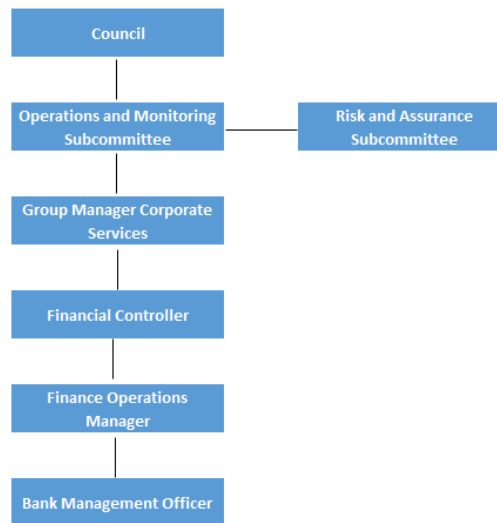
Notwithstanding schedule 7, clause 32 (1) (c) the power to borrow money, or purchase or dispose of assets, other than in accordance with the Long Term Plan remains the sole responsibility of the Council. This responsibility cannot be delegated.

The limits of approved delegation to Officers are contained within the Council's Delegations Register.

## 2.2. Treasury Organisational Structure

The council will operate the treasury management function as a cost centre.

The following diagram illustrates those individuals and bodies who have treasury responsibilities. Authority levels, reporting lines and treasury duties and responsibilities are outlined in the following section.



## 2.3. Treasury Responsibilities

The key responsibilities of the above positions are as follows:

### 2.3.1 Council

The Council has ultimate responsibility for ensuring that there is an effective policy for the management of its risks. In this respect the Council decides the level and nature of risks that are acceptable, given the underlying objectives of the Council.

In this respect, the Council has responsibility for:

- Approving the long-term financial position of the Council through the 10-year Long Term Plan (LTP) and Financial Strategy, along with the adopted annual plan.
- Approving the Treasury Management Policy incorporating all relevant delegated authorities.
- Evaluating and approving amendments to Policy.
- Approving budgets and high level performance reporting.
- Approving acquisition/disposal of assets and non-financial instruments.

- Approving the appointment of the Trustee to any Debenture/ Debenture Trust Deed.
- Delegating authority to the Chief Executive and other officers
- Approving one-off transactions falling outside Policy.

The Council, through the Risk and Assurance Subcommittee, must also ensure that:

- It receives regular information from management on funding and interest rate risk exposures and financial instruments.
- Issues raised by auditors (both internal and external) in respect of any significant weaknesses in the treasury function are resolved urgently.
- Submissions are received from management requesting approval for one-off transactions falling outside policy guidelines.

#### 2.3.2 Chief Executive Officer (CEO)

While the Council has final responsibility for the policy governing the management of the Council's risks, it delegates overall responsibility for the day-to-day management of such risks to the CEO.

The CEO's responsibilities include:

- Ensuring the Council's Policies comply with existing and new legislation.
- Approving the register of authorised signatories.
- Approving new counterparties and counterparty limits.
- Approving opening and closing of bank accounts.
- Approving daily transactions in excess of \$30 million
- Receiving and reviewing the monthly treasury report.

#### 2.3.3 Risk and Assurance Subcommittee (RASC)

The RASC will oversee the implementation of the Council's treasury management strategies and monitor and review the effective management of the treasury function.

The RASC will discuss treasury matters on a quarterly basis (and informally as required).

Responsibilities are as follows:

- Recommending the Treasury Policy (or changes to existing policy) to the Council.
- Receiving recommendations from the General Manager Corporate Services and make submissions to the Council on all treasury matters requiring Council approval.
- Recommending performance measurement criteria for all treasury activity.
- Monitoring quarterly performance against benchmarks.
- Approving allowable financial instruments.

#### 2.3.4 General Manager Corporate Services (GMCS)

The GMCS's responsibilities are as follows:

- Management responsibility for borrowing, investment and cash management activities.
- Recommend Policy changes to the Risk and Assurance Subcommittee for evaluation.
- Ongoing risk assessment of borrowing and investment activity including procedures and controls.
- Liaise with S&P Global Ratings ("S&P") in regards to obtaining/maintaining the Councils external credit rating.
- Oversee relationships with financial institutions.
- Approve new borrowing undertaken in line with Council resolution and approved borrowing strategy.

- Approve re-financing of existing debt.
- Approve treasury transactions in accordance with policy parameters outside of the Financial Controller's delegated authority.
- Authorise the use of Risk and Assurance Subcommittee approved interest rate risk management instruments within discretionary authority.
- Negotiate new and maturing borrowing facilities.
- Approve all amendments to the Council's records arising from checks to counterparty confirmations.
- Authorise all interest rate hedging transactions (swaps, FRAs and options) with bank counterparties to change the fixed: floating mix to re-profile the Council's interest rate risk.
- Decide on the mix of fixed and floating rate debt. Recommend authorised signatories and delegated authorities in respect of all treasury dealing and banking activities.
- Propose new funding requirements to the Risk and Assurance Subcommittee for consideration and submission to the Council.
- Review and make recommendations on all aspects of the Treasury Policy to the Risk and Assurance Subcommittee.
- Oversee the annual review of the Treasury Policy, treasury procedures and all dealing and counterparty limits.
- Ensure that all borrowing and financing covenants to lenders are adhered to.
- Analyse the most cost effective financing options to minimise borrowing costs.
- Negotiate all new or rollover funding facilities.
- Monitor and review the overall performance of the treasury function.
- Monitor treasury exposure on a regular basis, including current and forecast cash position, interest rate exposures and borrowings.
- Approve deal tickets for treasury transactions.
- Review Treasury reports to Risk and Assurance Subcommittee and Finance and Monitoring Committee.

#### 2.3.5 Financial Controller (FC)

The FC's responsibilities are as follows:

- Provide regular short term and long-term cash flow and debt projections to the GMCS.
- Deliver monthly reports to the GMCS covering cash/liquidity, interest rate risk position, transaction activity and performance.
- Review month end variance analysis to ensure reasonableness of borrowing and investment accounts.
- Review and approve borrowing and investment system/spreadsheet reconciliation to general ledger.
- Account for all treasury transactions in accordance with legislation and generally accepted accounting principles and the Council's accounting policy.
- Update treasury spreadsheets for all new, re-negotiated and maturing transactions.
- Monitor borrowing and investment settlements and arrange for approval by authorised signatories.
- Prepare short term cash flow forecasts.
- Reconcile monthly summaries of outstanding financial contracts from banking counterparties to internal records.
- Check compliance against limits and prepare report on an exceptions basis.
- Monitor credit rating of approved counterparties.
- Ensure all financial instruments are valued and accounted for correctly in accordance with current best practice standards.
- Manage all administrative aspects of bank counterparty agreements and documentation

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- such as loan agreements and ISDA swap documents.
- Check all treasury deal confirmations against deal documentation and report any irregularities immediately to the CEO.

#### 2.3.6 Finance Operations Manager (FOM)

- Execute treasury transactions in accordance with set limits and GMCS authority.
- Manage the operation of all bank accounts and other account features.
- Monitor all treasury exposures daily.
- Manage daily cash management.

### 2.4. Delegation of Authority and Authority Limits

Treasury transactions entered into by the Council without the proper authority are difficult to cancel given the legal doctrine of “apparent authority”. Also, insufficient authorities for a given bank account or facility may prevent the execution of certain transactions (or at least cause unnecessary delays).

To prevent these types of situations, the following procedures must be complied with:

- All delegated authorities and signatories must be reviewed annually to ensure that they are still appropriate and current.

Whenever a person with delegated authority on any account or facility leaves the Council, all relevant banks and other counterparties must be advised in writing immediately to ensure that no unauthorised instructions are to be accepted from such persons.

Clear Policy breaches should be reported to the CEO and tabled with action points to the Council.

The Council has the following responsibilities, either directly itself, or via the following stated delegated authorities.

Activity	Delegated Authority	Limit
Approving and changing policy	The Council	Unlimited
Borrowing new debt	The Council	Unlimited (subject to legislative and other regulatory limitations)
Acquisition and disposition of investments other than financial investments	The Council	Unlimited
Approval for charging assets as security over borrowing	The Council	Unlimited
Overall day-to-day risk management	CEO (delegated by Council) GMCS	Subject to policy
Re-financing existing debt	CEO (delegated by Council) GMCS	Subject to policy
Approving transactions outside Policy	The Council	Unlimited

Activity	Delegated Authority	Limit
Approving allowable risk management instruments	The Council	N/A
Adjust interest rate risk profile	GMCS	Per risk control limits Fixed rate maturity profile limit as per risk control limits
Managing funding maturities in accordance with Council approved facilities	GMCS	Per risk control limits
Maximum daily transaction amount (borrowing, investing, interest rate risk management)	The Council CEO GMCS FC	Unlimited \$40 million \$30 million \$15 million
Authorising lists of signatories	CEO	Unlimited
Opening/closing bank accounts	CEO	Unlimited
Annual review of policy	GMCS	N/A
Ensuring compliance with policy	GMCS	N/A

### 3. Liability Management Policy

Council's liabilities comprise borrowings and various other liabilities. Council's Liability management policy focuses on borrowings as this is the most significant component and exposes the Council to the most significant risks. Other liabilities are generally non-interest bearing. Cash flows associated with other liabilities are incorporated in cash flow forecasts for liquidity management purposes and determining future borrowing requirements.

#### 3.1. External Debt Ratios and Limits

External debt will be managed within the following macro limits.

Ratio	HDC Policy limits
Net external debt as a percentage of income	<175%
Net Interest on external debt as a percentage of income	<15%
Net Interest on external debt as a percentage of annual rates income	<20%
Liquidity range (liquid funds and committed bank facilities as a proportion of external debt)	110% - 170%

Income is defined as earnings from rates, government grants and subsidies, user charges, interest and other revenue and excludes non-government capital contributions (e.g. developer contributions and vested assets).

Net external debt is defined as total external debt less liquid financial assets/investments

Liquidity funds are defined as:

- Overnight Bank cash deposits at 100% of value
- Wholesale / retail bank term deposits no greater than 30 days at 100% of value
- NZ government bonds, Kauri bonds and LGFA bonds at 100% of market value
- Bank deposits less than 181 days at 100% market value
- Bank term deposits linked to pre-funding of term debt maturing in the next 365 days.

The liquidity ratio excludes encumbered cash investments, such as cash held within special/reserve funds.

Annual Rates Income is defined as the amount equal to the total revenue from any funding mechanism authorised by the Local Government (Rating) Act 2002 (including volumetric water charges levied) together with any revenue received from other local authorities for services provided (and for which the other local authorities rate). 'Rates' exclude regional levies.

External debt will be repaid as it falls due in accordance with the applicable loan agreement. Subject to the debt limits, a loan may be rolled over or re-negotiated as and when appropriate. Disaster recovery requirements are met through the liquidity ratio.

### 3.2. Borrowing Mechanisms

The Council is able to externally borrow through a variety of market mechanisms including direct bank borrowing or accessing the short and long-term New Zealand capital markets directly or through the LGFA. In evaluating strategies for new borrowing (in relation to source, term, size and pricing) the GMCS takes into account the following:

- Available terms from banks, the LGFA and the wider capital markets.
- The Council's overall debt maturity profile, to ensure concentration of debt is avoided at reissue/rollover time.
- Prevailing interest rates and margins of the available funding alternatives.
- The market's outlook on future credit margin and interest rate movements as well as its own.
- Ensuring that the implied finance terms within the specific debt (e.g. project finance) are at least as favourable as the Council could achieve in its own right.
- Legal documentation and financial covenants together with security and credit rating considerations.

The Council's ability to readily attract cost effective borrowing is largely driven by its ability to rate, maintain a strong financial standing and manage its relationships with its investors, the LGFA, financial institutions and S&P. To this end it is the Council's intention to seek and maintain a strong balance sheet position.

The Council may use a mixture of short-term facilities (which generally have lower credit margins) as well as longer term facilities to achieve an effective borrowing mix, balancing the requirements of liquidity and cost.

### 3.3. Security

All the Council's external borrowings and interest-rate risk management instruments will generally be secured by way of a charge over the Council's rates and rates revenue offered through a Debenture Trust Deed. Under a Debenture Trust Deed, Council's borrowing is secured by a floating charge over all Council rates levied under the Rating Act. The security offered by Council ranks equally or *pari passu* with other lenders.

The Council offers deemed rates as security for general borrowing programs. From time to time, with prior Council approval, security may be offered by providing a charge over one or more of the Council's assets.

Physical assets will be charged only where:

- There is a direct relationship between the debt and the purchase or construction of the asset, which it funds (e.g. an operating lease, or project finance).
- The Council considers a charge over physical assets to be appropriate.
- The GMCS ensures that the required register of charges and any associated documents are provided, filed and kept in accordance with the provisions of the Local Government Act 2002 and any other relevant legislation.

### 3.4. Debt Repayment

The funds from all asset sales, operating surpluses, grants and subsidies will be applied to specific projects or the reduction of debt and/or a reduction in borrowing requirements, unless the Council specifically directs that the funds will be put to another use.

Debt will be repaid as it falls due in accordance with the applicable loan agreement. Subject to the debt limits, a loan may be rolled over or re-negotiated as and when appropriate. The Council will manage debt on a net portfolio basis at all times

### 3.5. Guarantees/contingent liabilities and other financial arrangements

Council may act as guarantor to financial institutions on loans or enter into incidental arrangements for organisations, clubs, Trusts, or Business Units, when the purposes of the loan are in line with Council's strategic objectives.

Council is not allowed to guarantee loans to Council-Controlled Trading Organisations under Section 62 of the Local Government Act.

Council will ensure that sufficient funds or lines of credit exist to meet amounts guaranteed. Guarantees given will not exceed any amount agreed by Council or an appropriate Council Committee in aggregate or attached to a property.

### 3.6. New Zealand Local Government Funding Agency Limited Investment

Despite anything earlier in this Liability Management Policy, the Council may borrow from the LGFA and, in connection with that borrowing, may enter into the following related transactions to the extent it considers necessary or desirable:

- a. Contribute a portion of its borrowing back to the LGFA as an equity contribution to the LGFA;
- b. Provide guarantees of the indebtedness of other local authorities to the LGFA and of the indebtedness of the LGFA itself;
- c. Commit to contributing additional equity (or subordinated debt) to the LGFA if required;
- d. Subscribe for shares and uncalled capital in the LGFA; and
- e. Secure its borrowing from the LGFA and the performance of other obligations to the LGFA or its creditors with a charge over the Council's rates and rates revenue.

## 4. INVESTMENT POLICY AND LIMITS

### 4.1. General Policy

As Council is a net borrower of funds and applies surplus funds to debt repayment. Investments are only maintained to meet specified business reasons. Such reasons can be:

- For strategic purposes consistent with the Council's long term strategic plan
- The retention of vested land

- Holding short term investments for working capital and liquidity requirements
- Holding investments that are necessary to carry out the Council's operations consistent with annual long term plans, to implement strategic initiatives, or to support inter-generational allocations
- Pre-funding forecast capital expenditure.
- To reduce the current ratepayer burden.
- Holding assets (such as property) for commercial returns.
- Provide ready cash in the event of a natural disaster. The use of which is intended to bridge the gap between the disaster and the reinstatement of normal income streams and assets (including insurance recoveries).

The Council recognises that as a responsible public authority any investments that it does hold should be low risk. It also recognises that lower risk generally means lower returns.

The Council does not hold financial investments other than those involving special funds, sinking funds and cash management balances. In its financial investment activity, the Council's primary objective when investing is the protection of its investment. Accordingly, only credit worthy counterparties are acceptable.

#### 4.2. Investment Mix

The Council maintains investments in the following assets from time to time:

- Equity investments and advances
- Property investments including vendor financing through deferred payment licences
- Financial investments incorporating longer term and liquidity investments
- Forestry investments

Council needs to take into consideration its obligations and duties to the community when making investment decisions. Council's investment decisions are guided by the goals and objectives of the Council as expressed in the Long Term Plan (LTP) and Annual Plan and are not made purely on commercial considerations.

##### 4.2.1. Acquisition of New Investments

New investments will be acquired to meet the Council's long term objectives including the diversification of Council income streams. This may include the purchase of land or equity investments that the Council considers appropriate to meet an identified current or future need. Subject to the limits in the Council's significance policy the Council may invest in a new investment that is identified and is not in the Long Term Plan (LTP). When purchasing an investment that is not provided for in the LTP the Council will identify the risks and benefits associated with the purchase.

##### 4.2.2. Use of Sale Proceeds

Any proceeds from the sale of investments (except for forestry assets) are used firstly to repay any debt related to the investment and then the use of any remaining funds will be determined by Council at the time of sale. Preference is to be given to either further debt reduction, the purchase of investments or the funding of capital expenditure.

##### 4.2.3. Equity Investments and Loan Advances

Investments include shareholdings in CCTOs and trading and service enterprises. Advances are made to CCTOs and community organisations, such as Trusts managing Council facilities for financing purposes.

The GMCS, reviews performance of these investments and advances on a regular basis to ensure strategic and economic objectives are being achieved. Council ensures that interest and principal repayments are being made in accordance with the loan agreement.

All dividend and interest income is included in the consolidated revenue account.

Any disposition of these investments, other than the repayment of loans and advances requires Council approval.

#### 4.2.4. Property Investments

Council's overall objective is to only own property that is necessary to achieve its strategic objectives. This includes property investment not essential to the delivery of relevant services, acquired to achieve commercial returns and to diversify Council income streams. Council reviews property ownership through assessing the benefits of continued ownership in comparison to other arrangements which could deliver the same results. This assessment is based on the most financially viable method of achieving the delivery of Council services. Council generally follows similar assessment criteria in relation to new property investments.

