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Executive summary

Purpose of this paper

- X1 The purpose of this paper is to consult on our proposed framework (**IM review framework**) for reaching decisions on the input methodologies review we commenced on 23 February 2022 (**IM Review**).¹
- X2 The IM Review offers an important opportunity to work with the sector, consumers, and other government agencies to consider issues, risks and opportunities in the energy and airports sectors and to review the role that our regulatory settings can play in helping regulated entities deliver the right outcomes for Aotearoa New Zealand.
- X3 We now have more than a decade's experience with setting, implementing, reviewing and amending IMs under our regulatory regime. This IM Review occurs during a period of change for the energy and airport sectors, particularly in relation to the impacts of climate change, the transition to a low carbon economy, and the ongoing impact of COVID-19. Changes to consumer preferences, technology, and government policy are all expected to also affect these sectors in the short to medium term. Our IM review framework allows us to take account of these dynamic factors within the overall purposes of the Part 4 regime.
- X4 We invite submissions on our proposed IM review framework by 27 June 2022. We intend to publish the submissions, and we will then invite cross submissions on those submissions by 20 July 2022.

Context for the IM Review

- X5 Part 4 of the Commerce Act 1986 (**Act**) provides for the regulation of the price and quality of goods or services in markets where there is little or no competition and little or no likelihood of a substantial increase in competition.²
- X6 The central purpose of regulating the price and quality of goods or services in these markets is to promote the long-term benefit of consumers of those goods and services.³
- X7 The following services are currently regulated by Part 4:
- X7.1 electricity lines services;

¹ [Notice of Intention – 23 February 2022 – Input Methodologies Review 2023 \(notice of intention\)](#).

² Section 52 of the Act.

³ Section 52A.

- X7.2 gas pipeline services; and
- X7.3 specified airport services.
- X8 Input methodologies (**IMs**) are the upfront rules, processes and requirements of Part 4 regulation. IMs are used in setting information disclosure (**ID**) and price-quality (**PQ**) regulatory determinations. The purpose of IMs, set out in section 52R of the Act, is to promote certainty for suppliers and consumers in relation to the rules, requirements and processes applying to Part 4 regulation. IMs apply to all suppliers of electricity lines services (including Transpower New Zealand Limited (**Transpower**)), gas pipeline services, and specified airport services.
- X9 We first determined the IMs in 2010, with the exception of the IMs for Transpower's capital expenditure proposals (**Capex IM**), which we determined in January 2012.
- X10 The Act requires us to review all IMs no later than 7 years after their publication and, after that, at intervals of no more than 7 years.⁴ In practice, this means we will review every IM policy decision and the implementation of each decision in the relevant IM determination(s). In respect of each IM policy decision we review, we may decide to:
- X10.1 amend the associated IMs;
- X10.2 replace those IMs;
- X10.3 amend or replace those IMs at a later point; or
- X10.4 make no amendments to those IMs.
- X11 We substantially completed our first review of the IMs in December 2016 (**2016 IM review**). We deferred decisions on certain areas of the 2016 IM review to 2017 – specifically, on the Transpower Incremental Rolling Incentive Scheme (**IRIS**) to June 2017, on the customised price-quality path (**CPP**) information requirements for gas to December 2017, and on the related party transaction provisions for electricity distribution businesses (**EDBs**) and gas distribution/ transmission businesses to December 2017. We also completed our review of Transpower's Capex IM in May 2018.
- X12 We commenced the current review of IMs on 23 February 2023 by issuing a notice of intention, outlining the process the review will follow and the proposed timeframes.⁵

⁴ Section 52Y(1) of the Act.

⁵ Notice of intention, above n 1.

- X13 This document describes the proposed IM review framework we will apply in reaching our decisions. This consists of two main components:
- X13.1 the decision-making framework, which describes how we propose to decide whether and how to amend the IMs; and
 - X13.2 the key economic principles, which guide how we might best promote the Part 4 purpose.

The IM review framework

The framework has not materially changed since the 2016 IM review

- X14 The IM review framework we propose to use for the IM Review is substantially the same as the framework we developed and applied for the 2016 IM review,⁶ though we have reconsidered it in light of developments discussed in this paper.
- X15 Many interested parties will already be familiar with the framework from the 2016 IM review, and we consider using it here will promote consistency and certainty as to our decision making in this IM review.
- X16 There are two main conceptual elements to the IM review framework:
- X16.1 **Review element:** reviewing the IMs and identifying which IMs we should consider changing and why; and
 - X16.2 **Change element:** deciding whether, and if so how, to change an IM after completing the review element.
- X17 In practice, these two conceptual elements may overlap to an extent – in substance and in sequence – as we conduct the IM Review.

Three overarching objectives underpin our decision-making in the IM Review

- X18 In identifying which IMs to consider changing, and in reaching decisions on changing IMs, we are guided by three overarching objectives for the IM Review. We propose to only change the IMs if it appears likely to meet one or more of the overarching objectives. The three overarching objectives for the IM Review are as follows:
- X18.1 promoting the Part 4 purpose in section 52A more effectively;
 - X18.2 promoting the IM purpose in section 52R more effectively (without detrimentally affecting the promotion of the section 52A purpose); and

⁶ [Commerce Commission “Input methodologies review decisions – Framework for the IM Review” \(20 December 2016\) \(2016 IM review framework\)](#).