The GMCS reviews the performance of property investments on a regular basis and reports to the Chief Executive on any underperforming assets. Council periodically undertakes a strategic review of its property investments.

All income, including rentals and ground rent from property investments is included in the consolidated revenue account.

Council approves the sale of property.

#### 4.2.5. Other Property Investments -Quarries

Council also maintains quarries for the extraction of metal for roading. These are held for their strategic importance in relation to the roading asset and they are leased to the roading maintenance contractor who must pay the Council royalties based on the quantity of metal extracted.

All royalties are included in the consolidated revenue account.

Any disposition of these assets requires Council approval.

#### 4.2.6. Forestry Investments

Council is not in the business of investing in forestry assets to be held as a long term investment. Council will only invest in forestry assets where the Forest also serves another purpose such as plantings associated with the joint Landfill. A specific fund is allocated to meet annual maintenance and cutting costs of the Landfill forestry block.

Council approves the sale of forestry. Sale proceeds of the Landfill forestry block are to be used for future landfill development and the Waste Futures project unless otherwise authorised by Council.

#### 4.2.7. Financial Investments

For the foreseeable future, the Council will have a permanent net debt/borrowing position and will use flexible short-term working capital money market funding lines. Accordingly, it does not have any requirement to be in surplus cash. Circumstances where Council may have surplus funds other than for cash management purposes are listed below.

- Specific Bequests & Donations

Any liquid investments must be restricted to a term that meets future cash flow projections.

Interest income from financial investments is credited to general funds, except for income from investments for special funds and sinking funds where interest is credited to the particular fund.

The Council's primary objective when investing is the protection of its investment and maximise returns. Accordingly, only creditworthy counterparties are acceptable. Creditworthy counterparties covered in section 5.3. Credit ratings are monitored on a quarterly basis by the RM.

- Council Created and Other Reserves

Liquid assets will not be required to be held against Council reserves (sometimes referred to as "special funds"). Instead Council should internally utilise these funds.

Through adopting this Treasury Policy, Council supersedes any previous Council resolutions pertaining to the funding of specific Council reserves.

Unless the Council specifically determines, by resolution, that interest should be credited to a specific reserve for a specified purpose, no interest shall be credited to reserves.

Where the Council has determined that interest shall be credited to specific reserves accounting entries representing monthly interest accrual allocations will be made using the rate prescribed by the Council. If no interest rate is prescribed the calculation shall be based on the average of the 90 day bank bill bid rate and the 3 year Government Stock rate.

#### 4.2.8. New Zealand Local Government Funding Agency Limited Investment

Despite anything earlier in this Investment Policy, the Council may invest in shares and other financial instruments of the LGFA, and may borrow to fund that investment. The Council's objective in making any such investment will be to:

- (a) Obtain a return on the investment; and
- (b) Ensure that the LGFA has sufficient capital to become and remain viable, meaning that it continues as a source of debt funding for the Council.

Because of this dual objective, the Council may invest in LGFA shares in circumstances in which the return on that investment is potentially lower than the return it could achieve with alternative investments.

Council may invest in financial instrument issues by the LGFA up to a maximum of \$50m.

If required in connection with the investment, the Council may also subscribe for uncalled capital in the LGFA.

## 5. RISK RECOGNITION/IDENTIFICATION/ MANAGEMENT

The definition and recognition of interest rate, liquidity, funding, counterparty credit, market, operational and legal risk of the Council will be as detailed below and applies to both the Liability Management Policy and Investment policy.

### 5.1. Interest Rate Risk

#### 5.1.1 Risk Recognition

Interest rate risk is the risk that funding costs (due to adverse movements in market interest rates) will materially exceed adopted annual plans and LTP interest cost projections, so as to adversely impact cost control, capital investment decisions/returns/and feasibilities.

The primary objective of interest rate risk management is to reduce uncertainty to interest rate movements through fixing of funding costs. However, a secondary objective is to minimise the net funding costs for the Council within acceptable risk parameters. Both objectives are to be achieved through the active management of underlying interest rate exposures.

#### 5.1.2 Approved Financial Instruments

Dealing in interest rate products must be limited to financial instruments approved by the Council.

Current approved interest rate instruments are as follows:

Category	Instrument
Cash management and external borrowing	Bank overdraft
	Committed bank facilities
	Uncommitted money market facilities
Investments	Bond issuance
	Commercial paper (CP)/
	Short term bank deposits
	Registered Bank certificates of deposit (RCD's)
	Local Authority stock or State Owned Enterprise (SOE) bonds
	LGFA borrower notes
	Corporate bonds
	Promissory notes/Commercial paper
	Bank term deposits linked to pre-funding maturing debt up to 18 months
Interest rate risk management	- Forward rate agreements
	Interest rate swaps
	Interest rate options
	Interest rate swaptions

Any other financial instrument must be specifically approved by the Council on a case-by-case basis and only be applied to the one singular transaction being approved. Credit exposure on these financial instruments is restricted by specified counterparty credit limits.

#### 5.1.3 Interest Rate Risk Control Limits

##### External Core Debt/Borrowings

The Council external core debt/borrowings must be within the following fixed/floating interest rate risk control limit (calculated on a rolling monthly basis):

Fixed/Floating Interest Rate Risk Control Limits		
	Minimum Fixed Rate	Maximum Fixed Rate
0 – 2 years	40%	100%
2 – 5 years	25%	80%
5 – 10 years	0%	60%

- Floating rate debt may be spread over any maturity out to 12 months.
- Interest rate options must not be sold outright. However, 1:1 collar option structures are allowable whereby the sold option is matched precisely by amount and maturity to the simultaneously purchased option. Purchased borrower swaptions maturing within 12 months.
- Interest rate options with a maturity date beyond 12 months that have a strike rate (exercise rate) higher than 2.00% above the appropriate swap rate, cannot be counted as part of the fixed rate cover percentage calculation.

Any fixed rate debt or interest rate swap beyond 10 years requires the approval from the Risk and Assurance Subcommittee.

##### Liquid Investments

For the foreseeable future, the Council will have a permanent net debt/borrowing position and will use flexible short-term working capital money market funding lines. Accordingly, it would not have any requirement to be in a term surplus cash situation.

Therefore, outside of the above mentioned exceptions, any liquid investments must be restricted to a term that meets future cash flow projections.

#### 5.1.4 Council Reserves

Liquid assets will not be required to be held against special funds, instead Council will manage these funds using internal borrowing facilities.

##### Foreign Currency

The Council has minor foreign exchange exposure through the occasional purchase of foreign exchange denominated services, plant and equipment and the on-going purchase of library books. Generally, all significant commitments for foreign exchange are hedged by the Council. Significant foreign exchange commitments are defined as individual currency amounts exceeding NZD50,000.

The following foreign exchange risk management instruments may be used for foreign exchange risk management activity:

- Spot and Forward Exchange Contracts.
- Purchase of foreign exchange options, and collar-type instruments (1:1 only).

Independent external advice would be sought before the use of such instruments.

- The Council shall not borrow or enter into incidental arrangements, within or outside New Zealand, in currency other than New Zealand currency.
- Contingent Liabilities
- Unless the possibility of an outflow is remote, contingent liabilities must be identified and reported within the Council's financial statements. Such liabilities will be valued based on an accepted basis, and such a valuation will be provided for within the financial statements
- Contingent liabilities include but are not limited to the following:
  - Staff Gratuities
  - Guarantees

#### 5.1.5 Disaster Recovery

Council recognises that events of an unforeseen or un-forecasted nature may result in financial loss to the Council. Such events are provided for through undrawn committed bank facilities.

## 5.2. Liquidity Risk/Funding Risk

### 5.2.1 Risk Recognition

Cash flow deficits in various future periods based on long term financial forecasts are reliant on the maturity structure of loans and facilities. Liquidity risk management focuses on the ability to borrow at that future time to fund the gaps. Funding risk management centres on the ability to re-finance or raise new debt at a future time at or better than current market pricing.

A key factor of funding risk management is to spread and control the risk to reduce the concentration of risk at one point in time.

### 5.2.2 Liquidity/Funding Risk Control Limits

- The Council must approve all new loans and borrowing facilities.
- Alternative funding mechanisms such as leasing should be evaluated with financial analysis in conjunction with traditional on-balance sheet funding. The evaluation should take into consideration, ownership, redemption value and effective cost of funds.
- Liquid funds, committed bank and capital markets facilities must be maintained at a minimum of 110% over forecast external debt levels over the next 12 months.
- Treasury provides daily and weekly cash management reporting, together with monthly (rolling 12 month forecast) and annual cash/debt forecasting and that long-term debt forecasts out to ten years are made available.
- The GMCS has the discretionary authority to re-finance existing debt on more favourable terms. Such action is to be ratified and approved by the Council at the earliest opportunity.
- Council has the ability to pre-fund up to 18 months forecast debt requirements including re-financings providing there is a high level of confidence in the forecast debt levels.
- The maturity profile of the total committed funding in respect to all loans and committed facilities, is to be controlled by the following system:

To minimise concentration risk no more than the greater of NZD 100 million, or 33% of a council's borrowings will mature in any rolling 12-month period.

### 5.3. Counterparty Credit Risk

Counterparty credit risk is the risk of losses (realised or unrealised) arising from a counterparty defaulting on a financial instrument where the Council is a party. The credit risk to the Council in a default event will be weighted differently depending on the type of instrument entered into. Credit risk will be regularly reviewed by the Council. Treasury related transactions would only be entered into with organisations specifically approved by the Council.

Counterparties and limits can only be approved on the basis of long-term credit ratings S&P or equivalent Fitch or Moody's) being A- and above.

Limits should be spread amongst a number of counterparties to avoid concentrations of credit exposure.

The following matrix guide will determine limits (with the exception of externally managed funds which are governed by the appropriate SIPO).

Counterparty/ Issuer	Minimum long term credit rating – stated and possible	Investments maximum per counterparty (\$m)	Interest rate risk management instrument maximum per counterparty (\$m)	Total maximum per counterparty (\$m)
NZ Government	N/A	unlimited	none	unlimited
Local Government	A-	50.0	None	50.0
Funding Agency				
State Owned Enterprises [name]	A-	5.0	none	5.0
NZ Registered Bank	A-	20.0	20.0	30.0
Corporate Bonds	A-	2.0*	none	2.0
Local Government Stock	A- (if rated) Unrated	2.0** 0.5**	none none	2.0 0.5

\* Subject to a maximum of \$5.0m investment in corporate/securitised bonds at any one point in time.

\*\* Subject to a maximum of \$15.0m investment in Local Government stock at any point in time.

In determining the usage of the above gross limits, the following product weightings will be used:

- Investments (e.g. Bank Deposits) – Transaction Notional ☐ Weighting 100%.
- Interest Rate Risk Management (e.g. swaps, FRAs) – Transaction Notional ☐ Maturity (years) ☐ 3%.

Each transaction should be entered into a reporting spreadsheet and a monthly report prepared to show assessed counterparty actual exposure versus limits.

Credit ratings should be reviewed by the ACC on an ongoing basis and in the event of material credit downgrades, below the minimum long term credit rating, the investment will cease. Future investments assessed against exposure limits. Counterparties exceeding limits should be reported to the Council.

#### 5.4. Risk Management

To avoid undue concentration of exposures, a range of financial instruments must be used with as wide a range of counterparties as practical. The approval process to allow the use of individual financial instruments must take into account the liquidity of the market the instrument is traded in and repriced from.

#### 5.5. Operational Risk

Operational risk is the risk of loss as a result of human error (or fraud), system failures and inadequate procedures and controls.

Operational risk is very relevant when dealing with financial instruments given that:

- Financial instruments may not be fully understood.
- Too much reliance is often placed on the specialised skills of one or two people.
- Most treasury instruments are executed over the phone or email.
- Operational risk is minimised through the adoption of all requirements of this policy

##### 5.5.1 Dealing Authorities and Limits

Transactions will only be executed by those persons and within limits approved by the Council. These limits are detailed in the schedule of delegated authorities table in section 2.4 of this policy.

##### 5.5.2 Segregation of Duties

Adequate segregation of duties among the core borrowing and investment functions of deal execution, confirmation, settling and accounting/reporting. There are a small number of people involved in borrowing and investment activity. Accordingly, strict segregation of duties is not always achievable. The risk will be minimised by the following process:

##### 5.5.3 Procedures

All treasury products must be recorded and diarised on a spreadsheet system, with appropriate controls and checks over journal entries into the general ledger. Deal capture and reporting must be done immediately following execution/confirmation. Details of procedures including templates of deal tickets should be compiled in a treasury procedures manual separate to this policy. The Council should capture the percentage of deals transacted with banks to determine competitiveness and reconcile the summary to the Council records.

Procedures should include:

- Regular management reporting
- Regular risk assessment, including review of procedures and controls as directed by the committee.
- Organisational, systems, procedural and reconciliation controls to ensure:
  - All borrowing and investment activity is bona fide and properly authorised
  - Checks are in place to ensure the Council's accounts and records are updated promptly, accurately and completely
  - All outstanding transactions are revalued regularly and independently of the execution function to ensure accurate reporting and accounting of outstanding exposures and hedging activity

##### 5.5.4 Organisational Controls

- The GMCS has responsibility for establishing appropriate structures, procedures and controls to support borrowing and investment activity.

- All borrowing, investment, cash management and risk management activity is undertaken in accordance with approved delegations authorised by the Council.

#### 5.5.5 Electronic Banking Signatories

- Positions approved by the CEO as per register.
- Dual signatures are required for all electronic transfers.

#### 5.5.6 Authorised Personnel

- All counterparties are provided with a list of personnel approved to undertake transactions, standard settlement instructions and details of personnel able to receive confirmations.

#### 5.5.7 Recording of Deals

- All deals are recorded on properly formatted deal tickets by the FC and approved by the GMCS. Market quotes for deals (other than cash management transactions) are perused by the FC before the transaction is executed. Deal summary records for borrowing (on the Debt Management System) investments, interest rate risk management and cash management transactions (on spreadsheets) are maintained and updated promptly following completion of transaction.

#### 5.5.8 Confirmations

- All inward letter confirmations including registry confirmations are received and checked by the FC against completed deal tickets and summary spreadsheets records to ensure accuracy.
- Deals, once confirmed, are filed (deal ticket and attached confirmation) in deal date/number order.
- Any discrepancies arising during deal confirmation checks which require amendment to the Council records are signed off by the CEO.

#### Settlement

- The majority of borrowing and investment payments are settled by direct debit authority.
- For electronic payments, batches are set up electronically by Accounts Payable and the Bank Management Officer. These batches are checked by an Accountant to ensure settlement details are correct. Payment details are authorised by two approved signatories as per Council registers.

#### Reconciliations

- Bank reconciliations are performed monthly by the Bank Management Officer. Any material unresolved unreconciled items arising during bank statement reconciliation which require amendment to the Council's records are signed off by the CEO.
- A monthly reconciliation of borrowing and investment spreadsheets to the general ledger is carried out by the FC and reviewed by the FC.

### 5.6. Legal Risk

Legal and regulatory risks relate to the unenforceability of a transaction due to an organisation not having the legal capacity or power to enter into the transaction usually because of prohibitions contained in legislation. While legal risks are more relevant for banks, the Council may be exposed to such risks. In the event that the Council is unable to enforce its rights due to deficient or inaccurate documentation.

The Council will seek to minimise this risk by adopting policy regarding:

- The use of standing dealing and settlement instructions (including bank accounts, authorised persons, standard deal confirmations, contacts for disputed transactions) to be sent to counterparties.
- The matching of third party confirmations and the immediate follow-up of anomalies.
- The use of expert advice for any non-standardised transactions

#### 5.6.1 Agreements

Financial instruments can only be entered into with banks that have in place an executed ISDA Master Agreement with the Council. All ISDA Master Agreements for financial instruments must be signed under seal by the Council.

The Council's internal/appointed legal counsel must sign off on all documentation for new loan borrowings, re-financings and investment structures.

Currently the Council has, ISDA agreements with the following banks:

- Westpac Banking Corporation NZ Ltd
- Australia and New Zealand Banking Group
- ASB Bank Limited
- Bank of New Zealand
- Kiwibank

#### 5.6.3 Financial Covenants and Other Obligations

The Council must not enter into any transactions where it would cause a breach of financial covenants under existing contractual arrangements.

The Council must comply with all obligations and reporting requirements under existing funding facilities and legislative requirements.

The Council must maintain a register of charges relating to any commitment which is specifically relating to any asset.

## 6. MEASURING TREASURY PERFORMANCE

In order to determine the success of the Council's treasury management function, the following benchmarks and performance measures have been prescribed.

Those performance measures that provide a direct measure of the performance of treasury staff (operational performance and management of debt and interest rate risk) are to be reported to the committee on a monthly basis.

### 6.1. Operational Performance

All treasury limits must be complied with including (but not limited to) counterparty credit limits, dealing limits and exposure limits.

All treasury deadlines are to be met, including reporting deadlines.

## 6.2. Management of Debt and Interest Rate Risk

The actual funding cost for the Council taking into consideration the entering into of interest rate risk management transactions should be below the budgeted interest cost. When budgeting forecast interest costs, the actual physical position of existing loans and swaps / swaptions / FRAs must be incorporated together with all fees.

Since senior management is granted discretion by the Council to manage debt and interest rate risk within specified limits of this policy, the actual funding rate achieved must be compared against an appropriate external benchmark interest rate that assumes a risk neutral position within existing policy. In this respect, a risk neutral position is always precisely at the mid-point of the minimum and maximum percentage control limits specified within the policy.

Given current fixed/floating risk control limits and fixed rate maturity profile limits as defined in Section 5.1.3 of this policy, the market benchmark (composite) indicator rate will be calculated as follows:

- 30% Average 90 day bill rate for reporting month.
- 8.75% 2 year swap rate at end of reporting month.
- 8.75% 2 year swap rate, 2 year ago.
- 11.25% 5 year swap rate at end of reporting month.
- 11.25% 5 year swap rate, 5 years ago.
- 15% 7 year swap rate at end of reporting month.
- 15% 7 year swap rate, 7 years ago.

The actual reporting benchmark is the 12 month rolling average of the monthly calculated benchmarks using the above parameters. This is compared to actual cost of funds, excluding all credit margins and fees.

## 7. CASH MANAGEMENT

The FOM has the responsibility to carry out the day-to-day cash and short-term debt management activities.

- The FOM will calculate and maintain comprehensive cash flow projections on a daily (two weeks forward), and weekly (four weeks forward), monthly (12 months forward) and annual (five years) basis. These cash flow forecasts determine Council's borrowing requirements and surpluses for investment.
- On a daily basis, electronically download all the Council bank account information.
- Co-ordinate the Council's operating units to determine daily cash inflows and outflows with the objective of managing the cash position within approved parameters.
- Undertake short term borrowing functions as required, minimising overdraft costs.
- Ensuring efficient cash management through improvement to accurate forecasting using spreadsheet modelling.
- Minimise fees and bank/Government charges by optimising bank account/facility structures.
- Monitor the Council's usage of cash advance facilities.
- Match future cash flows to smooth overall timeline.
- Provide reports detailing actual cash flows during the month compared with those budgeted.

- Maximise the return from available funds by ensuring significant payments are made within the vendor's payment terms, but no earlier than required, unless there is a financial benefit from doing so.

The FOM will calculate and maintain cash flow projections monthly (twelve months forward) and annual (five years) basis.

## 8. REPORTING – PERFORMANCE MEASUREMENT

When budgeting forecast interest costs, the actual physical position of existing loans and swaps/swaptions/FRA's must be incorporated.

### 8.1. Treasury Reporting

#### 8.1.1 Reporting

The following reports are produced:

Report Name	Frequency	Prepared by	Recipient
Daily Cash Position	Daily	FOM	GMCS
Treasury Exceptions Report	Daily	FC	CEO
Risk Management performance	Quarterly	Risk Assurance Advisor	GMCS
Policy Compliance	Monthly	FC	GMCS
Interest rate exposure report	Quarterly	FC	GMCS
Cost of funds & funding facility report	Quarterly	FC	GMCS
Cash flow forecast report	Monthly	FOM/FC	GMCS
Summary Treasury Report	Quarterly	FOM/FC	Council CEO
Quarterly Treasury Strategy Paper	Quarterly	GMCS	Risk and Assurance Subcommittee CEO
Limits Report	Daily, reported on an exceptions basis Quarterly	FOM	GMCS  Council
Debt Maturity Profile	Quarterly	FC	Council CEO Risk and Assurance Subcommittee GMCS

Revaluation of financial instruments	Monthly	FC	GMCS
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Quarterly the RASC approves borrowing, investment and risk management strategies and reviews the preceding quarters results amending if appropriate. Tactics for the following quarter are agreed with operating guidelines and provided to the GMCS for implementation. The GMCS is responsible for preparing the agenda for the quarterly meeting as well as documenting the actions required by the committee.

## 8.2. Valuation of Treasury Instruments

Council uses financial arrangements ("derivatives") for the primary purpose of reducing its financial risk to fluctuations in interest rates. The purpose of this section is to articulate Council's accounting treatment of derivatives in a broad sense. Further detail of accounting treatment is contained within the appropriate operations and procedures manual.

Under New Zealand Public Benefit Entity (PBE) International Public Sector Accounting Standards (IPSAS) changes in the fair value of derivatives go through the Income Statement of Comprehensive Revenue and Expenditure unless derivatives are designated in an effective hedge relationship.

Council's principal objective is to actively manage the Council's interest rate risks within approved limits and chooses not to hedge account. Council accepts that the marked-to-market gains and losses on the revaluation of derivatives can create potential volatility in Council's annual accounts.

The GMCS is responsible for advising the CEO of any changes to relevant New Zealand Public Sector PBE Standards which may result in a change to the accounting treatment of any financial derivative product.

All treasury financial instruments must be revalued (marked-to-market) at least every month for risk management purposes.

Note: For management accounting purposes, financial instruments used for hedging will not be marked-to-market but will be shown in the annual statutory accounts.

Underlying rates to be used to value treasury instruments are as follows:

- Official daily settlement prices for established markets.
- Official daily market rates for short term treasury instruments (e.g. FRA settlement rates calculated by Reuters from price maker quotations as displayed on the BKBM page).
- Relevant market mid-rates provided by the company's bankers at the end of the business day (5.00pm) for other over-the-counter treasury instruments.
- For markets that are illiquid, or where market prices are not readily available, rates calculated in accordance with procedures approved by the GMCS.

## 9. POLICY REVIEW

This Treasury Policy is to be formally reviewed on an annual basis.

The GMCS has the responsibility to prepare an annual treasury report (following the preparation of annual financial statements) that is presented to the Committee. The report will include:

- Recommendation as to any proposed changes, deletions and additions to the policy.
  - Any amendment to this policy requires the adoption of the special consultative procedures as outlined in the Local Government Act 2002.
    - Overview of the treasury management function in achieving the stated treasury objectives, including performance trends in actual interest cost against budget (multi-year comparisons).
    - Summary of breaches of policy and one-off approvals outside policy to highlight areas of policy tension.
    - Analysis of bank and lender service provision, share of financial instrument transactions etc.
    - Comments and recommendations from the Council's external auditors on the treasury function, particularly internal controls, accounting treatment and reporting.
    - An annual audit of the treasury systems and procedures must be undertaken.
    - Total net debt servicing costs and debt should not exceed limits specified in the covenants of lenders to the Council.
- 

The Council receives the report, approves policy changes for consultation with the community and/or reject recommendations for policy changes.

The policy review must be completed and presented to the Council annually.

Ref: [HPRM Reference] V1.0 / [Date of this version]







## Hastings District Council

Closing Report to Council for the year  
ended 30 June 2022



# WELCOME



## Dear Councillors

We have substantially completed our audit of Hastings District Council ('Council') for the year ended 30 June 2022.

We confirm that we are prepared to issue an unqualified audit opinion on the financial statements and other statutory reporting provided management, or yourselves as Council make no further changes to the Annual Report information before the Council adopts the Annual Report.

We are satisfied that the performance information of Council is also largely appropriate for reporting purposes. However, we expect to be required to issue a qualified opinion over performance information in relation to certain 3 Water performance information as a consequence of the matters highlighted in 2021's audit report that in one circumstance remains in place in 2022.

In addition, the audit report will include an Emphasis of Matter paragraph drawing the readers attention to the disclosures in the financial statements in regards to the proposed changes to the management of 3 Waters assets.

We have provided this report in our role as the appointed auditor of the Council on behalf of the Auditor-General in accordance with the Public Audit Act 2001. This report would normally be directed to the Risk & Assurance Committee ('the Committee'), other members of Council and senior management, and should not be used for any other purpose nor given to any other party without our prior written consent.

We would like to thank your staff for the assistance provided to us during the engagement, especially Jessica Noiseux, Aaron Wilson and Ash Dunstan. We would particularly like to acknowledge the patience and willingness to support our first audit of Council. We look forward to carrying out the audit in a more structured and less time restrained manner in 2023.

I look forward to the opportunity of discussing with you any aspects of this report or any other issues arising from our work. If you have any queries in the meantime, please feel free to contact Stuart on 027 489 9378 or Matthieu on 021 229 8956

Yours faithfully



**Stuart Mutch**  
Partner  
8 December 2022



**Matthieu Poulain**  
Manager

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## Separate Documents

Management Representation Letter



## EXECUTIVE SUMMARY

Hastings District Council

For the year ended 30 June 2022

### AREAS OF AUDIT FOCUS

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Key areas of focus where there are potential risks and exposure



The areas of audit focus and level of complexity or management judgement applied are:

- |  |        |                                       |        |
|--|--------|---------------------------------------|--------|
| ▶ Infrastructure assets and Property Plant and Equipment | HIGH   | ▶ Non-financial performance reporting | HIGH   |
| ▶ Rates strike, invoicing and collection                 | MEDIUM | ▶ Other matters including Provisions  | MEDIUM |
| ▶ Grants and subsidies                                   | MEDIUM | ▶ Debt                                | LOW    |

Our audit covered a wide range of the elements within the Annual Report and the underlying systems and processes supporting your reporting.

### STATUS OF AUDIT

6

The outstanding matters that we need to resolve are listed in the Appendices section of this report



Apart from the signed Annual Report, management representation letter and completion of our subsequent event procedures, the outstanding items are listed in the [Appendices](#) of this report.

### AUDIT DIFFERENCES

\$2.1M



#### Current year unadjusted audit differences

Refer to [Audit Differences](#) section for the summary of unadjusted audit differences in the current year. The uncorrected difference is principally related to the identification of grant revenue recognised during the 2022 financial year that should have been recognised as at 30 June 2021. We have accepted that this would not have been material to the 2021 financial statements and hence have not requested a prior period adjustment to be recorded.

### MATERIALITY

\$3.64M



#### Our audit procedures have been performed using a materiality of \$3,636K

Our audit procedures have been performed using a materiality based on 2.5% of expenditure of \$145m.

The threshold for reporting audit differences which impact the income statement is \$181K.

Materiality has also been set for each significant performance measure selected to test.

### INDEPENDENCE



We confirm that we have complied with *NZICA Code of Ethics and the Professional and Ethical Standard 1: International Code of Ethics for Assurance Practitioners (Including International Independence Standards) (New Zealand) independence requirements* and the OAG's own independence standards, and in our professional judgement, the engagement team and EY as a firm is independent.



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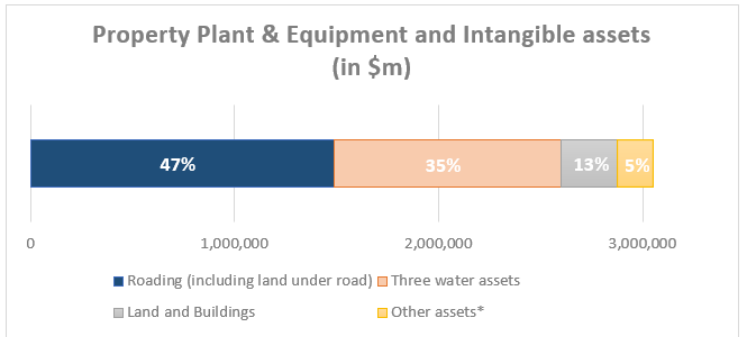
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## Infrastructure assets

### Our Understanding

Infrastructure assets are the most significant balance on Council's balance sheet with a 30 June 2022 carrying value of \$2,644 million (2021: \$2,044 million).

Council has continued its significant investment in capital expenditure in the current year with \$93m of spending in FY22, principally focused on roading and 3 Water assets. Significant elements of this spending has been funded by Waka Kotahi or other central government agencies, particularly DIA. Capital Work in Progress at 30 June 2022 amounted to \$56 million, principally made up of Councils major Water Supply projects.



\*Other assets include Solid Waste, Landfill, Software and other operating assets

Infrastructure assets are revalued regularly in accordance with Council's revaluation policy and IPSAS 17. Revaluations are either completed internally or by external valuation professionals.

In the current year, the roading assets (excluding land under roads) of \$1,275m were revalued by BECA giving rise to a \$167 m revaluation uplift recognised in the financial statements.

More significantly Hastings DC has carried out a revaluation of its own 3 Water Assets. As at 30 June these were valued at \$1,113 m following a revaluation of \$388m.

Council have also undertaken an assessment of the potential uplift in land & building assets but have not recorded a valuation in 2022.

### EY Perspective

Level of complexity or management judgement:

HIGH



#### Valuations

There are a number of key assumptions that valuers are required to make based on their experience in their respective fields, and each of these judgements has the potential to materially impact the resulting valuations.

We have obtained the roading and 3 Waters valuation reports and performed the following audit procedures with regard to the valuation:

- ▶ Tested, on a sample basis, key inputs to the valuations including unit costs and useful lives. For the roading valuation the valuer derived unit rates from the previous valuation and applied an uplift of these using NZTA cost indices.
- ▶ Assessed whether the asset information used by the valuer was reflective of the asset data maintained in the Council's Asset Management Systems for roads and 3 water assets,
- ▶ Obtained assurance that all material assets within the asset classes were included in the valuations and considered the completeness of total assets valued.
- ▶ Performed procedures to obtain assurance that the results of the internal and external valuations had been appropriately recorded in the fixed asset register and general ledger.
- ▶ Reviewed the valuation reports against those undertaken by other valuation firms for Councils of a similar nature to Hastings District Council to assess the appropriateness and consistency of assumptions applied.
- ▶ Reviewed the assessment of the potential uplift of land & building assets for appropriateness.
- ▶ Obtained a reliance letter confirming the independence and expertise of Beca as valuers of the Roding asset portfolio.
- ▶ Obtained a reliance letter confirming the independence and expertise of Waugh to complete an independent review of the 3 Water valuation.
- ▶ Reviewed the integrity and completeness of the valuations with reference capital works and vested assets recorded in the 2022 financial year.

#### Roding

The revaluation of the roading assets reflects movements in line with our expectations. The uplift in replacement costs of roads, due to the increasing cost of construction and in particular the impact of increased oil prices on bitumen have given rise to significant asset valuation movements. These increases have been only partially offset by a heightened consumption of asset useful lives. The diminishing comparative level of depreciated replacement costs to replacement cost reflects that assets are on average further through their expected useful lives and that renewal expenditure is not keeping roading assets at a stable point of asset conditioning.



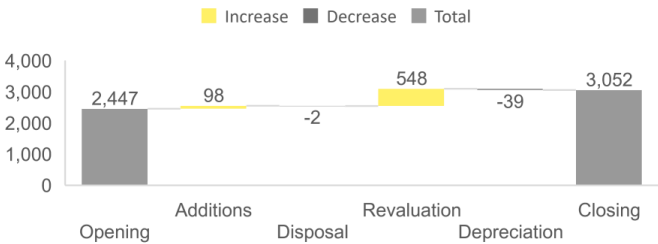
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# Infrastructure assets and Property, Plant & Equipment

## Our Understanding

Movement of property, plant and equipment (\$m)



As all members of Council will be fully aware, the ownership and management of three water assets is currently going through a major change including the establishment of a dedicated national water regulator and four multi-regional entities responsible for ownership and delivery. While the reform process is still in progress and certain key decisions are yet to be made / passed into legislation there will be significant change for local authorities in this space.

Management have included an appropriate disclosure in relation to this matter in the financial statements. We will include an emphasis of matter paragraph in our Audit Report. All Councils impacted by the 3 Waters changes is receiving this modification.

### Emphasis of matter - The Government's three waters reform programme

Without further modifying our opinion, we draw attention to note [x] on page [x], which outlines that, in June 2022, the Government introduced legislation to establish four publicly owned water services entities to take over responsibilities for service delivery and infrastructure from local authorities with effect from 1 July 2024. The impact of these proposed reforms, once legislated, will mean that the District Council will no longer deliver three waters services or own the assets required to deliver these services. The bill is currently before Parliament and has been subject to its third reading. It has yet to receive its Royal Assent from the Governor-General. Additional legislation is expected in 2023 that will provide detail on the transfer of assets and liabilities to the water service entities.

## EY Perspective

### Valuation of Three Water Assets

- ▶ Council have undertaken their own valuation of 3 Water assets. This review has sought to capture input from Stantec in relation to unit pricing and has received an independent review by Waugh.
- ▶ We have reviewed the quantity data used by Council to undertake the valuation of their own asset class. We are satisfied that this quantity data is appropriate for use within the valuation.
- ▶ We have undertaken an overall analysis of the valuation and the independent elements of the support Council has received.
- ▶ The key driver of the valuation uplift has been significant increases in the unit prices applied by Council. We have examined this pricing against comparative Councils and found the pricing to be high, particularly in relation to sewer pipeline replacement costs.
- ▶ Council can support the values using recent contract pricing and reflect that the values are not dissimilar to Stantec pricing indices movements. We have reviewed the unit pricing methodology in detail. Whilst Council would ideally have more example price points for pipeline assets, we have accepted councils position. Given the significance of the value to council of these assets and the level of change occurring in this sector we recommend that Council obtain an external valuation in 2023. We also recommend that Council move away from using CPI as an adequate indicator of price change when reviewing valuation movements between years, as was undertaken in 2021.
- ▶ Council will need to manage the impact of the significantly increased depreciation charge that will impact the 3 water assets in the 2023 financial year.

### Capital additions, disposals, work in progress, and depreciation

- ▶ We selected a sample of material infrastructure and property asset additions during the year and vouched these to supporting documentation and obtained assurance that costs were only capitalised which fulfilled the capitalisation criteria under PBE IPSAS 17 *Property, Plant and Equipment*.
- ▶ We reviewed and tested a sample of asset disposals during the year to ensure they have been appropriately removed from use by Council. We also determined that any gain or loss on sale/disposal has been appropriately recorded.
- ▶ We obtained assurance in relation to the appropriateness of work in progress (WIP) cut-off at balance date and confirmed the carrying value of WIP is in line with PBE IPSAS 17.