- X18.3 significantly reducing compliance costs, other regulatory costs, or complexity (without detrimentally affecting the promotion of the section 52A purpose).
- X19 In testing a proposed IM decision against the overarching objectives:
- X19.1 in the case of the first and third objectives in paragraph X18, we will have regard to whether the proposed decision promotes the section 52R IM purpose more or less effectively than the relevant IM in providing certainty for regulated suppliers and consumers in relation to the rules, requirements, and processes applying to regulation under Part 4;
- X19.2 where we consider it relevant and consistent with promoting the section 52A purpose of Part 4, we may have regard to:
- X19.2.1 whether there are alternative ways to address the identified issues with the relevant IM that do not involve changing the IMs as part of the review;
- X19.2.2 the permissive considerations under section 52N of the Climate Change Response Act 2002 (**CCRA**);⁷ and
- X19.2.3 other Part 4 provisions, namely:
- (A) the purpose of ID (section 53A);
 - (B) the purpose of default/customised price-quality regulation (**DPP/CPP regulation**) (section 53K);
 - (C) requirements relating to energy efficiency (section 54Q);
 - (D) decisions made under the Electricity Industry Act 2010 (section 54V); and
 - (E) decisions under the Gas Act 1992 (section 55I).
- X20 Promoting the purpose of Part 4 under section 52A is at the forefront of our decision-making – both in considering which IMs to change and in reaching decisions on changing IMs. The other purpose statements and provisions of Part 4 are relevant matters but should be applied consistently with section 52A.⁸

⁷ [Commerce Commission “Default price-quality paths for gas pipeline businesses from 1 October 2022 – Draft reasons paper” \(10 February 2022\) \(Gas DPP3 draft decision\)](#), at paras 2.24-2.25.

⁸ *Unison Networks Ltd v Commerce Commission* [2007] NZSC 74, [2008] 1 NZLR 42 (**Unison v Commerce Commission**), at paras 50 and 53. We note too that the High Court in *Wellington International Airport Ltd & others v Commerce Commission* [2013] NZHC 3289 (**IM merits appeal**), at para 165, considered that the purpose of IMs, set out in section 52R of the Act, is “conceptually subordinate” to the purpose of Part 4 as set out in section 52A when applying the “materially better” test.

Key economic principles

X21 Three key economic principles provide guidance on how we might best promote the purpose of Part 4 under section 52A, through our decisions. The economic principles can also help promote regulatory predictability by signalling how we are likely to approach relevant decisions. However, they do not amount to a ‘regulatory compact’ and they do not take precedence over the statutory purposes and provisions of Part 4. Moreover, if a principle ceases to be consistent with the section 52A purpose of Part 4, we will not continue to apply that principle.

X22 These three key economic principles are:

- X22.1 **Ex-ante real financial capital maintenance (FCM):** we provide regulated suppliers the *ex-ante* expectation of earning their risk-adjusted cost of capital (ie, a ‘normal return’), and of maintaining their financial capital in real terms over timeframes longer than a single regulatory period. This maintains incentives to invest in line with section 52A(1)(a) of the Act. However, PQ regulation does not guarantee a normal return over the lifetimes of a regulated supplier’s assets. Suppliers’ exposure to various risks will also differ depending on the applicable IMs and price-quality path settings, thereby affecting *ex-post* returns;
- X22.2 **Allocation of risk:** ideally, we allocate risks to suppliers or consumers depending on who is best placed to manage the risk, unless doing so would be inconsistent with section 52A. In line with section 52A(1)(a) and (b), appropriate risk allocation and, where relevant, appropriate compensation for the risks carried, maintains incentives to invest and promotes efficient behaviour; and
- X22.3 **Asymmetric consequences of over-/under-investment:** we apply FCM recognising any asymmetric consequences to consumers of regulated services, over the long term, of under-investment versus over-investment. This maintains incentives to invest in the service quality that consumers demand, in line with section 52A(1)(a) and (b).

Chapter 1 Introduction

Purpose of this paper

- 1.1 The purpose of this paper is to explain our IM review framework, encompassing:
 - 1.1.1 the decision-making framework that we propose to apply in reaching our decisions; and
 - 1.1.2 the key economic principles we propose to apply in reaching our decisions.

Structure of this paper

- 1.2 Following this introductory chapter, Chapter 2 explains the relevant statutory context for the IM Review.
- 1.3 Chapter 3 of this paper presents the decision-making framework and describes the types of questions we will consider in reviewing the IMs and deciding whether and how to change the IMs.
- 1.4 The final chapter of this paper, Chapter 4, discusses the three key economic principles that will guide us in giving effect to the Part 4 purpose in our decision-making in the IM Review.

How you can provide your views

Submissions on this paper

- 1.5 We welcome your views on this paper by 5pm on **Monday, 27 June 2022**. We will publish public versions of submissions we receive by **Wednesday, 6 July 2022**, and invite cross-submissions on those submissions by 5pm on **Wednesday, 20 July 2022**.

Submissions via our website

- 1.6 We prefer submissions in both a format suitable for word processing (such as a Microsoft Word document), as well as a 'locked' format (such as a PDF) for publication on our website.

Confidentiality

- 1.7 The protection of confidential information is something the Commission takes seriously. To continue to protect confidential submissions, we require you to upload your submission via the form on the project page. The process requires you to provide (if necessary) both a confidential and non-confidential/public version of your submission and to clearly identify the confidential and non-confidential/public versions.
- 1.8 When including commercially sensitive or confidential information in your submission, we offer the following guidance:

- 1.8.1 Please provide a clearly labelled confidential version and public version. We intend to publish all public versions on our website.
- 1.8.2 The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.
- 1.8.3 Please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before any disclosure is made.

Chapter 2 Statutory context for the IM review framework

Purpose of this chapter

- 2.1 The purpose of this chapter is to set out the relevant statutory context for the IM review framework.

The Part 4 regime

The Part 4 purpose

- 2.2 Part 4 of the Act provides for the regulation of the price and quality of goods or services in markets where there is little or no competition and little or no likelihood of a substantial increase in competition.⁹
- 2.3 Section 52A of the Act sets out the purpose of Part 4:
- (1) The purpose of this Part is to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services—
- (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
 - (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
 - (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and
 - (d) are limited in their ability to extract excessive profits.
- 2.4 The key direction in section 52A is that we are to promote the long-term benefit of consumers in markets for regulated services, and this is our primary concern in achieving the purpose of Part 4. Section 52A provides that this is to be achieved by promoting outcomes that are consistent with outcomes produced by workably competitive markets,¹⁰ and gives us four outcomes to pursue under subsection (1)(a) to (d) that are consistent with those of workably competitive markets.