**Key Judgements:** Assumptions used in valuations and classification of capital and maintenance costs

**Relevant accounting standards:** PBE IPSAS 17 *Property, Plant and Equipment*

**Level of complexity or management judgement:** HIGH



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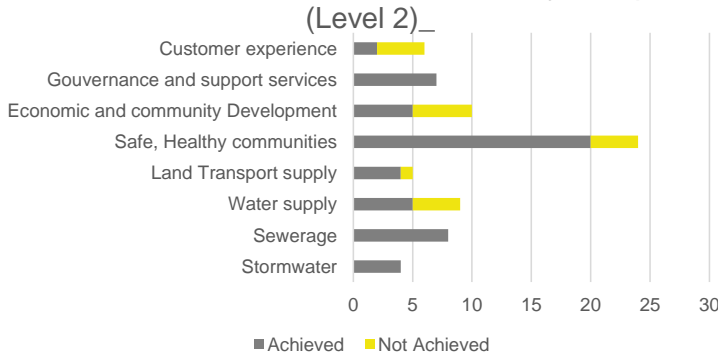


## Service Performance reporting

### Our Understanding

- ▶ The accurate reporting of performance is critical to external and internal stakeholders view of Council. The Department of Internal Affairs publish a set of key measures, which require consistent methodologies for the reflection of critical components of Councils operations.
- ▶ Council is required to report its performance against performance measures included in the Long-Term Plan (LTP). These measures are key to the Council providing a 'performance story' to the community.
- ▶ Our audit opinion on the service performance reporting covers compliance with generally accepted accounting practice, and whether or not the service performance report fairly reflects the Council's actual service performance for the period.
- ▶ The performance framework set as part of the 2021/31 LTP is applicable to the current financial year.

### Non-Financial Performance result by Group



### EY Perspective

We have carried out the following audit procedures in assessing completeness and effectiveness of the Council's non-financial performance reporting:

- ▶ Documented an understanding of key performance reporting processes and reviewed the collation methodologies applied by Council.
- ▶ Examined, on a sample basis, the Statement of Service Performance to determine that the measures have been reported on and outputs and activities have been achieved where stipulated. For selected measures this included obtaining the underlying supporting documentation and re-performing the calculations.
- ▶ Assessed the completeness and effectiveness of the performance framework utilised.
- ▶ Checked whether all mandatory performance measures stipulated by the Non-Financial Performance Measures rules 2013 have been included in Council's reporting.
- ▶ Applied specific procedures in relation to Water Quality performance measures in accordance with recently documented OAG expectations.
- ▶ Reviewed the report prepared by the independent reviewer appointed by Council of water quality standards.
- ▶ Reviewed the broader Annual Report for consistency and appropriateness in consideration of our sector and Hastings District Council focused understanding.

Key judgements: Selection of measures relevant to reporting non-financial performance

Level of complexity or management judgement: **HIGH**



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## Service Performance reporting

### Our Understanding

#### Water Loss

- ▶ In 2021 Council received a qualification of its audit report as a result of the degree of variability that might exist within the water loss reporting due to the small number of water metres in place to effectively measure water loss.

#### Customer Complaints: 3 Waters

- ▶ In 2021 Council received a qualified audit report in relation to the classification of complaints received across the provision of 3 waters.
- ▶ Council have taken steps to mitigate this and have reported performance at a more granular level for calls received by Council during operational hours. However, after hours calls have been found to still only be capturing requests for service, as compared to complaints. A disclosure has been made by Council reflecting on this.

#### Water Quality Measures

- ▶ The ongoing changes in the water sector and the increased need for better quality water reporting has resulted in the Office of the Auditor-General taking a much deeper look at reporting against NZ drinking water standards (DWSNZ) compliance in 2022.
- ▶ Historically a number of Councils and auditors have relied upon independent water quality assessors from the Ministry of Health to review and report on water quality performance. However, the new government agency Taumata Arowai does not have a similar system in place. The Auditor-General has recommended Councils obtain an independent review of their performance against DWSNZ. If such a review is not available auditors have been asked to undertake a much more deeper dive into processes and reported performance.
- ▶ Hastings DC have chosen to obtain a report from an independent water quality assessor to examine and conclude on Councils reported results for the period.

### EY Perspective



We have met with management to discuss each of these specific areas of performance reporting and reviewed processes and documents obtained by Council in support of its reported 2022 performance.

#### Water Loss

Council have undertaken a detailed investigation as to whether water loss could be measured using night time usage volumes, as compared to a reliance on the small number of water meters in place across the sector. This has shown Council that there is a very high level of water usage overnight. This either suggest a very high level of water loss (unlikely) or significant commercial and private use across Councils urban supply network (likely).

Council have therefore concluded that the planned increase in water metres will be the most efficient mechanism for improving water loss reporting. However, whilst plans are in place to install more metres, this did not occur in sufficient numbers in 2022 to minimise the potential variability in any reported result.

Management have reported that they have not measured performance in this area in 2022. We will be required to reference the prior periods qualification in our audit report. The specific nature of this qualification is being discussed with the Audit Generals technical team.

#### Customer Complaints: 3 Waters

We have reviewed the improved mechanisms put in place by management to collect and collate complaints in regards to 3 Water services. Information is being captured during day time activity. However, the call service provided by Palmerston North City has not moved to providing complaint information on a call by call basis and remains focused on service requests. This will require the retention of the qualification noted on the 2021 performance information.

At the time of writing we are finalise our documentation of Councils audit trail for complaints to support monthly summarised data at a call by call level. We will provide a verbal update on how we've resolved this matter to Council when we meet on 8 December 2022.

#### Water Quality Measures

We have reviewed the independent water quality review document. We are satisfied Council have made available the right information to the reviewer and that the reviewer is qualified to undertake the role. We are satisfied the results of this review and the water quality reporting has been appropriately reflected in the Level 2 Activity performance information.



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## Rates strike, invoicing and collection

### Our Understanding

- ▶ Rates income levied represents Hastings District Council's primary revenue source.
- ▶ The requirement for there to be consistency between the rates resolution, the Funding Impact Statement for that year, and the Revenue and Financing Policy in the long-term plan is fundamental because this is the thread that links community consultation to the rates levied by Council.

The following is a summary of the rates revenue and debtors recognised by the Council.

\$000's	30 June 2022	30 June 2021
General rates	70,626	63,806
Targeted rates	24,657	23,800
Rate remitted, discounts and writes offs	(105)	(303)
<b>Total Value</b>	<b>94,974</b>	<b>87,303</b>
<b>Rates Debtors</b>	<b>2,328</b>	<b>1,894</b>

- ▶ There is specific legislation in place which must be adhered to for the rates strike to be lawful. Failure to comply with rating law and the associated consultation requirements can create risks to the integrity of rates revenue.
- ▶ The requirement for there to be consistency between the rates resolution, the Funding Impact Statement for that year, and the Revenue and Financing Policy in the long-term plan is fundamental because this is the thread that links community consultation to the rates levied by Council.
- ▶ The accuracy of rates revenue is dependent on the integrity of the rates database. The reliability of the rates billing system is also key to rates being billed appropriately.
- ▶ Hastings DC does not have a history of rates debtor collections representing a significant challenge.

### EY Perspective

Our work in relation to rates revenue and debtors included:

- ▶ Testing Council's controls over the rate setting and billing processes including testing the underlying valuation information.
- ▶ Reviewing Council's procedures for ensuring the rates set is compliant with the Local Government Rating Act.
- ▶ Performing checks on the documentation in place to support the rates resolution.
- ▶ Examining the application of the rates set to the rating database to ensure consistency and their collection.
- ▶ Reviewing, on a sample basis, billings to ratepayers and the type and value of rates applied across the rating database and Councils activities. A significant focus has been placed on obtaining assurance that valuations have been applied based on the local and connectivity of each property and consequently recorded correctly.
- ▶ We reviewed the ageing analysis of the current rates book against prior period to determine if Council has any concerns over the collectability of outstanding rates invoices.
- ▶ Underlying substantive analytical procedures to assess that the rate take actually realised was in line and consistent with that expected when Council resolved to strike rates in June 2021 for the year ended 30 June 2022.

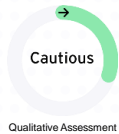
We are satisfied that no matters have come to our attention in relation to the management of rates that we need to bring to the attention of Council.

**Key judgements:** Compliance with the Local Government (Rating) Act and provisioning for outstanding rates debtors.

**Relevant accounting standards:** PBE IPSAS 23 *Revenue from Non-Exchange Transactions*

**Level of complexity or management judgement:** MEDIUM





## Grants and Subsidies

### Our Understanding

- ▶ Council receive ongoing Waka Kotahi / NZTA funding to subsidise costs associated with local roads. The funding assistance rate is typically 54% with higher amounts being available in certain circumstances such as for emergency works.
- ▶ During the year, Council has received additional grants from a number of others government schemes as the Crown has sought to stimulate regions in the post Covid era. These grants typically require funding to be spent on a particular project or area of Council's operations to be paid.
- ▶ Details of significant Grants and Subsidies and their financial statement impacts are below:

Grant / Subsidy Type	Revenue \$000's	Debtors \$000's
Three waters asset reform	6,911	
NZTA	16,338	4,268
Job for Heretaunga	1,119	
Crown Infrastructure Partners	921	
Other	890	
Total Value	29,179	

### EY Perspective

We carried out the following audit procedures in assessing completeness and effectiveness of the Council's management of grants and subsidies:

#### Waka Kotahi / NZTA Funding

- ▶ Developed our understanding of the processes utilised by HDC to support the collection of costs and the preparation of subsidy claims to Waka Kotahi.
- ▶ Reviewed the integrity of the year end process to prepare Claim 12 and an additional accrual for Waka Kotahi funding at year end.
- ▶ Validated that funds have been received in line with claims during the period.

#### Other Funding Streams

- ▶ During the period Council have undertaken significant capital expenditure in line with the pre-arranged programme of work agreed with the respective central government funding entities.
- ▶ We have reviewed that the nature of the capital work undertaken is in line with the intended purpose of the funds and confirmed the receipt of funds through the year.
- ▶ We have placed a specific focus on the year end cut-off and recognition of revenue. Through this work we have identified audit differences relating to both 30 June 2021 and 30 June 2022, with cut-off issues at both balance dates giving rise to understatements of revenue in each respective period. The key element of this error was the late recognition of revenue from the 2021 year in the current year, overstating 2022 revenue. This prior period issue has been resolved through the recognition of the revenue in the 2022 year and will not carry forward into future periods..

\$k	FY22 total claims	FY22 revenues corrected	Variance
DIA water funding	6,911	7,681	770
Crown Infrastructure Partners	921	4,102	3,181
Total	7,832	11,783	3,951

Key Judgements: Appropriateness and measurement of costs included in claims, Funding Assistance Rates applied within the NZTA claims

Relevant accounting standards: PBE IPSAS 23 *Revenue from Non-Exchange Transactions*

Level of complexity or management judgement: **MEDIUM**





## Debt

### Our Understanding

- ▶ Council are liable for \$238m of debt through a number of drawdowns with the Local Government Funding Agency (LGFA).
- ▶ During 2022, Council obtained new loans amounting to \$55m and repaid \$23m in the normal course of business and in line with expectations. The overall increase in debt has been principally applied to capital works.
- ▶ The Council is responsible for preparing Reporting Certificates to the Trustee in accordance with the requirements of the Trust Deed and we are required to report to the Trustee with respect to the reporting certificates.

### EY Perspective

We carried out the following audit procedures with regard to debt:

- ▶ Developed our understanding of current debt agreements and the processes for managing drawdowns.
- ▶ We have considered the term and classification of debt for financial reporting purposes.
- ▶ Obtained an external confirmation direct from LGFA of the outstanding debt position at year end with Council.
- ▶ Reviewed the disclosures in relation to debt in the financial statements for reasonableness and consistency with accounting standards including the disclosures in regards to IPSAS 41.

We are in the process of completing the procedures required of us by the debenture trust deed. Our procedures include reporting to the Trustee based on the work performed and whether anything has come to our attention that indicates the statements made in the reporting certificates issued by the Council are materially misstated. Subject to the completion of certain procedures, we expect to issue an unqualified report to the Trustee.

**Key Judgements:** Completeness and classification of debt  
**Relevant accounting standards:** PBE IPSAS 41 *Financial Instruments*  
**Level of complexity or management judgement:** LOW



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## Landfill aftercare provision

### Our Understanding

- ▶ Council operate a significant landfill activity for Council and Napier City, that leads to future aftercare costs once the “valleys” of the landfill are full.
- ▶ Hastings District Council holds a provision for aftercare costs as a liability. The key component of this is based on the valuation of future closure and post closure costs by Tonkin+Taylor in regards to the 2 “valleys” under management.

### EY Perspective

- ▶ We have reviewed Tonkin+Taylor’s valuation report and obtained a reliance letter from them to ensure that they are aware their findings are being used for financial reporting purposes.
- ▶ We reviewed the model used by HDC to determine the actual provision booked at the end of FY22.
- ▶ We reviewed the calculation and assumptions used in the model, including the expected inflation rate, discount rate and the expected remaining life of the landfill.
- ▶ We identified that the first calculation:
  - ▶ Did not inflate costs provided in current dollars to reflect appropriate cost values in future years.
  - ▶ Did not reflect a current percentage for the degree to which Valley D had been utilised to date.
  - ▶ The discount rate applied was that drawn from when the model was first created and did not reflect current market conditions.
- ▶ We recalculated Councils model considering those differences and estimated an under-provision of \$1,146k
- ▶ Management has corrected this in the final version of the financials.

## ETS - Accounting for ETS Units

### Our Understanding

- ▶ Council is required to return Emission Trading Scheme credit Units in line with landfill usage.
- ▶ The amount of credit carbon pays every year is determined by calculating the tons of waste placed in the landfill.
- ▶ The price of Units on the market has increased significantly over the last 24 months
- ▶ Council has two contracts in place to purchase Units at a future agreed price as the landfill use requires Units to be returned annually. These contracts have not been accounted for historically as derivatives.

### EY Perspective

- ▶ We reviewed the purchase of units during the period and their formal return.
- ▶ We reviewed the value of units held on hand, but unrecognised for financial reporting purposes at year end and have recommended an adjustment to the financial statements.
- ▶ We have reviewed accounting standards against the Councils practices. We accept that based on the fact that Council does not trade in units, settle purchase agreements net in cash and only holds units to support its underlying management of the landfill, that this allows Council to avoid classifying and valuing its current forward contracts as derivatives.
- ▶ We reviewed the provision maintained by Council in relation to the volume of landfill usage and the weighted average Unit price based on the agreed contracts.
- ▶ The financial statements have been updated for the impact of audit differences identified in this area.



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# Audit Differences

## Summary of Unadjusted Differences

The following differences have been identified during the course of our audit and have not been considered material by management or by us for adjustment. We are bringing these to Councils attention to enable you to form your own view on these items:

Account 30 June 2022 (\$000's)	Surplus - CY (increase)/Decrease	% of Surplus
Opening adjustment on accrued subsidies	2,391 ▼	8%
Evaluation of ETS liabilities	(265) ▲	-1%
<b>Total audit differences after tax (after turnaround)</b>	<b>2,126</b>	<b>7%</b>

Key: ▲ Increase to profit    ▼ Decrease to profit

## Summary of Adjusted Differences

The following table contains a list of corrected adjustments in the income statement and Other Comprehensive Income that have been adjusted by management in the current period:

Account 30 June 2022	Surplus \$000's (Increase)/Decrease
Accruals on water capital works subsidy revenues	(3,951)
Aftercare provision - adjustment	1,146
Gain from valuation of unlisted shares	(252)
Accounting for ETS assets	(505)
Recognition of a Provision for mediated settlement of an obligation at balance date	850
<b>Net (increase) decrease in current period surplus</b>	<b>(2,977)</b>
Revaluation of roadings assets	4,068
<b>Net (increase) decrease in comprehensive income</b>	<b>1,091</b>

The following table contains a list of corrected reclassification in the balance sheet that have been corrected by management in the current period but have no impact on the surplus / (deficit) result

Account 30 June 2022	\$000's (Increase)/Decrease
Land held for sale	(3,638)
Land - non current assets	3,638
Accumulated depreciation of assets	385
Asset value	(385)
Investment in associate (HBAL equity difference (group level))	1,825
Equity (HBAL equity difference (group level))	(1,825)



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# Assessment of Control Environment

## Internal Controls

As part of our audit of the financial statements, we obtained an understanding of the internal control environment in order to sufficiently plan our audit and determine the nature, timing and extent of testing performed. Although our audit was not designed to express an opinion on the effectiveness of internal control we are required to communicate to you significant deficiencies in internal control.

Throughout our audit we communicate to management observations regarding control matters and other issues arising from our interim or FY22 and year end substantive procedures.

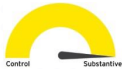
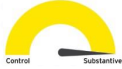





Following the finalisation of our audit procedures we will provide management with a detailed report on our recommendations for ongoing improvement by management using the following framework.

- H** High Risk - Matters and/or issues are considered to be fundamental to the mitigation of material risk, maintenance of internal control or good corporate governance. Action should be taken either immediately or within 3 months.
- M** Medium Risk - Matters and/or issues are considered to be of major importance to maintenance of internal control, good corporate governance or best practice for processes. Action should be taken within 6 months.
- L** Low Risk - A weakness which does not seriously detract from the internal control framework. If required, action should be taken within 6-12 months.

Items raised considered of moderate and low risk ranking are items which provide management with improvement opportunities within their processes, however were not considered to represent such a risk to the business that immediate management attention was considered necessary. Addressing these points assists management in further improving the processes and controls already in place and strengthens the control environment.

## Controls Reliance

Set out below is the level of controls reliance we achieved over the key financial statement processes.

Process	Internal Control	Audit Strategy
Financial statement close process		Substantive
Other revenue (fees and subsidies)		Substantive
Non-financial performance reporting		Substantive
Infrastructure assets management		Substantive
Rates setting and collection		Rely on controls
Expenses and payables		Rely on controls
Payroll		Substantive



# Assessment of Control Environment

## Internal Controls

As part of our audit of the financial statements and performance information, we obtained an understanding of the internal control environment in order to sufficiently plan our audit and determine the nature, timing and extent of testing performed. Although our audit was not designed to express an opinion on the effectiveness of internal control we are required to communicate to you significant deficiencies in internal control.