⁹ Section 52 of the Act.

¹⁰ Under section 3(1) of the Act, ‘competition’ means “workable or effective competition”. ‘Workable competition’ was explained by the High Court in IM merits appeal, above n 8, at paras 18-22.

- 2.5 The High Court has confirmed that the relevant consumers whose interests we must promote are the consumers of regulated services; and that it is their interests as consumers of the regulated services, rather than as participants in New Zealand's wider economy, that must be promoted.¹¹ In our view, consumers may be direct or indirect acquirers of regulated services.
- 2.6 We promote the interests of consumers of the regulated service by promoting the section 52A(1)(a)-(d) outcomes consistent with what would be produced in a workably competitive market.¹² Our focus is not on replicating all potential outcomes of workably competitive markets *per se*, but rather, with specifically promoting the section 52A(1)(a)-(d) outcomes for the long-term benefit of consumers consistent with the way those outcomes are promoted in workably competitive markets.
- 2.7 Our view is that the outcomes in paragraphs (a) to (d) are integral to promoting the long-term benefit of consumers and reflect key areas of supplier performance that characterise workable competition. None of the outcomes is paramount and,¹³ further, the outcomes are not separate and distinct from each other, or from section 52A(1) as a whole. Rather, we must balance them,¹⁴ and must exercise judgement in doing so. When exercising this judgement, we are guided by what best promotes the long-term benefit of consumers.¹⁵
- 2.8 In giving effect to the section 52A purpose statement or considering whether an IM gives effect to section 52A, we recognise that certain key economic principles (which we discuss in Chapter 4) can be useful analytical tools.

Who is subject to Part 4 regulation?

- 2.9 Suppliers of the following services are subject to Part 4 regulation on the basis that they face little or no competition and little or no likelihood of a substantial increase in competition:

¹¹ IM merits appeal, above n 8, at para 222.

¹² Above n 8, at paras 25-27.

¹³ At para 684.

¹⁴ At para 684.

¹⁵ See the discussion of our decision to adopt of the 75th percentile for WACC in above n 8, at paras 1391-1492.

2.9.1 **Electricity lines services:**¹⁶ Electricity lines services are defined in section 54C of the Act as meaning the conveyance of electricity by line in New Zealand and as including services performed by Transpower as system operator.¹⁷ Electricity lines services are provided by three groups of suppliers:

- (A) Transpower – which is subject to ID regulation and individual price-quality (**IPP**) regulation;
- (B) sixteen non-exempt EDBs – which are subject to ID regulation and DPP/ CPP regulation;¹⁸ and
- (C) thirteen exempt EDBs – which are subject to ID regulation only.¹⁹

2.9.2 **Gas pipeline services:**²⁰ Gas pipeline services means the conveyance of natural gas by pipeline and includes the assumption of responsibility for losses of natural gas.²¹ Small scale conveyance is excluded from the definition (and Part 4 regulation), as are gas pipelines listed in Schedule 6 of the Act. There are currently four regulated gas distribution businesses and one gas transmission business, which provide gas pipeline services as defined in section 55A and are accordingly subject to Part 4 regulation. All are subject to ID and DPP/ CPP regulation.

2.9.3 **Suppliers of specified airport services:**²² Specified airport services are defined in section 56A as meaning all the services supplied by Auckland International Airport Ltd, Wellington International Airport Ltd, and Christchurch International Airport Ltd in markets relating to airfield, aircraft, freight and specified passenger terminal activities. These airports are subject to ID regulation only.

How are these suppliers regulated?

2.10 Part 4 regulatory control involves a two-step process which requires us:

¹⁶ Section 54E of the Act.

¹⁷ Section 54C.

¹⁸ Sections 54F and 54G.

¹⁹ Thirteen of the 29 EDBs in New Zealand are currently exempt from PQ regulation on the basis that they meet the Act's definition of 'consumer-owned'. See sections 54D, 54F and 54G of the Act.

²⁰ Section 55B.

²¹ Section 55A.

²² Section 56B.

- 2.10.1 first, to determine IMs that will be of general application to the supply of the relevant services;²³ and
- 2.10.2 second, under section 52S, apply those IMs to determine under section 52P the actual regulatory controls – PQ regulation and ID regulation – to which each regulated supplier will be subject.

The role of IMs in Part 4 regulation

- 2.11 IMs are the upfront rules, processes and requirements of Part 4 regulation.²⁴ Section 52C defines ‘input methodology’ as:

a description of any methodology, process, rule or matter that includes any of the matters listed in section 52T and that is published by the Commission under section 52W; and in relation to particular goods and services, means any input methodology, or all input methodologies, that relate to the supply, or to suppliers, of those goods or services.

- 2.12 Section 52T(1) specifies the IMs we must determine:²⁵

52T Matters covered by input methodologies

- (1) The input methodologies relating to particular goods or services must include, to the extent applicable to the type of regulation under consideration,—
- a) methodologies for evaluating or determining the following matters in respect of the supply of the goods or services:
 - (i) cost of capital:
 - (ii) valuation of assets, including depreciation, and treatment of revaluations:
 - (iii) allocation of common costs, including between activities, businesses, consumer classes, and geographic areas:²⁶
 - (iv) treatment of taxation; and
 - b) pricing methodologies, except where another industry regulator (such as the Electricity Authority) has the power to set pricing methodologies in relation to particular goods or services; and
 - c) regulatory processes and rules, such as —

²³ Sections 52U(1) (prior to its repeal) and 52T of the Act.

²⁴ Sections 52C and 52R of the Act.

²⁵ This is except for the input methodology for Transpower’s capital expenditure proposals, the requirements for which are specified under section 54S.

²⁶ Under section 52T(3), any methodologies referred to in subsection (1)(a)(iii) must not unduly deter investment by a supplier of regulated goods or services in the provision of other goods or services.