Throughout our audit we communicate to management observations regarding control matters and other issues arising from our interim or [period] and year end substantive procedures. We are currently collating our report to management following the completion of our detailed work. We will be utilising the following framework for our reporting to Council

- H** High Risk - Matters and/or issues are considered to be fundamental to the mitigation of material risk, maintenance of internal control or good corporate governance. Action should be taken either immediately or within 3 months.
- M** Medium Risk - Matters and/or issues are considered to be of major importance to maintenance of internal control, good corporate governance or best practice for processes. Action should be taken within 6 months.
- L** Low Risk - A weakness which does not seriously detract from the internal control framework. If required, action should be taken within 6-12 months.

Items raised considered of moderate and low risk ranking are items which provide management with improvement opportunities within their processes, however were not considered to represent such a risk to the business that immediate management attention was considered necessary. Addressing these points assists management in further improving the processes and controls already in place and strengthens the control environment.

An example of some of the matters that we have identified is included in the following table. We will complete our reporting in this area during December and provide a full report to management.

Area	Rating	Observation
Revenue recognition: grants & subsidies	M	We identify that no accruals were calculated for some subsidies to be received at 30 June. This leads to an understatement of revenue.
3 Waters valuation	M	We identify that the rate use in the internal report on the valuation of the 3 waters assets have been derived from a small sample set. We recommend for such a critical asset class in a fast moving environment that more detailed work is done in this area, or an independent valuation obtained.
Gratuity leave entitlements	L	We have identified that the assumptions for the calculation of the gratuity leave has not been updated since the early 2010's. We recommend Council update the assumptions and mortality tables used.



APPENDICES	A. Other Required Audit Committee Communications	16
	B. Outstanding Matters	17
	C. Auditor Fees and Independence	18
	D. Focused on Your Future	19

Appendices

A. Other Required Audit Committee Communications

Auditing Standards require us to report to you certain matters that are not otherwise detailed in this report.






Matter	How matter was addressed
Material uncertainty related to going concern	No conditions or events were identified, either individually or in aggregate, that may cast significant doubt about Hastings District Council ability to continue as a going concern for 12 months from the date of our report.
Disagreements with management	During our audit we had no unresolved difference.
Compliance with laws and regulations	We have not identified any material instances of non-compliance with laws and regulations.
Fraud and illegal acts	<p>We have made enquiries of management regarding:</p> <ul style="list-style-type: none"><li>► Knowledge of any fraud or suspected fraud affecting the entity involving Management, employees who have significant roles in internal control; or others where fraud could have a material effect on the financial report</li><li>► Knowledge of any allegations of fraud, or suspected fraud, affecting Hastings District Council financial information.</li></ul> <p>Based on our enquiries and audit procedures, we did not become aware of any fraud or illegal acts during our audit.</p>





Appendices

B. Outstanding Matters

The following items relating to the completion of our audit procedures are outstanding at the date of the release of this report:

Matter	How matter was addressed	Responsibility	
Final Annual Report	Review of Final Version of the Annual Report and management of any editorial changes to the version of the Annual report to be considered by Council.	EY	
3 Water Complaints	We are currently finalising our review of the integrity of the compilation of 3 water complaints	EY	
Financial Prudence Regs	Finalisation of our audit procedures on the financial Prudence Measures subsequent to the completion of audit adjustments	EY	
Audit Report	We are currently finalising our Audit Report with the Office of the Auditor-General (OAG)	EY	OAG
Signed financial report	Receipt of the signed Annual Report		
Management representation letter	Receipt of signed Management representation letter		
Subsequent events review	Completion of subsequent events procedures to the date of signing the audit report	EY	

 Management Responsibility

 EY responsibility



Appendices

C. Auditor Fees and Independence

There are no matters that, in our professional judgement, bear on our independence which need to be disclosed to Council.

We identify in the table the threats to our independence from the services we provide or relationships with the entity and the safeguards adopted to reduce or eliminate those threats. We consider that our independence in this context is a matter that should be reviewed by both you and ourselves. It is therefore important that you and your Board consider the facts of which you are aware and come to a view. Should you have any specific matters that you wish to discuss, please contact us.

We are satisfied that the services provided by EY during the FY22 do not impact our independence.

We are not aware of any other relationships between the Firm or other firms that are members of the global network of EY firms and Hastings District Council that, in our professional judgment, may reasonably be thought to bear on independence.

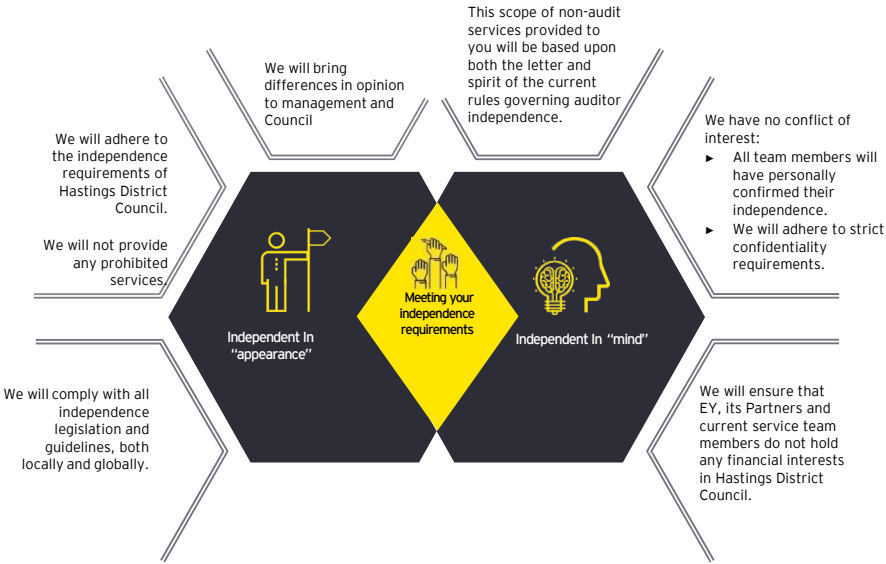
Description of relationship or service	Period provided	Fees	Safeguards adopted
Debenture Trust Deed reporting	FY22	\$2.5k	Independence assurance services
Total fees		\$2.5k	

We consider that our independence in this context is a matter that should be

Our audit fee for the statutory audit of Council is \$150k excluding disbursements.

Independence

We confirm that we have complied with NZICA Code of Ethics and the Professional and Ethical Standard 1: *International Code of Ethics for Assurance Practitioners (Including International Independence Standards) (New Zealand)* independence requirements, and in our professional judgement, the engagement team and the Firm are independent.



Appendices

D. Focused on Your Future

New Accounting standards

Explanation

The following standard has been issued but is not yet effective for the Council for the year ended 30 June 2022:

FRS 48 Service Performance Reporting

*Applicable for the year ending 30 June 2023*

Impact on Your Business

Accounting

FRS 48 Service Performance Reporting

The NZASB has issued a new accounting standard for PBEs, FRS 48 Service Performance Reporting. This new standard requires the preparation of Statements of Service Performance for PBEs that report in accordance with Tier 1 and Tier 2 PBE standards.

The Standard describes service performance information as information about what an entity has done during the reporting period in working towards its broader aims and objectives, together with supporting contextual information. The standard establishes principles and high-level requirements for the reporting of service performance information rather than specifying detailed reporting requirements. This is due to the standard being applied to a wide range of PBEs.

An explanatory guide to FRS 48, called EG A10, has been issued by the XRB and is published on their website (<https://www.xrb.govt.nz/accounting-standards/not-for-profit/explanatory-guide-eg-a10/>).

The Council is required to prepare a Statement of Service Performance under legislation and the new standard will primarily result in disclosure changes as opposed to the content of the existing Statement of Service Performance changing. Likely disclosure changes include providing the details of the judgements associated with selecting and measuring performance metrics.



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ED 0922

This report is intended solely for the information and use of the Audit and Risk Committee, other members of Council and senior management of Hastings District Council and should not be used for any other purpose nor given to any other party without our prior written consent. We disclaim all responsibility to any other party for any loss or liability that the other party may suffer or incur arising from or relating to or in any way connected with the contents of this report, the provision of this report to the other party or the reliance upon this report by the other party.

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January 2023

Global Risks Report 2023

# Executive Summary

The first years of this decade have heralded a particularly disruptive period in human history. The return to a “new normal” following the COVID-19 pandemic was quickly disrupted by the outbreak of war in Ukraine, ushering in a fresh series of crises in food and energy – triggering problems that decades of progress had sought to solve.

As 2023 begins, the world is facing a set of risks that feel both wholly new and eerily familiar. We have seen a return of “older” risks – inflation, cost-of-living crises, trade wars, capital outflows from emerging markets, widespread social unrest, geopolitical confrontation and the spectre of nuclear warfare – which few of this generation’s business leaders and public policy-makers have experienced. These are being amplified by comparatively new developments in the global risks landscape, including unsustainable levels of debt, a new era of low growth, low global investment and de-globalization, a decline in human

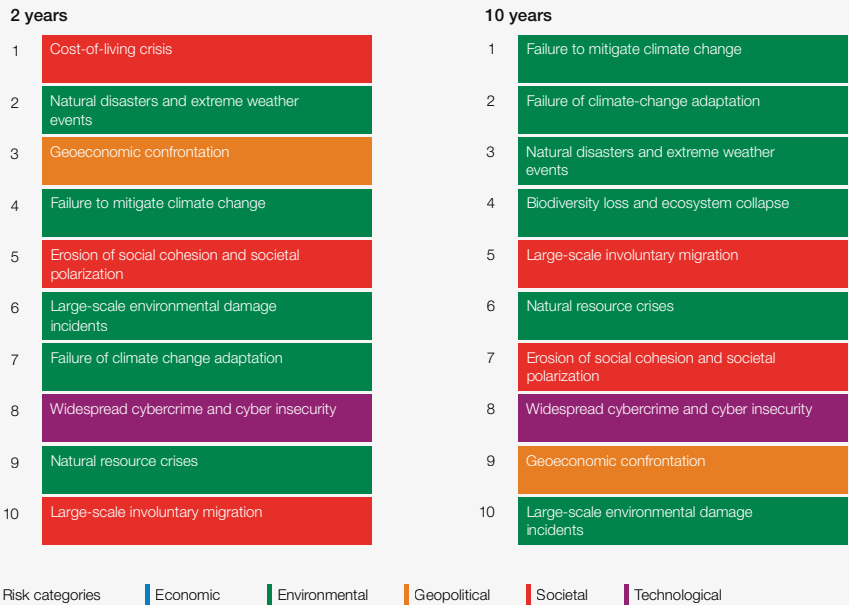
development after decades of progress, rapid and unconstrained development of dual-use (civilian and military) technologies, and the growing pressure of climate change impacts and ambitions in an ever-shrinking window for transition to a 1.5°C world. Together, these are converging to shape a unique, uncertain and turbulent decade to come.

The *Global Risks Report 2023* presents the results of the latest Global Risks Perception Survey (GRPS). We use three time frames for understanding global risks. Chapter 1 considers the mounting impact of current crises (i.e. global risks which are already unfolding) on the most severe global risks that many expect to play out over the short term (two years). Chapter 2 considers a selection of risks that are likely to be most severe in the long term (10 years), exploring newly emerging or rapidly accelerating economic, environmental, societal, geopolitical and technological risks that could become tomorrow’s

FIGURE A

**Global risks ranked by severity over the short and long term**

*"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period"*



Source  
World Economic Forum Global Risks  
Perception Survey 2022-2023.



crises. Chapter 3 imagines mid-term futures, exploring how connections between the emerging risks outlined in previous sections may collectively evolve into a “polycrisis” centred around natural resource shortages by 2030. The report concludes by considering perceptions of the comparative state of preparedness for these risks and highlighting enablers to charting a course to a more resilient world. Below are key findings of the report.

### Cost of living dominates global risks in the next two years while climate action failure dominates the next decade

The next decade will be characterized by environmental and societal crises, driven by underlying geopolitical and economic trends. **“Cost-of-living crisis”** is ranked as the most severe global risk over the next two years, peaking in the short term. **“Biodiversity loss and ecosystem collapse”** is viewed as one of the fastest deteriorating global risks over the next decade, and all six environmental risks feature in the top 10 risks over the next 10 years. Nine risks are featured in the top 10 rankings over both the short and the long term, including **“Goeconomic confrontation”** and **“Erosion of social cohesion and societal polarisation”**, alongside two new entrants to the top rankings: **“Widespread cybercrime and cyber insecurity”** and **“Large-scale involuntary migration”**.

### As an economic era ends, the next will bring more risks of stagnation, divergence and distress

The economic aftereffects of COVID-19 and the war in Ukraine have ushered in skyrocketing inflation, a rapid normalization of monetary policies and started a low-growth, low-investment era.

Governments and central banks could face stubborn inflationary pressures over the next two years, not least given the potential for a prolonged war in Ukraine, continued bottlenecks from a lingering pandemic, and economic warfare spurring supply chain decoupling. Downside risks to the economic outlook also loom large. A miscalibration between monetary and fiscal policies will raise the likelihood of liquidity shocks, signaling a more prolonged economic downturn and debt distress on a global scale. Continued supply-driven inflation could lead to stagflation, the socioeconomic consequences of which could be severe, given an unprecedented interaction with historically high levels of public debt. Global economic fragmentation, geopolitical tensions and rockier restructuring could contribute to widespread debt distress in the next 10 years.

Even if some economies experience a softer-than-expected economic landing, the end of the low interest rate era will have significant ramifications for governments, businesses and individuals. The knock-on effects will be felt most acutely by the most vulnerable parts of society and already-fragile states, contributing to rising poverty, hunger, violent protests, political instability and even state collapse. Economic pressures will also erode gains made by middle-income households, spurring discontent, political polarization and calls for enhanced social protections in countries across the world. Governments will continue to face a dangerous balancing act between protecting a broad swathe of their citizens from an elongated cost-of-living crisis without embedding inflation – and meeting debt servicing costs as revenues come under pressure from an economic downturn, an increasingly urgent transition to new energy systems, and a less stable geopolitical environment. The resulting new economic era may be one of growing divergence between rich and poor countries and the first rollback in human development in decades.

### Geopolitical fragmentation will drive goeconomic warfare and heighten the risk of multi-domain conflicts

Economic warfare is becoming the norm, with increasing clashes between global powers and state intervention in markets over the next two years. Economic policies will be used defensively, to build self-sufficiency and sovereignty from rival powers, but also will increasingly be deployed offensively to constrain the rise of others. Intensive goeconomic weaponization will highlight security vulnerabilities posed by trade, financial and technological interdependence between globally integrated economies, risking an escalating cycle of distrust and decoupling. As geopolitics trumps economics, a longer-term rise in inefficient production and rising prices becomes more likely. Geographic hotspots that are critical to the effective functioning of the global financial and economic system, in particular in the Asia-Pacific, also pose a growing concern.

Interstate confrontations are anticipated by GRPS respondents to remain largely economic in nature over the next 10 years. However, the recent uptick in military expenditure and proliferation of new technologies to a wider range of actors could drive a global arms race in emerging technologies. The longer-term global risks landscape could be defined by multi-domain conflicts and asymmetric warfare, with the targeted deployment of new-tech weaponry on a potentially more destructive scale than seen in recent decades. Transnational arms control mechanisms must quickly adapt to this new security context, to strengthen the shared moral, reputational and political costs that act as a deterrent to accidental and intentional escalation.

### Technology will exacerbate inequalities while risks from cybersecurity will remain a constant concern

The technology sector will be among the central targets of stronger industrial policies and enhanced state intervention. Spurred by state aid and military expenditure, as well as private investment, research and development into emerging technologies will continue at pace over the next decade, yielding advancements in AI, quantum computing and biotechnology, among other technologies. For countries that can afford it, these technologies will provide partial solutions to a range of emerging crises, from addressing new health threats and a crunch in healthcare capacity to scaling food security and climate mitigation. For those that cannot, inequality and divergence will grow. In all economies, these technologies also bring risks, from widening misinformation and disinformation to unmanageably rapid churn in both blue- and white-collar jobs.

However, the rapid development and deployment of new technologies, which often comes with limited protocols governing their use, poses its own set of risks. The ever-increasing intertwining of technologies with the critical functioning of societies is exposing populations to direct domestic threats, including those that seek to shatter societal functioning. Alongside a rise in cybercrime, attempts to disrupt critical technology-enabled resources and services will become more common, with attacks anticipated against agriculture and water, financial systems, public security, transport, energy and domestic, space-based and undersea communication infrastructure. Technological risks are not solely limited to rogue actors. Sophisticated analysis of larger data sets will enable the misuse of personal information through legitimate legal mechanisms, weakening individual digital sovereignty and the right to privacy, even in well-regulated, democratic regimes.



### Climate mitigation and climate adaptation efforts are set up for a risky trade-off, while nature collapses

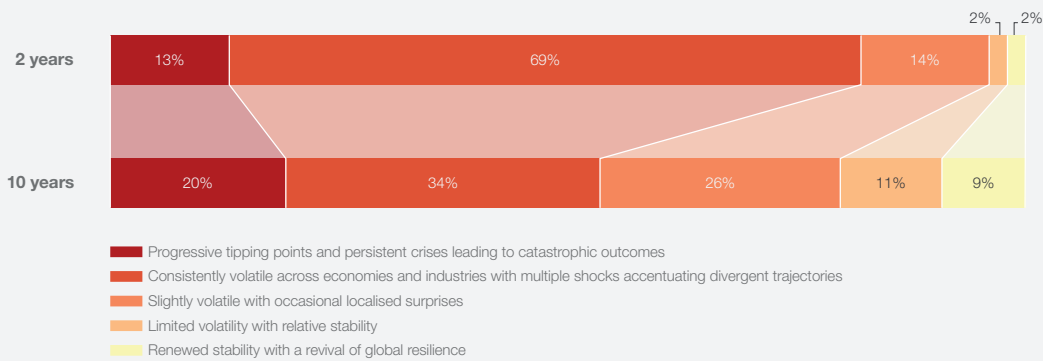
Climate and environmental risks are the core focus of global risks perceptions over the next decade – and are the risks for which we are seen to be the least prepared. The lack of deep, concerted progress on climate targets has exposed the divergence between what is scientifically necessary to achieve net zero and what is politically feasible. Growing demands on public and private-sector resources from other crises will reduce the speed and scale of mitigation efforts over the next two years, alongside insufficient progress towards the adaptation support required for those communities and countries increasingly affected by the impacts of climate change.

As current crises divert resources from risks arising over the medium to longer term, the burdens on natural ecosystems will grow given their still undervalued role in the global economy and overall planetary health. Nature loss and climate change are intrinsically interlinked – a failure in one sphere will cascade into the other. Without significant policy change or investment, the interplay between climate change impacts, biodiversity loss, food security and natural resource consumption will accelerate ecosystem collapse, threaten food supplies and livelihoods in climate-vulnerable economies, amplify the impacts of natural disasters, and limit further progress on climate mitigation.

FIGURE B

Short- and long-term global outlook

"Which of the following best characterizes your outlook for the world over the short-term (2 years) and longer-term (10 years)?"



Source  
World Economic Forum, Global Risks  
Perception Survey 2022-2023.

Food, fuel and cost crises exacerbate societal vulnerabilities while declining investments in human development erode future resilience

Compounding crises are widening their impact across societies, hitting the livelihoods of a far broader section of the population, and destabilizing more economies in the world, than traditionally vulnerable communities and fragile states. Building on the most severe risks expected to impact in 2023 – including “Energy supply crisis”, “Rising inflation” and “Food supply crisis” – a global Cost-of-living crisis is already being felt. Economic impacts have been cushioned by countries that can afford it, but many lower-income countries are facing multiple crises: debt, climate change and food security. Continued supply-side pressures risk turning the current cost-of-living crisis into a wider humanitarian crisis within the next two years in many import-dependent markets.

Associated social unrest and political instability will not be contained to emerging markets, as economic pressures continue to hollow out the middle-income bracket. Mounting citizen frustration at losses in human development and declining social mobility, together with a widening gap in values and equality, are posing an existential challenge to political systems around the world. The election of less centrist leaders as well as political polarization between economic superpowers over the next two years may also reduce space further for collective problem-solving, fracturing alliances and leading to a more volatile dynamic.

With a crunch in public-sector funding and competing security concerns, our capacity to absorb the next

global shock is shrinking. Over the next 10 years, fewer countries will have the fiscal headroom to invest in future growth, green technologies, education, care and health systems. The slow decay of public infrastructure and services in both developing and advanced markets may be relatively subtle, but accumulating impacts will be highly corrosive to the strength of human capital and development – a critical mitigant to other global risks faced.

As volatility in multiple domains grows in parallel, the risk of polycrises accelerates

Concurrent shocks, deeply interconnected risks and eroding resilience are giving rise to the risk of polycrises – where disparate crises interact such that the overall impact far exceeds the sum of each part. Eroding geopolitical cooperation will have ripple effects across the global risks landscape over the medium term, including contributing to a potential polycrisis of interrelated environmental, geopolitical and socioeconomic risks relating to the supply of and demand for natural resources.

The report describes four potential futures centred around food, water and metals and mineral shortages, all of which could spark a humanitarian as well as an ecological crisis – from water wars and famines to continued overexploitation of ecological resources and a slowdown in climate mitigation and adaption. Given uncertain relationships between global risks, similar foresight exercises can help anticipate potential connections, directing preparedness measures towards minimizing the scale and scope of polycrises before they arise.

In the years to come, as continued, concurrent crises embed structural changes to the economic and geopolitical landscape, they accelerate the other risks that we face. More than four in five GRPS respondents anticipate consistent volatility over the next two years at a minimum, with multiple shocks accentuating divergent trajectories. However, respondents are generally more optimistic over the longer term. Just over one-half of respondents anticipate a negative outlook, and nearly one in five respondents predict limited volatility with relative – and potentially renewed – stability in the next 10 years.

Indeed, there is still a window to shape a more secure future through more effective preparedness. Addressing the erosion of trust in multilateral processes will enhance our collective ability to prevent and respond to emerging cross-border crises and strengthen the guardrails we have in place to address well-established risks. In addition,

leveraging the interconnectivity between global risks can broaden the impact of risk mitigation activities – shoring up resilience in one area can have a multiplier effect on overall preparedness for other related risks. As a deteriorating economic outlook brings tougher trade-offs for governments facing competing social, environmental and security concerns, investment in resilience must focus on solutions that address multiple risks, such as funding of adaptation measures that come with climate mitigation co-benefits, or investment in areas that strengthen human capital and development.

Some of the risks described in this year's report are close to a tipping point. This is the moment to act collectively, decisively and with a long-term lens to shape a pathway to a more positive, inclusive and stable world.

FIGURE C    Global risks landscape: an interconnections map

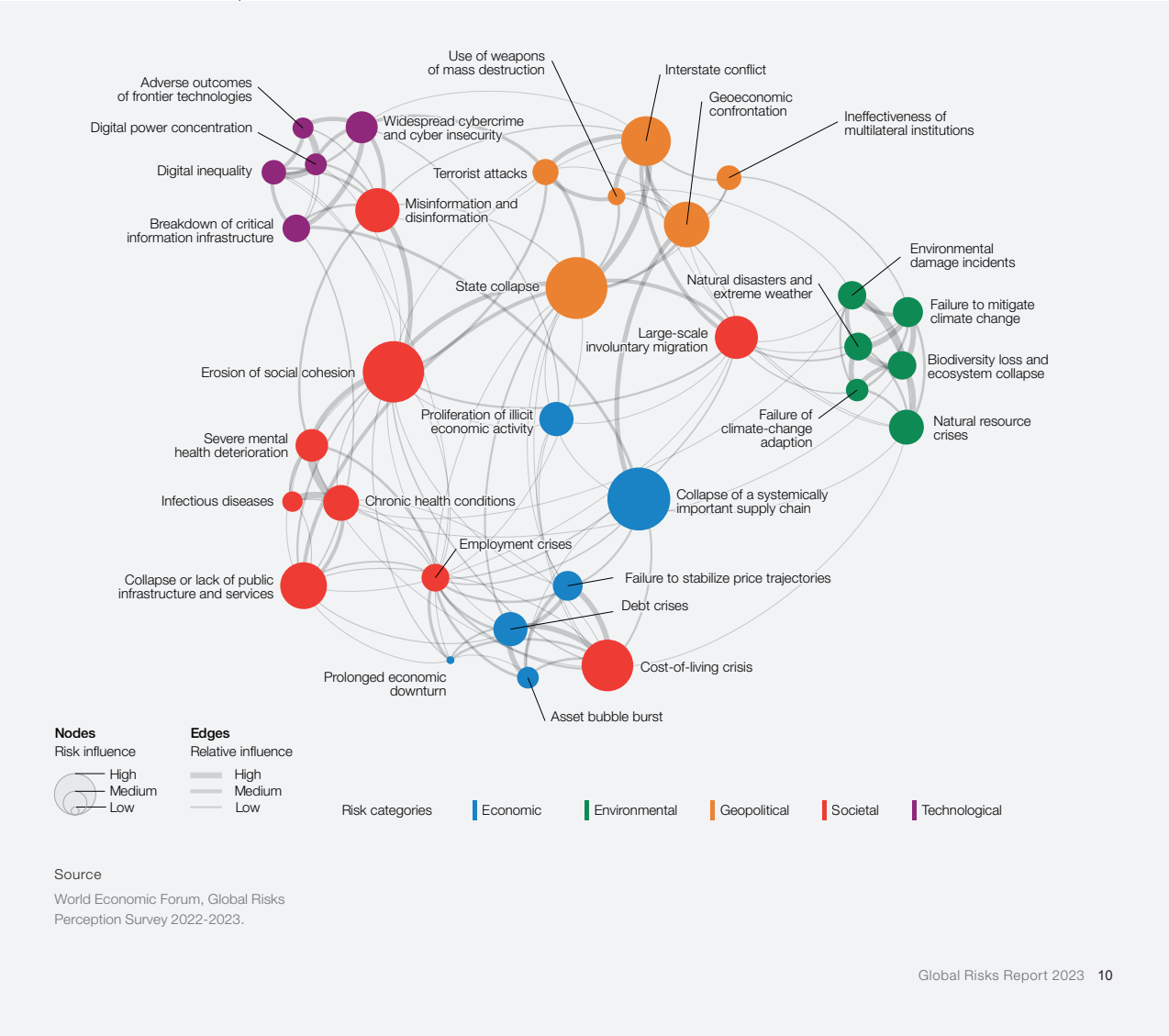


FIGURE D

### Currently manifesting risks

"Please rank the top 5 currently manifesting risks in order of how severe you believe their impact will be on a global level in 2023"



Source

World Economic Forum Global Risks  
Perception Survey 2022-2023.

Risk categories

Economic

Environmental

Geopolitical

Societal

Technological

FIGURE E

### Global risks ranked by severity

"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period"

#### Short term



#### Long term



Source

World Economic Forum Global Risks  
Perception Survey 2022-2023.

Risk categories

Economic

Environmental

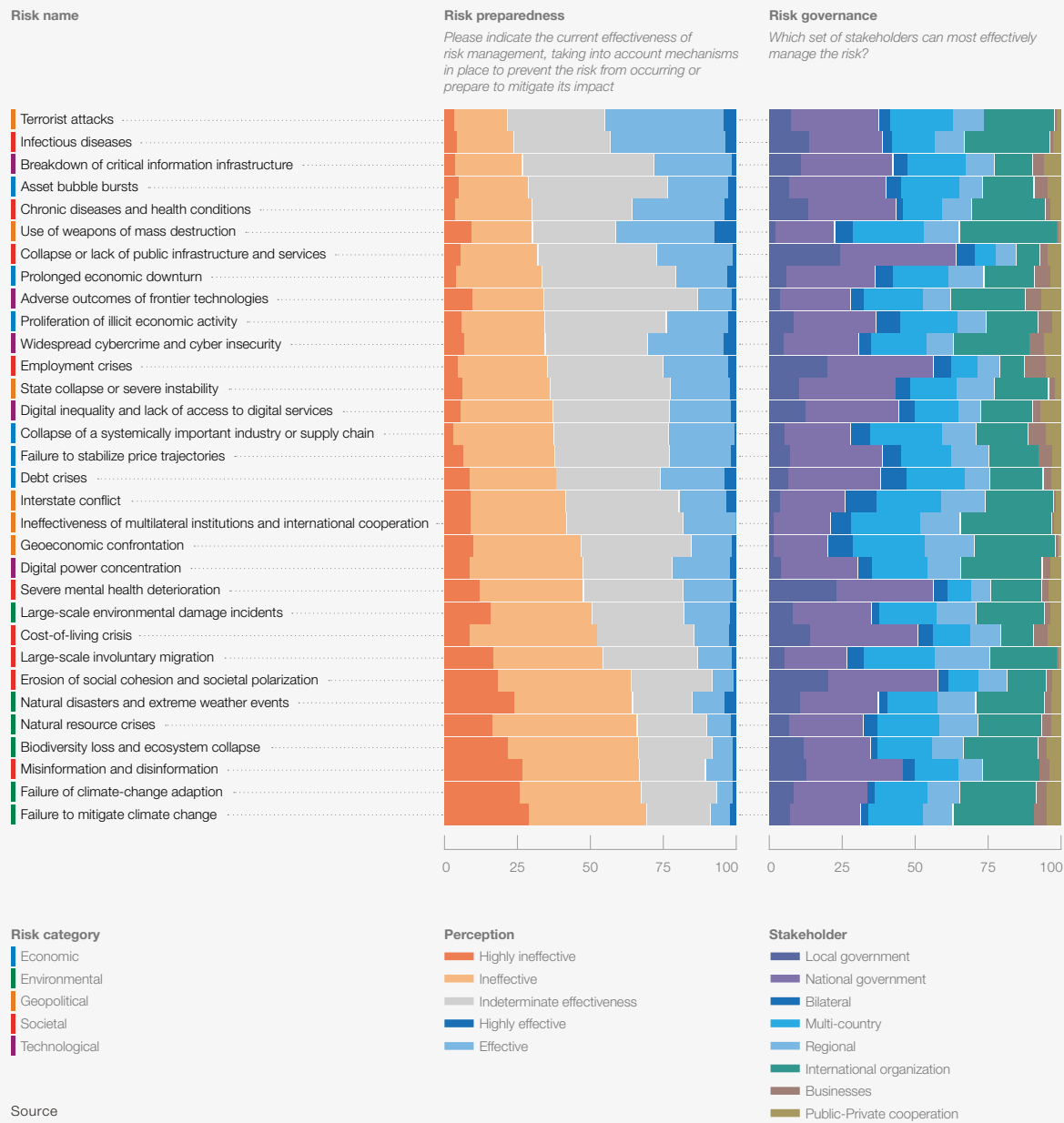
Geopolitical

Societal

Technological

Global Risks Report 2023 11

FIGURE F Perceptions around preparedness and governance



Item 8

January 2023

Global Risks Report 2023

Today's Crisis

1

# Global Risks 2023: Today's Crisis

Item 8

1.1

## Current crises

With the global landscape dominated by manifesting risks, we introduce this year three time frames for understanding global risks: 1) current crises (i.e. global risks which are already unfolding), 2) risks

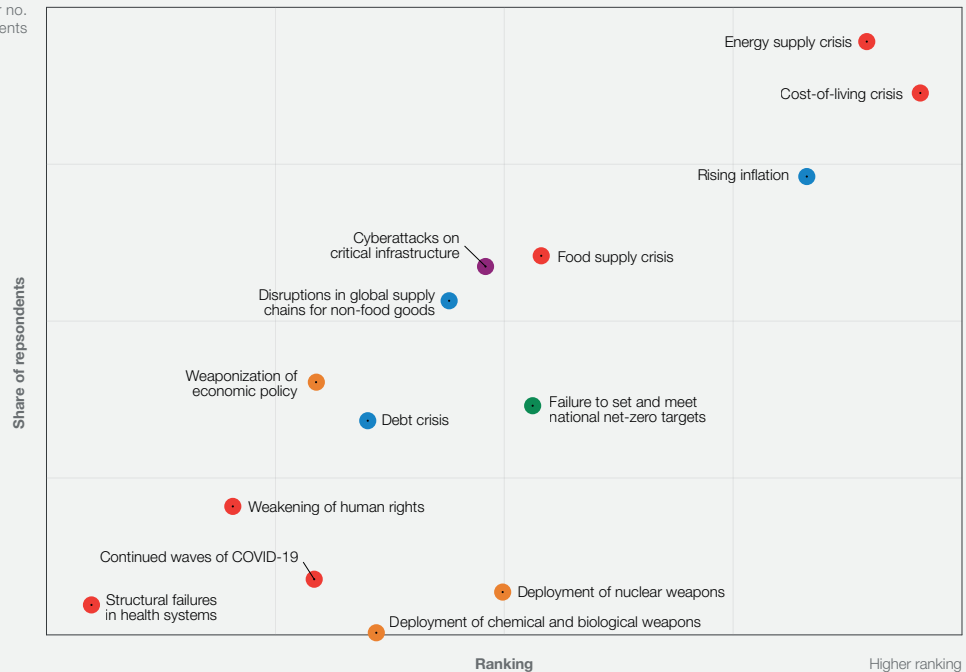
that are likely to be most severe in two years, and 3) risks that are likely to be most severe in 10 years. This chapter address the outlook for the first two time frames. Most respondents to the

FIGURE 1.1

### Currently manifesting risks

"Please rank the top 5 currently manifesting risks in order of how severe you believe their impact will be on a global level in 2023"

Higher no.  
of respondents



Risk categories | Economic | Environmental | Geopolitical | Societal | Technological

#### Source

World Economic Forum Global Risks  
Perception Survey 2022-2023.

2022-2023 Global Risks Perception Survey (GRPS) chose “Energy supply crisis”; “Cost-of-living crisis”; “Rising inflation”; “Food supply crisis” and “Cyberattacks on critical infrastructure” as among the top risks for 2023 with the greatest potential impact on a global scale (Figure 1.1). Those that are outside the top 5 for the year but remain concerns include: failure to meet net-zero targets; weaponization of economic policy; weakening of human rights; a debt crisis; and failure of non-food supply chains.

News headlines all over the world make these results largely unsurprising. Yet their implications are profound. Our global “new normal” is a return to basics – food, energy, security – problems our globalized world was thought to be on a trajectory to solve. These risks are being amplified by the persistent health and economic overhang of a global pandemic; a war in Europe and sanctions that impact a globally integrated economy; and an escalating technological arms race underpinned by industrial competition and enhanced state intervention. Longer-term structural changes to

geopolitical dynamics – with the diffusion of power across countries of differing political and economic systems – are coinciding with a more rapidly changing economic landscape, ushering in a low-growth, low-investment and low-cooperation era and a potential decline in human development after decades of progress.

The result is a global risks landscape that feels both wholly new and eerily familiar. There is a return of “older” risks that are understood historically but experienced by few in the current generations of business leaders and public policy-makers. In addition, there are relatively new developments in the global risk landscape. These include widespread, historically high levels of public and in some cases private-sector debt; the ever more rapid pace of technological development and its unprecedented intertwining with the critical functioning of societies; and the growing pressure of climate change impacts and ambitions in an ever-shorter time frame for transition. Together, these are converging to shape a unique, uncertain and turbulent 2020s.