- (i) the specification and definition of prices, including identifying any costs that can be passed through to prices (which may not include the legal costs of any appeals against input methodology determinations under this Part or of any appeals under section 91 or section 97); and
 - (ii) identifying circumstances in which price-quality paths may be reconsidered within a regulatory period; and
- d) matters relating to proposals by a regulated supplier for a customised price-quality path, including—
- (i) requirements that must be met by the regulated supplier, including the scope and specificity of information required, the extent of independent verification and audit, and the extent of consultation and agreement with consumers; and
 - (ii) the criteria that the Commission will use to evaluate any proposal.

2.13 Section 52T(2) specifies that, as far as is reasonably practicable, every IM must:

- 2.13.1 set out the matters listed in subsection (1) in sufficient detail so that each affected supplier is reasonably able to estimate the material effects of the methodology on the supplier;
- 2.13.2 set out how we intend to apply the input methodology to particular types of goods or services; and
- 2.13.3 be consistent with the other input methodologies that relate to the same type of goods or services.

2.14 The purpose of IMs, set out in section 52R of the Act, is to promote certainty for suppliers and consumers in relation to the rules, requirements and processes applying to regulation. To that end, IMs as far as is reasonably practical, set out relevant matters in sufficient detail so each affected supplier is reasonably able to estimate the material effects of the methodology on the supplier. In that way, IMs constrain our evaluative judgements in subsequent regulatory decisions and enhance predictability.²⁷

2.15 However, some uncertainty remains inevitable.²⁸ As the Court of Appeal observed in *Commerce Commission v Vector Ltd*, “certainty is a relative rather than an absolute value”,²⁹ and:³⁰

²⁷ *Vector Ltd v Commerce Commission* [2012] NZSC 99, [2013] 2 NZLR 445, at paras 2 and 64.

²⁸ IM merits appeal, above n 8, at para 214.

²⁹ *Commerce Commission v Vector Ltd* [2012] NZCA 220, at para 34.

³⁰ Above n 29, at para 60.

... there is a continuum between complete certainty at one end and complete flexibility at the other. The question is where Parliament has drawn the line. Clearly Parliament did not accord the Commission absolute flexibility, nor did it require absolute certainty in the regulatory regime. The requirement for the publication of input methodologies was intended to promote certainty in relation to the matters dealt with in section 52T(1). Against that framework, however, the Commission still has to make regulatory decisions, including as to price resetting under section 53P(3)(b). Parliament must have considered that, as the Commission does so, further certainty will emerge. Moreover, the Commission's extensive consultation obligations under Part 4 are also likely to produce further certainty over time.

- 2.16 The section 52R purpose is thus primarily promoted by having the rules, processes and requirements set upfront, prior to being applied by suppliers or ourselves. However, as recognised in sections 52X and 52Y, these rules, processes and requirements may change over time.

IMs must be reviewed every seven years

- 2.17 Section 52Y(1) of the Act requires us to review each IM no later than seven years after its date of publication and, after that, at intervals of no more than seven years. Within that period, IMs can be amended in accordance with section 52X. Such IM amendments are made independently of a review under section 52Y(1), though we can conduct a section 52Y review earlier within the seven-year period.
- 2.18 The powers to review and amend the IMs must be used to promote the policy and objectives of the Act as ascertained by reading the Act as a whole.³¹ At times there will be a tension between making IM changes to improve the regime and better promote the section 52A purpose on the one hand, and certainty on the other.
- 2.19 It is clear that Parliament saw the promotion of certainty as being important to the achievement of the purpose of Part 4. This is to an extent implicitly inherent in section 52A (for example, providing regulated suppliers with incentives to invest in accordance with section 52A(1)(a) requires recognition of the role that predictability plays). It is also expressed in the section 52R IM purpose, in section 52T, and in other aspects of the regime.³²
- 2.20 When considering proposed IM changes, we must therefore be mindful of the importance of:
- 2.20.1 predictability, which plays a role in providing suppliers with incentives to invest in accordance with section 52A(1)(a); and
 - 2.20.2 the IMs' role in promoting certainty.

³¹ *Unison v Commerce Commission*, above n 8, at para 53.

³² For further discussion, IM merits appeal, above n 8, at paras 213-221.

- 2.21 In undertaking the IM Review, we must ultimately make decisions that we consider promote the section 52A purpose of Part 4, which governs all of our decision-making under Part 4, including our IM decisions. In practice, this means:
- 2.21.1 the other purpose statements within Part 4 (including the section 52R IM purpose) are relevant matters, but they should be applied consistently with section 52A;³³ and
 - 2.21.2 when making our decisions we must only give effect to these other purposes to the extent that doing so does not detract from our overriding obligation to promote the section 52A purpose of Part 4.

Other Part 4 provisions may play a supporting role in the IM decision-making framework

- 2.22 Several other Part 4 provisions may play a secondary, supporting role alongside the section 52A purpose of Part 4 and section 52R IM purpose in informing our decisions in the IM Review. These include:
- 2.22.1 the purpose of ID (section 53A);
 - 2.22.2 the purpose of DPP/CPP regulation (section 53K);
 - 2.22.3 requirements relating to energy efficiency (section 54Q);
 - 2.22.4 decisions made under the Electricity Industry Act 2010 (section 54V); and
 - 2.22.5 decisions under the Gas Act 1992 (section 55I).
- 2.23 The extent to which these provisions feature in our decision-making framework will depend on the nature of the IM and the proposed decision in question.
- 2.24 Section 54Q requires us to promote incentives, and avoid imposing disincentives, for suppliers of electricity lines services to invest in energy efficiency and demand side management, and to reduce energy losses, when applying Part 4 in relation to electricity lines services.

³³ *Unison v Commerce Commission*, above n 8, at paras 50-53. We note too that the High Court in the IM merits appeal, above n 8, at para 165, considered that the purpose of IMs, set out in section 52R of the Act, is "conceptually subordinate" to the purpose of Part 4 as set out in section 52A when applying the "materially better" test.