## 1.2

### The path to 2025

The complex and rapid evolution of the global risks landscape is adding to a sense of unease. More than four in five GRPS respondents anticipated consistent volatility over the next two years at a minimum, with multiple shocks accentuating divergent trajectories (Figure 1.10).

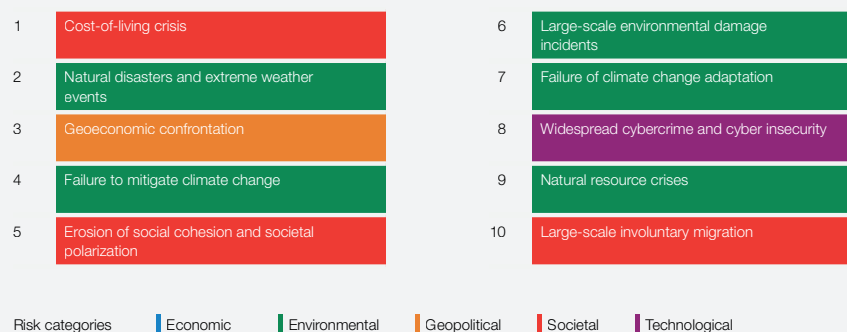
Respondents to the GRPS see the path to 2025 dominated by social and environmental risks, driven by underlying geopolitical and economic trends (Figure 1.2).

There were some notable differences between the responses of government and business respondents, with “Debt crises”, “Failure to stabilize price trajectories”, “Failure to mitigate climate change” and “Failure of climate change adaptation” featuring more prominently for governments, and “Widespread cybercrime and cyber insecurity” and “Large-scale environmental damage incidents” featuring higher for business (Figure 1.3).

The following sections explore the most severe

FIGURE 1.2

#### Global risks ranked by severity over the short term (2 years)



#### Source

World Economic Forum Global Risks Perception Survey 2022-2023.

FIGURE 1.3 Severity by stakeholder over the short term (2 years)



global risks that many expect to play out over the next two years, within the context of the mounting impacts and constraints being imposed by the numerous crises felt today. These are: cost-of-living crisis, economic downturn, geoeconomic warfare, climate action hiatus and societal polarization. We describe current trends associated with each risk, briefly cover the reasons behind them and then note their emerging implications and knock-on effects.

### Cost-of-living crisis

Ranked as the most severe global risk over the next two years by GRPS respondents, a global **Cost-of-living crisis** is already here, with inflationary pressures disproportionately hitting those that can least afford it. Even before the COVID-19 pandemic, the price of basic necessities – non-expendable items such as food and housing – were on the rise.<sup>1</sup> Costs further increased in 2022, primarily due to continued disruptions in the flows of energy and food from Russia and Ukraine. To curb domestic prices, around 30 countries introduced restrictions, including export bans, in food and energy last year, further driving up global inflation.<sup>2</sup> Despite the latest extension, the looming threat of Russia pulling out of the Black Sea Grain Export Deal has also led to significant volatility in the price of essential commodities.

Although global supply chains have partly adapted, with pressures significantly lower than the peak experienced in April last year,<sup>3</sup> price shocks to core necessities have significantly outpaced general inflation over this time (Figure 1.4). The FAO Price Index hit the highest level since its inception in 1990 in March last year.<sup>4</sup> Energy prices are estimated to remain 46% higher than average in 2023 relative to January 2022 projections.<sup>5</sup> The relaxation of China's COVID-19 policies could drive up energy and commodity prices further – and will test the resilience of global supply chains if policy changes remain unpredictable as infections soar.

**Cost-of-living crisis** was broadly perceived by GRPS respondents to be a short-term risk, at peak severity within the next two years and easing off thereafter. But the persistence of a global cost-of-living crisis could result in a growing proportion of the most vulnerable parts of society being priced out of access to basic needs, fueling unrest and political instability. Continued supply-chain disruptions could lead to sticky core inflation, particularly in food and energy. This could fuel further interest rate hikes, raising the risk of debt distress, a prolonged economic downturn and a vicious cycle for fiscal planning.

Despite some improvement during the pandemic, household debt has been on the rise in certain

2

# Global Risks 2033: Tomorrow's Catastrophes

2.1

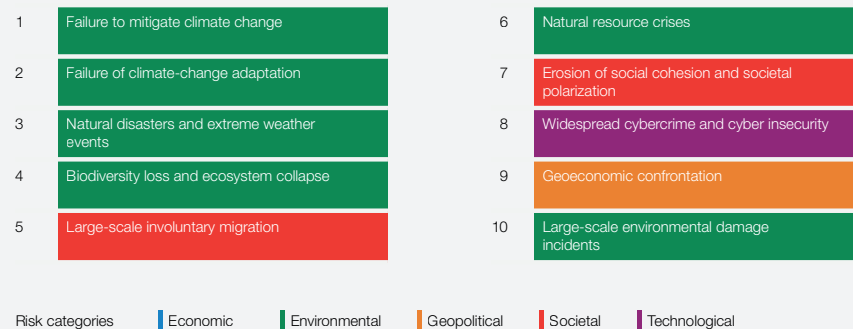
## The world in 2033

As risks highlighted in the past chapter unfold today, much-needed attention and resources are being diverted from global risks that may become tomorrow's shocks and crises. The Global Risks Perceptions Survey (GRPS) addresses a one-, two- and 10-year horizon. Chapter one addressed the present and two-year time frame, focusing on currently unfolding and shorter-term risks. This chapter focuses on the third time frame: risks that may have the most severe impact over the next 10 years.

Based on GRPS results, the longer-term global risks landscape is also dominated by deteriorating environmental risks (Figure 2.1). More specifically, climate- and nature-related risks lead the top 10 risks, by severity, that are expected to manifest over the next decade. Differentiated as separate risks for the first time in the GRPS, **Failure to mitigate climate change** and **Failure of climate-change adaptation** top the rankings as the most severe risks on a global scale, followed by **Natural disasters and extreme weather events** and **"Biodiversity loss and ecosystem collapse"**.

FIGURE 2.1

Global risks ranked by severity over the long term (10 years)



Source

World Economic Forum Global Risks Perception Survey 2022-2023.

Comparing the two-year and 10-year time frames provides a picture of areas of increasing, decreasing and continued concerns according to GRPS respondents (Figure 2.2). The top right of the graph indicates global risks that are perceived to be the most severe in both the short and long term. These are consistent areas of global concern and, arguably, attention. Four environmental risks have

worsening scores over the course of the 10-year time frame, indicating respondents' concerns about increased severity of these risks in the longer term. **"Large-scale involuntary migration"**, rises to fifth place in the 10-year time frame, while **Erosion of social cohesion and societal polarization** is perceived to be slightly more severe over the longer term.

Risks that are growing in severity over the longer term include “**Biodiversity loss and ecosystem collapse**” and “**Misinformation and disinformation**”. Among other technological risks, as indicated in the far left of the graph, “**Digital inequality and lack of access to digital services**” and “**Adverse outcomes of frontier technologies**” are also anticipated to significantly deteriorate over the 10-year time frame.

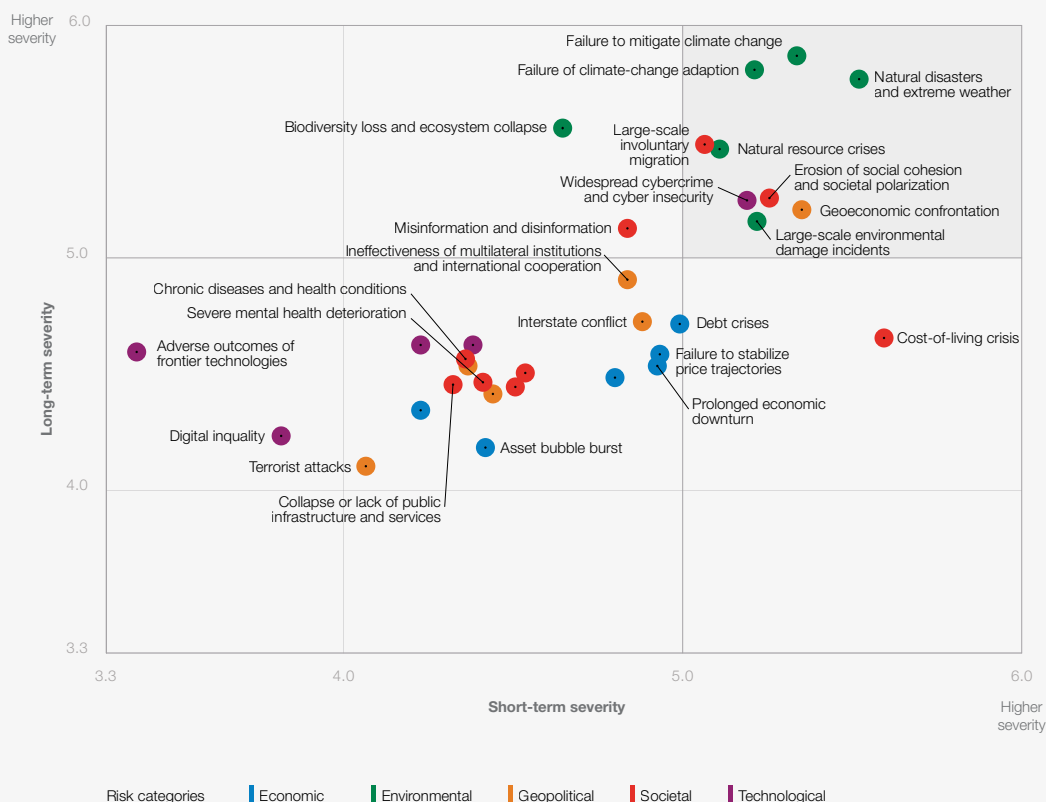
The scores of multiple social risks are also worsening, including “**Severe mental health deterioration**”, “**Collapse or lack of public infrastructure and services**”, and “**Chronic diseases and health conditions**”. In contrast, economic risks such as “**Failure to stabilize price trajectories**”, “**A prolonged economic downturn**”, “**Collapse of a systemically important industry or supply chain**”, and “**Asset bubble burst**” are perceived to fall slightly in expected severity over the 10-year time frame.

The far right of the graph indicates that today's most prominent risk, the “**Cost-of-living crisis**”, is anticipated to drop in severity over the longer term. Towards the center, the scores of geopolitical risks were mixed, with the “**Use of weapons of mass destruction**” remaining consistent, “**State collapse or severe instability**” and “**Ineffectiveness of multilateral institutions**” worsening and **Interstate conflict** perceived as decreasing in severity.

This year, we look at five newly emerging or rapidly accelerating risks clusters – drawn from the economic, environmental, societal, geopolitical and technological domains, respectively – that could become tomorrow's crisis. We explore their current drivers and emerging implications, and briefly touch on opportunities to forestall and reshape these outcomes by acting today.

FIGURE 2.2

Relative severity of risks over a 2 and 10-year period



Source

World Economic Forum Global Risks Perception Survey 2022-2023.

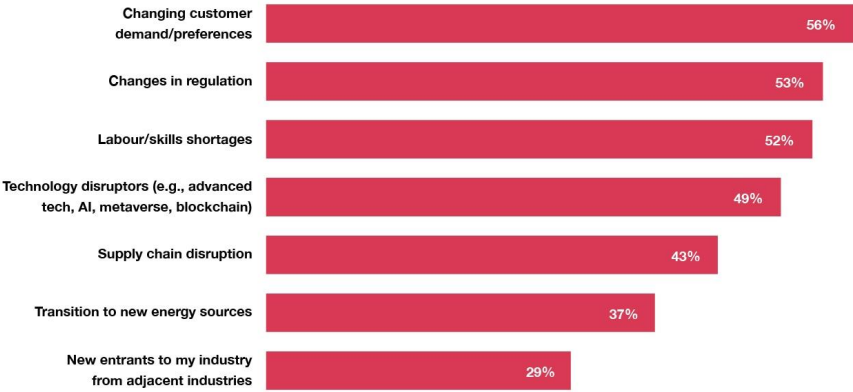
Note


Severity was assessed on a 1-7 Likert scale [1 – Low severity, 7 – High severity].

CEOs see multiple challenges to profitability in their industry

Question: To what extent do you believe the following will impact (i.e., either increase or decrease) profitability in your industry over the next 10 years?

(Showing only 'to a large extent' and 'to a very large extent' responses)

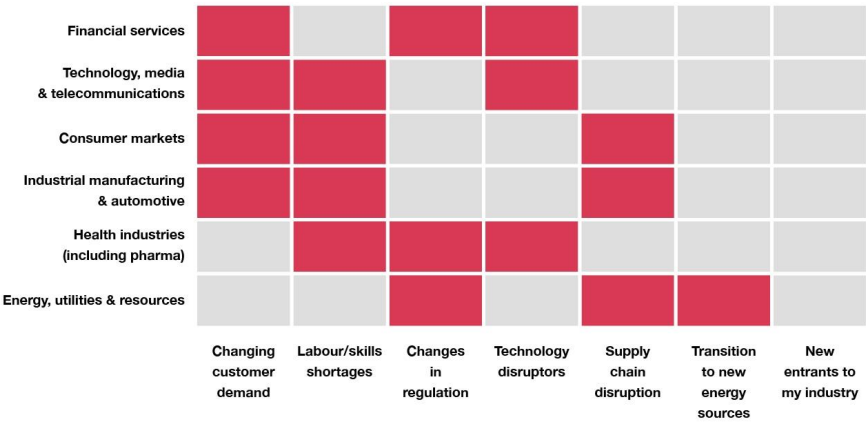


 Source: PwC's 26th Annual Global CEO Survey  
www.ceosurvey.pwc  
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CEOs see multiple challenges to profitability in their industry

Question: To what extent do you believe the following will impact (i.e., either increase or decrease) profitability in your industry over the next 10 years?

(Showing only 'to a large extent' and 'to a very large extent' responses)



Note: Pink squares display the top three disruptors for each industry.  
 Source: PwC's 26th Annual Global CEO Survey  
www.ceosurvey.pwc  
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# Loss of key knowledge

## Internal Assurance Review – Report

Reviewer	Steffi Bird
Purpose of Review	Loss of key knowledge
Date of issue	12 October 2022
Reviewee(s)	People & Capability (primary contact) Democracy Services, Regulatory Solutions and Procurement Teams (user groups)

# 1. Executive Summary

## 1.1. Introduction

This review has been undertaken as part of the Annual Assurance Review Plan, which was agreed upon by the Risk and Assurance Committee.

The enterprise risk 'Loss of key knowledge' aggregates to the strategic risk 'Significant Operational Failure', along with a number of other enterprise risks. It is a risk which traverses the entire organisation and has a high degree of attention currently, due to a buoyant employment market.

The review is supported by the Risk Assurance Charter (PMD-9-1-18-12).

## 1.2. Objective and Scope

The purpose of the review was to assess the effectiveness of the processes and controls in place to manage Hastings District Council's exposure to a loss of key knowledge.

The scope of the review was developed through consideration of the risk's current BowTie Analysis and identification of the critical controls, and discussed with the risk owner before being finalised.

To provide a base for conversations, the following critical controls were used as discussion points with interviewees:

- Use of documentation & procedures relevant to roles
- Management of single points of knowledge
- Wellbeing support, including EAP and flexible working options
- Performance planning, including adequate resourcing and managing poor performance
- Process for ensuring appropriate remuneration levels

As part of the review's fieldwork, meetings were held with the Group Manager: People & Capability, and a selection of third tier managers across the organisation to ensure a representative view of the organisation. The review was undertaken at a high-level view of how the controls were implemented, and did not explore any individual employee situations or employment details.

## 1.3. Overall Assessment

Indicator	Risk Rating	No. of Findings
	High Risk	0
	Medium Risk	1
	Low Risk	2
	Process Improvement	0

The People & Capability (P&C) Group provides a centralised hub to support the management of key knowledge at Hastings District Council, given that in essence, the risk relates to loss of individual employees. A holistic approach is taken to managing a loss of key knowledge ranging from ensuring appropriate remuneration through to wellbeing support, but with the most significant area identified as being the need to eliminate single points of knowledge situations.

At an organisational level, these approaches (controls) led or facilitated by P&C are considered appropriate, however there are parts of the organisation whereby the implementation of these controls is not as effective or robust as intended.

In the case of some of the controls, the establishment of further structure to wrap around these would improve the control environment.

In particular, the review identified that the organisation's approach to wellbeing support for staff is well-rounded and thought out. This includes preventive measures such as a flexible working policy and lunchtime yoga, along with corrective measures like the employee assistance programme (EAP).

Another area considered to be fully effective is the organisation's performance planning system. When the system is utilised by staff and managers, it is a very effective tool for objective planning and career development (training).

Overall, Risk Assurance assessed Council's response to managing a loss of key knowledge as being **substantially effective**.

#### 1.4. Summary of Findings

The following table provides an overview of the findings which had a risk rating of high or medium.

	Review Area	Summary of Recommendation
	Single points of knowledge	Renewed focus on the formal management of known single points of knowledge

Risk Ratings Matrix

		Control Effectiveness			
		Fully Effective	Substantially Effective	Partially Effective	None or Largely Ineffective
Exposure	Low	Process Improvement	Low	Low	Med
	Medium	Process Improvement	Low	Med	High
	High	Process Improvement	Med	High	High

Classification of Internal Control Confidence

Rating	Description
<b>Fully Effective</b>	Control is appropriately planned and designed and is operating as intended to address relevant business risks. The control environment is providing a high level of assurance that business objectives will be achieved.
<b>Substantially Effective</b>	Control is appropriately planned and designed, however there are still additional improvement opportunities in the control environment. The control environment is providing an acceptable level of assurance that business objectives will be achieved.