- 2.25 Several submitters on our *Open letter—ensuring our energy and airports regulation is fit for purpose* of 29 April 2021, and contributors in our December 2021 workshop on the impact of decarbonisation on electricity lines services, emphasised to us the importance of section 54Q to our regulatory regime and decision making under Part 4.³⁴
- 2.26 We agree we must give effect to section 54Q in our decision-making on the IM Review, however, we must do so in a manner that is consistent with promoting the outcomes of the section 52A purpose of Part 4.³⁵

We may take into account the permissive considerations under section 5ZN of the CCRA where it is consistent with promoting the purpose of Part 4

- 2.27 New Zealand is targeting net zero greenhouse gases (excluding biogenic methane for which there are separate provisions) by 2050 (**2050 target**), as set out in section 5Q of the CCRA.
- 2.28 Section 5ZN of the CCRA provides:
- If they think fit, a person or body may, in exercising or performing a public function, power, or duty conferred on that person or body by or under law, take into account—
- (a) the 2050 target; or
- (b) an emissions budget; or
- (c) an emissions reduction plan.
- 2.29 The purpose of section 5ZN is to allow the 2050 target and emissions budgets to influence broader Government decision-making where they are relevant. Section 5ZN’s legislative history shows that Parliament deliberately decided to make climate change a permitted but not a mandatory consideration, and in this context contemplated that decision-makers would take climate change mitigation into account only where consistent with the other legal requirements applying to a decision.³⁶

³⁴ Our *Open letter—ensuring our energy and airports regulation is fit for purpose* of 29 April 2021, submissions on our open letter, and a summary and feedback on our workshop on the impact of decarbonisation on electricity lines services on 7 December 2021 are available [here](#).

³⁵ *Unison v Commerce Commission*, above n 8, at paras 50 and 53.

³⁶ Section 5ZN as introduced expressly provided that climate change mitigation was a relevant consideration “subject to other requirements that apply by or under law”. The section was largely rewritten in the select committee, but the committee did not intend by removing this proviso to allow section 5ZN to override existing legal requirements: the Ministry for the Environment advised in its [“Departmental Report on the Climate Change \(Zero Carbon\) Amendment Bill 2019” \(September 2019\)](#), at pg. 110, that making section 5ZN a mandatory consideration was inappropriate in circumstances “where considering the target or an

- 2.30 As the Supreme Court has made clear, we must exercise our powers within the scope of our legal framework and make decisions to promote the Part 4 purpose. The pursuit of another purpose will not invalidate the exercise of those powers if the statutory purpose is being pursued and the statutory policy is not compromised by the other purpose.³⁷ In applying the overarching objectives at paragraph 3.12, we may therefore take into account the permissive considerations under section 52N of the CCRA, but only where doing so is consistent with promoting the section 52A purpose of Part 4.
- 2.31 Consistent with our recent draft decision on the next DPP for gas pipeline businesses, we consider that:³⁸
- 2.31.1 taking account of the permissive considerations under section 52N within the above constraints is a matter for our expert judgement in the context of a particular decision, based on the available evidence;
 - 2.31.2 the 2050 target (and, once set, the emissions budgets and related emissions reduction plan) is part of the factual matrix and may be a relevant consideration when applying the section 52A purpose; but
 - 2.31.3 the section 52N(a)-(c) permissive considerations are not of equal weight to the outcomes under section 52A(1)(a)-(d), which are mandatory considerations.

IM reviews under section 52Y

emissions budget would be inconsistent with the specific statutory requirements that apply to a decision under its own enactment.” See [also Climate Change Response \(Zero Carbon\) Amendment Bill 2019 \(136-1\) \(Explanatory Note\)](#), at pg. 11; [Climate Change Response \(Zero Carbon\) Amendment Bill 2019 \(136-2\) \(Select Committee report\)](#), at pgs. 14-15.

³⁷ *Unison v Commerce Commission*, above n 8, at paras 50 and 53.

³⁸ Gas DPP3 draft decision, above n 7, at paras 2.25-2.32.

- 2.32 We determined the original IMs required by section 52T(1) on 22 December 2010.³⁹ These IMs applied, and IMs continue to apply, to all suppliers of electricity lines services (including Transpower), gas pipeline services, and specified airport services. In 2012, following judicial review proceedings, we re-determined the IMs to extend our IM decisions on cost allocation, asset valuation and the treatment of taxation to also apply to DPPs.⁴⁰ In addition, following merits review of the original IMs, specific aspects of a small number of IMs were amended.⁴¹ Some of these IMs have also been amended in accordance with section 52X of the Act.
- 2.33 We substantially completed the 2016 IM review in December 2016. We deferred decisions on certain areas of the 2016 IM review to 2017 – specifically, on the Transpower IRIS to June 2017, on the CPP information requirements for gas to December 2017, and on the related party transaction provisions for EDBs and gas distribution/ transmission businesses to December 2017. We also completed our review of Transpower’s Capex IM in May 2018.
- 2.34 Once we decide to conduct an IM Review, the process in section 52V of the Act with its requirements for the publication of drafts and engagement with interested parties applies to the review.
- 2.35 We commenced the current review of IMs on 23 February 2022 by issuing a notice of intention.⁴² In practice, this means we will review every IM policy decision and the implementation of each decision in the relevant IM determination(s). In respect of each IM policy decision we review, we may decide to:
- 2.35.1 amend the associated IMs;
 - 2.35.2 replace those IMs;
 - 2.35.3 amend or replace those IMs at a later point; or
 - 2.35.4 make no amendments to those IMs.

³⁹ We also determined an IRIS IM not required by section 52T for EDBs, GPBs and Transpower. We determined the Capex IM on 31 January 2012 under section 54S of the Act, and published it on 9 February 2012.

⁴⁰ Originally, our IM decisions for these matters were only specified as applicable to CPP path proposals, and to ID regulation. We extended the application of those IM decisions to apply to DPPs by taking the current IMs as a starting point and simplifying the components where necessary. See [Commerce Commission “Specification and Amendment of Input Methodologies as Applicable to Default Price-Quality Paths: Reasons paper” \(28 September 2012\)](#).

⁴¹ IM merits review, and, *Commerce Commission v Vector Ltd* [2012] NZCA 220.

⁴² Notice of intention, above n 1.

The role of section 52P determinations

- 2.36 Part 4 provides for four types of regulation: ID regulation;⁴³ negotiate/arbitrate regulation;⁴⁴ DPP/CPP regulation;⁴⁵ and IPP regulation.⁴⁶
- 2.37 How these various types of regulation are to be applied is determined by decisions we make under section 52P. Section 52P(3) provides that a section 52P determination must:
- (a) set out, for each type of regulation to which the goods or services are subject, the requirements that apply to each regulated supplier; and
 - (b) set out any time frames (including the regulatory periods) that must be met or that apply; and
 - (c) specify the input methodologies that apply; and
 - (d) be consistent with [Part 4].
- 2.38 We have made section 52P determinations relating to all suppliers regulated under Part 4:
- 2.38.1 All suppliers of electricity lines services, gas pipeline services and the specified airports are subject to ID regulation.
 - 2.38.2 All suppliers of gas pipeline services, Transpower, and 16 EDBs are subject to PQ regulation. For all suppliers of gas pipeline services and 14 suppliers of electricity lines services, that regulation is currently a DPP. Aurora Energy Limited and Powerco Limited are each currently on a CPP. Transpower is subject to an IPP.
- 2.39 ID regulation requires a supplier of a regulated service to disclose information we specify, relating to prices and quality of the regulated service, to ensure sufficient information is readily available to interested persons to assess whether the section 52A purpose is being met.⁴⁷ ID regulation is ‘sunshine regulation’, and the disclosure of information is intended to exert pressure on suppliers to move their prices and quality closer to ones which would promote the outcomes in section 52A(1)(a)-(d) of the Part 4 purpose.

⁴³ Subpart 4 of Part 4 of the Act.

⁴⁴ Subpart 5 of Part 4.

⁴⁵ Subpart 6 of Part 4.

⁴⁶ Subpart 7 of Part 4.

⁴⁷ Section 53A of the Act.

- 2.40 DPP/CPP and IPP regulation requires a supplier to comply with a PQ path we determine which specifies either, or both, the maximum price or prices (or the maximum revenue) that a supplier may charge and recover, and the quality standards that must be met.⁴⁸
- 2.41 We use a CPI minus X PQ path for DPP/CPP regulation which allows a supplier to increase—or requires it to decrease—its revenue (or weighted average prices) over the regulatory period by the CPI minus an X factor that reflects our assessment of anticipated productivity gains over the regulatory period. In some circumstances, the X factor can also be used as a revenue smoothing mechanism. Suppliers who improve their efficiency at a rate greater than expected make profitability gains. The quality aspect of a PQ path ensures that efficiency gains do not come at the expense of the regulated service meeting minimum quality standards, thereby promoting the outcomes under section 52A(1)(b) and (c) of the Part 4 purpose.
- 2.42 The purpose of DPP/CPP regulation, as set out in section 53K of the Act, is “to provide a relatively low-cost way of setting PQ paths for suppliers of regulated goods or services, while allowing the opportunity for individual regulated suppliers to have alternative PQ paths that better meet their particular circumstances.”
- 2.43 Given the intention that DPP regulation be relatively low-cost, a DPP largely uses generic approaches with business-specific inputs. We must apply the IMs and comply with the section 53P requirements for setting starting prices, rates of change and quality standards.⁴⁹
- 2.44 CPP regulation is tailored to an individual supplier’s particular circumstances, which may not be adequately catered for under the relevant DPP.⁵⁰ We may set any CPP we consider appropriate,⁵¹ and the requirements for DPPs under section 53P do not apply.
- 2.45 IPP regulation is similar to CPP regulation in focussing on the particular circumstances of an individual supplier. We may set an IPP using any process, and in any way, we consider fit, but we must apply the relevant IMs we have set for the supply of those goods or services.⁵²

⁴⁸ Section 53M.

⁴⁹ Sections 53O and 53P of the Act.

⁵⁰ Section 53K.

⁵¹ Section 53V.

⁵² Section 53ZC.

- 2.46 The regulatory period of a DPP, CPP or IPP is generally five years. Although, where we consider it would better meet the purposes of Part 4, we can set a DPP or IPP from four to five years, and a CPP from three to five years.⁵³

Nature of the framework

- 2.47 Any framework for the IM Review is bound by the statutory criteria in Part 4. When considering whether to amend the IMs, we must consider the purpose of Part 4 and the purpose of IMs under sections 52A and 52R. We must give effect to these purposes and can only develop a decision-making framework or commit to key economic principles to the extent they assist us in giving effect to these purposes.
- 2.48 We must also follow the process and publishing requirements prescribed by the Act.⁵⁴ Amendments to the IMs, like the initial IMs, are subject to merits appeals, where a court considers whether there is a materially better alternative than the IM we have determined in light of section 52A, section 52R, or both.⁵⁵
- 2.49 Within those bounds, however, we must exercise judgement about how best to determine IMs that give effect to sections 52A and 52R; when we should amend IMs; and how we evaluate whether the proposed amendment might better promote the section 52A and 52R purposes. It is here that a decision-making framework and key economic principles can assist us in exercising our judgement and giving effect to sections 52A and 52R.
- 2.50 To this end, the proposed decision-making framework for the IM Review presented in the third chapter of this paper is not mechanistic. Rather, it is a conceptual framework to guide our decision-making. We consider that a conceptual framework which guides, rather than mechanically determines our decision-making, strikes the right balance between prescription and flexibility. As we cannot foresee all situations and potential changes that might arise, the framework needs to be sufficiently general to provide guidance in as many situations as possible.