<b>Partially Effective</b>	Control is not operating as intended or has not been designed appropriately to address the relevant risks. Improvements are required in order to achieve an acceptable level of assurance that business objectives will be achieved.
<b>None or Largely Ineffective</b>	Control not yet in place or is fundamentally deficient in addressing the relevant risk. Control is not contributing to an assurance that business objectives will be achieved.

#### Classification of Exposure

Rating	Description
<b>High</b>	Issue which could cause or is causing major disruption of the process or major adverse effect on the ability of the process to achieve its objectives.
<b>Medium</b>	Issue which could cause or is causing moderate adverse effect on the ability of the process to meet its objectives.
<b>Low</b>	Issue represents a minimal but reportable impact on the ability to achieve process objectives.

#### 1.5. Basis and Use of this Report

This report has been prepared in accordance with the Scoping Statement and subject to the principles set out in our Risk Assurance Charter. The report is written on an exceptions basis and therefore only areas requiring high level management consideration and action are included in this report.



# AMP Improvement Plans

## Internal Review – Report

Reviewer	Regan Smith
Purpose of Review	Effectiveness of AMP Improvement Plans
Date of issue	25 October 2022
Reviewee(s)	Transportation Team Public Spaces and Building Assets Team Solid Waste Team

# 1. Executive Summary

## 1.1. Introduction

This review has been undertaken as part of the Annual Assurance Review Plan, which was agreed upon by the Risk and Assurance Committee.

Asset Management Plans are a critical control within the Infrastructure Service Failure enterprise risk. Council recognises the importance of implementing improvement plans developed through the Asset Management Plan (AMP) process to achieve continuous improvement in asset management planning.

The review is supported by the Risk Assurance Charter (PMD-9-1-18-12).

## 1.2. Objective and Scope

The purpose of the review was to assess the effectiveness of the processes for determining and implementing improvement plans for Council AMPs.

The scope of the review was developed through consideration of the current BowTie risk analysis and identification of the critical controls, which was discussed with the risk owner before being finalised.

The effectiveness of the improvement plan process was evaluated against the following key areas:

- The status of the relevant asset management plans, including whether the plan has been formally endorsed, and the date of next review.
- Review the AMP improvement plans and any associated register.
- Confirm that there is evidence showing how improvement plans are being formally managed and adapted as required.

As part of the review fieldwork, meetings were held with the management teams in the Transport, Parks and Public Spaces, and Solid Waste teams. The review was undertaken as a high-level assessment of the process for implementing improvements to AMPs, and did not consider the adequacy or effectiveness of individual improvement actions.

## 1.3. Overall Assessment

Indicator	Risk Rating	No. of Findings
	High Risk	1
	Medium Risk	2
	Low Risk	1
	Process Improvement	0

It was clear from external reviews of the Council AMPs that improvement in planning practices are being implemented. In particular the Transportation AMP showed marked improvement in the recent assessment by the national Road Efficiency Group.

The main opportunities for improvement identified by this review relate to developing systematic approaches to approving, implementing and monitoring the AMP improvement plans. The main issue being that, while improvements are being made, there is a lack of documentation to track which

actions have been completed and whether those improvements have been effective. It is the Reviewer's observation that asset management planning teams are aware of the importance of improving asset management practices, but have considerable compliance requirements to meet which take priority over improvement plan actions. Therefore, a system is needed that gives focus to improvement plans between the tri-annual Long Term Plan cycles.

#### 1.4. Summary of Findings

The following table provides an overview of the findings which had a risk rating of high or medium.

	Review Area	Summary of Recommendation
	<b>Improvement Plan Implementation &amp; Action Tracking</b>	No formal process was found for allocating, tracking progress or documenting completion of improvement plan actions.
	<b>Approval and Version Control of Improvement Plans</b>	The process for approving AMP Improvement plans, or authorising changes to improvement plans, is not clear. There is also a lack of formal records in the Content Management system of each approved plan that forms part of each LTP.
	<b>Improvement Plan Business Reporting</b>	No formal process was found for management oversight of improvement plans, or reviewed the effectiveness of improvement actions.

#### 1.5. Basis and Use of this Report

This report has been prepared in accordance with the Scoping Statement and subject to the principles set out in our Risk Assurance Charter. The report is written on an exceptions basis and therefore only areas requiring high level management consideration and action are included in this report.

Risk Ratings Matrix

		Control Effectiveness			
		Fully Effective	Substantially Effective	Partially Effective	None or Largely Ineffective
Exposure	Low	Process Improvement	Low	Low	Med
	Medium	Process Improvement	Low	Med	High
	High	Process Improvement	Med	High	High

Classification of Internal Control Confidence

Rating	Description
<b>Fully Effective</b>	Control is appropriately planned and designed and is operating as intended to address relevant business risks. The control environment is providing a high level of assurance that business objectives will be achieved.
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Classification of Exposure

Rating	Description
<b>High</b>	Issue which could cause or is causing major disruption of the process or major adverse effect on the ability of the process to achieve its objectives.
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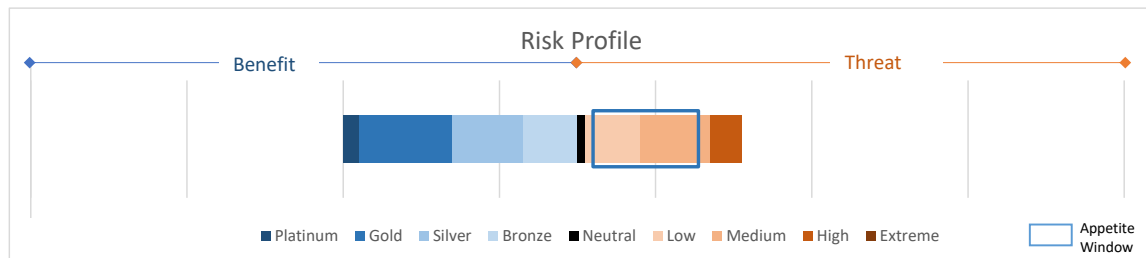
## Three Waters Reform Transition Project Risk Profile

**Name:** 3 Waters Reform Transition

**Focus Area:** Core Services

**Risk Appetite:** Conservative

**Objective:** Transition of 3 Waters services to newly established Water Agencies by June 2024 without compromising delivery of water services to the community.



### Expected Benefits/Opportunities:

Benefit	Benefit Description	Dependencies	Impact	Likelihood
Platinum	<b>Stronger service partner</b>	Agencies have greater capacity to meet normal business and emergency needs.	Substantial	Likely
Gold	<b>Reduced service responsibilities</b>	Full transition of water services to external Agencies	Major	Likely
Silver	<b>More service innovation</b>	Agencies able to lead service improvements in the region.	Major	Possible

### Outcome Risk Assessment

Risk	Description	Controls	Impact	Likelihood
High	<b>Inability to deliver growth plans.</b>	Future Growth team established. Focus on delivering initial plan.	Severe	Possible
High	<b>Insufficient water capacity for future needs/growth.</b>	Water demand management plan focused on modelling water conservation	Severe	Rare
Medium	<b>Service delivery &amp; funding gaps resulting in service interruption or funding shortfall.</b>	Transition team monitoring	Major	Possible
Medium	<b>Unexpected Liabilities for infrastructure decisions or environmental damage.</b>	Transition team monitoring	Moderate	Likely
Medium	<b>Limited debt transfer resulting in Council servicing more ongoing debt than expected.</b>	GM Asset Management and GM Corporate monitoring	Moderate	Likely

### Delivery Risk Assessment

Risk	Description	Controls	Impact	Likelihood
High	<b>Change in Government priorities</b>	Transition team monitoring	Moderate	Probable
High	<b>Protracted transition causing cost increases or poor service.</b>	Transition team monitoring	Moderate	Probable
Medium	<b>Loss of staff from water and non-water teams</b>	Transition team monitoring	Moderate	Likely
Medium	<b>Lack of consultancy market capacity due to level of DIA engagements</b>	Transition team monitoring	Moderate	Likely
Medium	<b>Lack of regional alignment not providing a unified transition approach</b>	Transition team monitoring	Moderate	Possible




## Risk Profile Details

This table provides further detail relating to risk listed in the Three Waters Reform Transition Project Risk Profile.

Risk Type	Risk Profile Item	Event and outcome	Extent of Control	Mitigation measure	Status
Service provision	Loss of Staff	Staff overwhelmed or distracted by transition workload leads to an incident.	Control	Increase resources available to do work – employees, secondments and consultants/retainers	Started, still being developed
Service provision	Loss of Staff	Staff get disenfranchised by uncertainty and leave water sector	Influence only	Keep informed. Ensure work conditions and culture as attractive as possible.	Ongoing
Service Provision	Loss of Staff	Valuable HDC non-3W staff move to entity because of larger organisation opportunity.	Influence only	Focus on providing good working conditions.	Watching brief
Service provision	Inability to deliver growth plans	Future growth provisions not met because Entity doesn't provide right infrastructure because not required to under National Planning Framework	Influence only	Submitted to select committee through LGNZ and Taituara.	Done
Service Provision	Service delivery & funding gaps	Roading, Parks, Building and Regulatory services compromised post transition because interface with entity doesn't have well defined processes, roles and responsibilities.	Control & influence	Define HDC needs and processes, and ensure they are covered in the Relationship Agreement with Entity.	Interfacing project underway (external resource)
Service Provision	Inability to deliver growth plans	Post transition, Hastings systems don't get enough non-growth investment because other areas need it more, leading to decrease in level of service for community	Influence	Ensure 30yr forecast and supporting business cases are as robust as possible for renewals.	Limited ability to put in Annual Plan currently.
Financial	Service delivery & funding gaps	Stranded overheads post transition not able to be absorbed or shed.	Control	Consider regional delivery options.	Underway: Morrison Low project
Financial	Inability to deliver growth plans	HDC ends up losing land it wants to keep (eg. Waiaroha) or keeping land it would be more appropriate to transfer (stormwater paths with little community amenity)	Influence	Provide resource for, and prioritise the preparation and negotiations for the allocation schedule.	Underway internally, yet to start negotiations
Financial/ Service Provision & Public Relations	Protracted transition	Can't recoup costs for ongoing service and data provision after transition if SLA not well drafted – eg. SCADA services to remain in HDC, but staff transfer. HDC staff distracted by transition work and community confusion may lead to service and reputation impacts.	Control	Resource the drafting of the Relationship Agreement and SLAs to make sure well scoped, and roles and responsibilities defined. Comms well-resourced pre and post transition	Identified. Drafting yet to start
Political	Lack of regional alignment	Relationship between entity and mana whenua not as robust as with HDC and relationship with mana whenua is compromised in other service areas.	Influence	Make sure arrangements in consents where possible	Underway
Public relations	Service delivery & funding gaps	Customers / Ratepayers dissatisfied with change in service and reflects negatively on HDC if questions can't be answered.	Control	Concentrated comms program in last few months before transfer	To be done closer to time



 <b>HASTINGS</b> DISTRICT COUNCIL	<b>Health, Safety and Wellbeing Objectives 2023-2025</b>
Goals	Measure
Promote Health, Safety & Wellbeing through <b>active leadership</b> .	<ul style="list-style-type: none"> <li>• In 2023, set targets for leadership engagement activities (interactions, conversations, inspections) for all managers and team leaders, for the next three financial years.               <ul style="list-style-type: none"> <li>○ Track the percentage of managers and team leaders meeting these targets.</li> <li>○ Analyze the data from these engagement activities, for any trends and opportunities for improvement.</li> </ul> </li> <li>• Utilising the recognition system, track the number of recognition awards given to staff by Senior Managers (Lead Team &amp; Third Tier) for excellence in Health, Safety and Wellbeing.</li> </ul>
Continue to drive a culture of <b>early reporting</b> in order to prevent workplace injuries and illnesses.	<ul style="list-style-type: none"> <li>• In 2023, review and set lead indicator measures for the next three financial years.               <ul style="list-style-type: none"> <li>○ Regularly track and report on agreed lead indicator measures across each financial year.</li> <li>○ Analyze the data for any trends and opportunities for improvement.</li> </ul> </li> </ul>
Foster a <b>wellbeing culture</b> for Council staff in order to proactively manage the health and wellbeing risks associated with work tasks, activities and pressures.	<ul style="list-style-type: none"> <li>• Review and consolidate wellbeing related policies into an overarching 'Mauri tū Mauri ora' (Wellbeing) Framework               <ul style="list-style-type: none"> <li>○ Develop 'real world' tools to assist staff with wellbeing risks;</li> <li>○ Further develop a wellbeing awareness and training programme and roll-out to the organisation.</li> </ul> </li> <li>• Continue to support staff working remotely (from home) and further develop resources to assist.</li> <li>• Undertake regular staff engagement surveys to gauge the effectiveness of the Mauri tū Mauri ora Framework</li> </ul>
Engage with contractors to development a Health and Safety culture that encompasses all workers whom undertake work for Council.	<ul style="list-style-type: none"> <li>• Engage with Contractors to foster positive Health, Safety &amp; Wellbeing outcomes               <ul style="list-style-type: none"> <li>○ Set clear expectations regarding worker behaviours, overlapping legal duties and leading and lagging indicator reporting expectations.</li> </ul> </li> <li>• In 2023, set targets for managers and staff whom engage with contractors (interactions, inspections, audits)               <ul style="list-style-type: none"> <li>○ Track the percentage of staff meeting these targets.</li> <li>○ Analyze the data from these engagement activities, for any trends and opportunities for improvement.</li> <li>○ Track the percentage of corrective actions arising from contractor observations, inspections and audits that are completed on time.</li> </ul> </li> <li>• Continue to regularly report on term contracts (minimum 12 months duration) that have significant Health and Safety risk to Council (i.e. those involving critical Health and Safety risks), and track the Health and Safety performance on these contracts.</li> </ul>

Approved HSW Objectives 2023-2025

2 February 2023

CM ref: HR-03-5-1-23-26



# HDC Health, Safety & Wellbeing Critical Risk Profile #1: Conflict and Violence

Risk Title: Conflict and Violence

<b>Risk Description</b>	Exposure to verbal and physical abuse.	<b>Inherent risk level</b>	High
<b>What do we know about this risk in our business</b>	Council operates a large number of facilities with high numbers of staff in customer or public facing roles. Acts of violence can result in physical injury and conflict situations involving threats/ intimidating behaviour or sustained harassment, can cause damaging psychological effects, including the loss of morale, confidence and long-term psychological harm.	<b>Residual risk level</b>	High
<b>What we know about this risk in our operating environment</b>	Acts of aggression or harassment (verbal/physical/online) and/or violence from customers and the community are an increasing threat to Council workers.	<b>Is this risk within tolerance</b>	Yes
<b>Our organisational objectives potentially impacted by this risk</b>	Health, Safety & Wellbeing	<b>Our confidence in control</b>	Moderate
<b>Risk Owner</b>	Chief Executive		
<b>Risk Expert</b>	Health, Safety & Wellbeing Manager		

Key Risk Event:

Causes	Potential Consequences / Impacts
<p>The following could lead to an event:</p> <ul style="list-style-type: none"> <li>Regulatory Interactions (delivery of negative information to customers or public).</li> <li>Denial of service or entry to a facility.</li> <li>Poor service delivery (real or perceived).</li> <li>Workers encountering anti-social event and their perceived duty to intervene.</li> <li>Random unprovoked outburst from a customer or member of public due to their own personal situation.</li> </ul>	<p>Potential impacts:</p> <ul style="list-style-type: none"> <li>Physical harm causing injury or death</li> <li>Mental wellbeing harm causing serious illness or disability</li> <li>Legal prosecution</li> <li>Reputational Damage</li> <li>Financial loss</li> <li>Disruption /Loss of services</li> <li>Property damage</li> <li>High turnover of staff</li> <li>Loss of key staff</li> <li>Damaged relationship with regulator</li> </ul>

## HDC Health, Safety & Wellbeing Critical Risk Profile #1: Conflict and Violence

Brief Control Description	Further Information about Control	Control in place & Working?
Council Policies & Procedures	<ul style="list-style-type: none"> <li>• Policies and procedures for Employees</li> <li>• Facility Entry Protocols</li> </ul>	Yes
Training for Council staff	<ul style="list-style-type: none"> <li>• Induction &amp; on boarding programme for staff. Including role specific training and wellbeing workshops</li> <li>• Safety training for front line and at risk staff in: customer services, conflict resolution, mental health matters, emergency response, first aid</li> </ul>	Yes
Safety Equipment	Provision of safety equipment such as radios, duress alarms, lone worker devices, building alarms, CCTV	Partially
Design of facilities	Security features & CPTED techniques incorporated into the design of facilities	Partially
Staffing and Work design	<ul style="list-style-type: none"> <li>• Dedicated security roles.</li> <li>• Safety incorporated into the design of positions and work tasks.</li> <li>• Setting of appropriate staffing levels.</li> </ul>	Partially
Psychological Support	Provision of support services for staff, such as: Professional Supervision, Employee Assistance Programme, Occupational Health Nurse, Health, Safety & Wellbeing Team, Wellbeing initiatives.	Partially

<b>Engagement and communication</b>		<ul style="list-style-type: none"> <li>• Regular engagement with staff through team meetings and training sessions.</li> <li>• Policies and procedures communicated to staff electronically and in-person.</li> </ul>	
<b>Additional resource required</b>	<ul style="list-style-type: none"> <li>• Recommend an independent security audit of facilities by a specialised Security auditor. (Previous review undertaken in 2017).</li> </ul>	<b>Monitoring this risk</b>	<ul style="list-style-type: none"> <li>• Regular review of reporting within RiskManager</li> <li>• Review and discussion of risk control measures within safety committees.</li> <li>• Annual Facility Inspections.</li> </ul>