⁵³ Sections 53M(4)-(5), 53W and 53ZC.

⁵⁴ Section 52V.

⁵⁵ Section 52Z.

We cannot create an IM on a matter not covered by existing IMs

Our position from the 2016 IM review

- 2.51 In our final framework paper for the 2016 IM review, we explained our preliminary view that we cannot create an IM on a matter not covered by an existing IM under sections 52Y or 52X.⁵⁶ The reasons we gave and consulted on in our draft decision paper for the 2016 IM review and papers prior to that were:⁵⁷
- 2.51.1 after setting the initial IMs, we do not have the power to set IMs on new matters.⁵⁸ Section 52U gave us the power to set the IMs in 2010. We do not have the power under the Act to set any further IMs on new matters after 2010 in respect of the services currently regulated under Part 4,⁵⁹ and
 - 2.51.2 an additional factor relevant to the IM Review context, that section 52Y only contemplates a review of existing, published IMs.⁶⁰
- 2.52 We acknowledged that distinguishing between amending an existing IM and creating an IM on a matter not covered by an existing IM might not always be straightforward and would require careful consideration on each such occasion.⁶¹
- 2.53 Having considered submitters' views on this position, we observed that no issue that would require an IM on a new matter had been identified in the 2016 IM review, though we remained open to reconsidering our preliminary view if such an issue arose in the future.⁶²

We have reconsidered, but not changed, our position from the 2016 IM review

- 2.54 We consider that legislative developments since the 2016 IM review have affirmed our preliminary view on the scope under Part 4 for IMs on new matters.

⁵⁶ 2016 IM review framework, above n 6, at paras 47-48.

⁵⁷ [Commerce Commission "Developing decision-making frameworks for the current input methodologies review and for considering changes to the input methodologies more generally – discussion draft" \(22 July 2015\)](#), at paras 23-27; [Commerce Commission "Input methodologies review invitation to contribute to problem definition" \(16 June 2015\)](#), at paras 44-48; [Commerce Commission "Input methodologies review draft decisions: Framework for the IM Review" \(16 June 2016\) \(Draft framework decision\)](#), at paras 51-55.

⁵⁸ [Commerce Commission "Clarification on SPA IM" \(letter to the ENA\) \(20 July 2012\)](#), at para 3.

⁵⁹ In the event of a Part 4 inquiry into whether to recommend regulation of goods or services that are currently not subject to regulation under Part 4, we are required to set IMs if we are satisfied that the competition and market power tests are met (see section 52U(3) of the Act).

⁶⁰ [Commerce Commission "Input methodologies review invitation to contribute to problem definition" \(16 June 2015\)](#), at paras 44-48.

⁶¹ Draft framework decision, above n 57, at para 53.

⁶² Above n 57, at para 54; and 2016 IM review framework, above n 6, at para 48.

- 2.55 Specifically, the Telecommunications (New Regulatory Framework) Amendment Act 2018 introduced Part 6 of the Telecommunications Act 2001 (**Telecommunications Act**) as the regime for regulating fibre fixed line access services (**FFLAS**).⁶³ The legislative history of the Act shows that Part 6 is based on Part 4, and incorporates the statutory arrangements for utility regulation that have been tested under Part 4, including setting and subsequently applying input methodologies to create ID and PQ regulations.⁶⁴
- 2.56 Where section 52U(1) of the Act required us to determine IMs for electricity lines services, gas pipeline services, and specified airport services by no later than 30 June 2010,⁶⁵ the equivalent section 178 of the Telecommunications Act:
- 2.56.1 required us to determine IMs for FFLAS by not later than the implementation date (1 January 2022); and
 - 2.56.2 explicitly permits us, at any time after the implementation date, to determine further IMs for FFLAS.
- 2.57 We consider the absence in Part 4 of such express permission to determine further IMs in equivalent terms to section 178(2) of the Telecommunications Act shows parliamentary intent to distinguish Part 6 from Part 4 in this respect. This affirms our preliminary view from the 2016 IM review, and strongly suggests that expanding the scope of Part 4 IMs to cover matters not already covered by the existing IMs is a matter for Parliament – not us.
- 2.58 For these reasons, and those informing our preliminary view from the 2016 IM review, we do not intend to consider amendments in this IM Review that entail creating an IM on a matter not covered by an existing IM (eg, quality dimensions, for which we were required to set IMs under section 176(1)(b) of the Telecommunications Act).

⁶³ Section 24 of the Telecommunications (New Regulatory Framework) Amendment Act 2018.

⁶⁴ Telecommunications (New Regulatory Framework) Amendment Bill, Explanatory Note, available at: <https://www.legislation.govt.nz/bill/government/2017/0293/10.0/d56e2.html>.

⁶⁵ Section 52U(1) of the Act, as at 16 December 2017, available at: <https://www.legislation.govt.nz/act/public/1986/0005/86.0/096be8ed816f584b.pdf>.

Chapter 3 The proposed decision-making framework for the IM Review

Purpose of this chapter

- 3.1 The purpose of this chapter is to explain the decision-making framework that we propose to apply in reaching our decisions on the IM Review.

Overview of the decision-making framework

- 3.2 There are two major conceptual elements to the proposed approach to reaching decisions on the IM Review:
- 3.2.1 **Review element:** reviewing the IMs and identifying which IMs we should consider changing and why. This broadly equates to the question below in box 2 of Figure 1: 'which IMs should we consider changing and why?'
 - 3.2.2 **Change element:** deciding whether, and if so how, to change an IM following the review element. This broadly equates to the question below in box 4 of Figure 1: should we change the IMs and, if so, how?
- 3.3 In practice, these two conceptual elements may overlap to an extent – in substance and in sequence – as we conduct the IM Review.
- 3.4 Figure 1 below sets out the practical steps for the two conceptual elements.

Figure 1: Conceptual elements of the IM Review



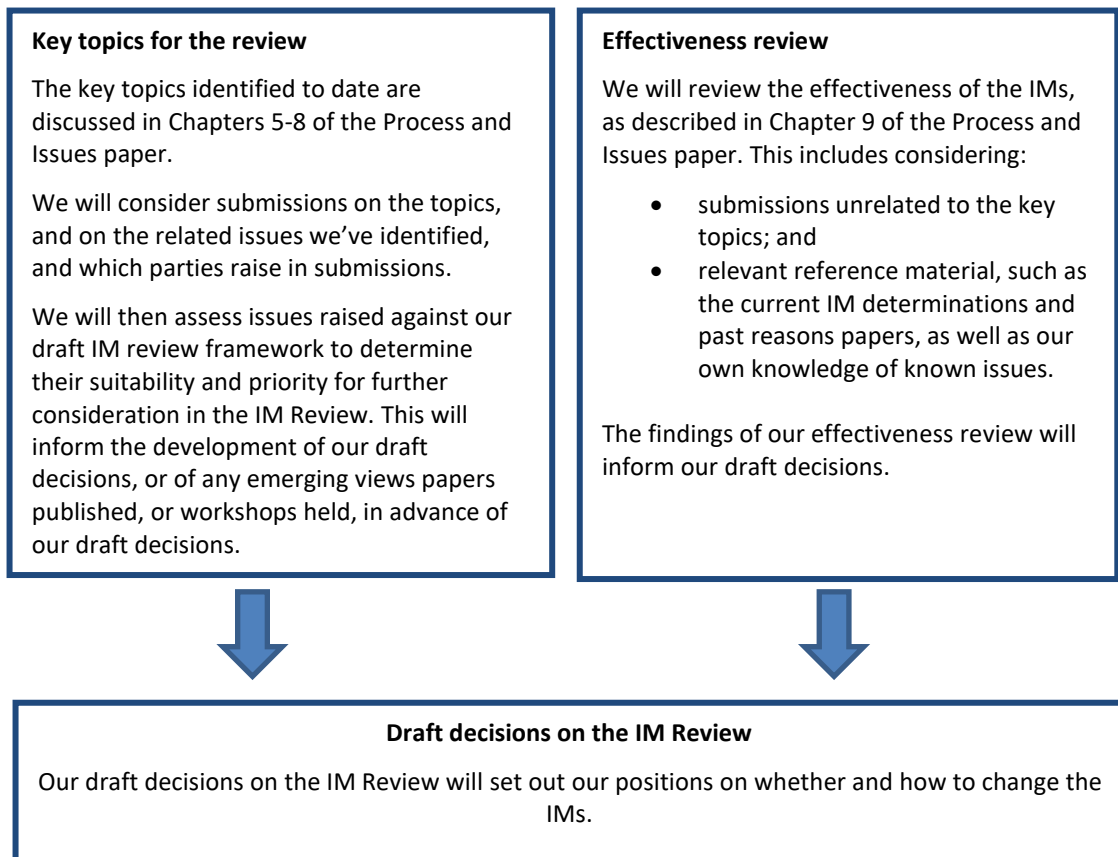
Sources of our future draft decisions on the IM Review

- 3.5 Chapters 5 to 8 of the Process and Issues paper published alongside this paper set out five key topics within which we have identified potential issues to consider in the IM Review:
- 3.5.1 Risk allocation and incentives under price-quality regulation;
 - 3.5.2 Cost of capital;
 - 3.5.3 CPPs and in-period adjustments to price-quality paths;
 - 3.5.4 Transpower investment; and
 - 3.5.5 Effectiveness of the IMs for each sector.

3.6 Figure 2 describes how consultation on the key topics, alongside our effectiveness review of the IMs, will support us in reaching our draft decisions. We then set out our three overarching objectives that will underpin our decision-making in the IM Review, along with the considerations in assessing a proposed IM decision against those objectives.

Figure 2: Sources of our future draft decisions on the IM Review

3.7



We must review the current IMs

- 3.8 In line with section 52Y, we consider that the starting point when reviewing the IMs, and considering amendments to IMs, is the IMs in force at the start of the review.
- 3.9 In practice, our review of the IMs involves reviewing every IM policy decision and the implementation of each decision in the relevant IM determination(s). In the 2016 IM review, we documented every IM policy decision and assigned each decision a code and decision number (eg, 'CA01' for cost allocation IM decision number 1).⁶⁶ We propose continuing to use this approach to documenting IM decisions in this IM Review.

We will only propose changes that meet the overarching objectives for the IM Review

- 3.10 In identifying which IMs to consider changing, and in reaching decisions on changing IMs, we are guided by the three overarching objectives for the IM Review. We will only propose changing the IMs if this appears likely to meet one or more of the three overarching objectives.
- 3.11 We set out the overarching objectives immediately below, along with guidance on how we will apply them. Under the next subheading, we set out considerations that may guide us in testing a proposed IM decision against the overarching objectives.
- 3.12 The overarching objectives of the IM Review are to:
- 3.12.1 promote the Part 4 purpose in section 52A more effectively;
 - 3.12.2 promote the IM purpose in section 52R more effectively (without detrimentally affecting the promotion of the section 52A purpose); and
 - 3.12.3 significantly reduce compliance costs, other regulatory costs, or complexity (without detrimentally affecting the promotion of the section 52A purpose).
- 3.13 Promoting the purpose of Part 4 under section 52A remains at the forefront of our decision-making – both in considering which IMs to change and in reaching decisions on changing IMs. Where applying, for example, section 54Q of the Act or section 5ZN of the CCRA is inconsistent with promoting section 52A, promoting section 52A will take precedence.⁶⁷

⁶⁶ [Commerce Commission "Input methodologies review decisions – Report on the IM Review" \(20 December 2016\), paragraph 15.](#)

⁶⁷ *Unison v Commerce Commission*, above n 8, at paras 50 and 53.

- 3.14 Provided it meets one of the above overarching objectives, a proposed change may amend a single IM, or a package of IMs, that implement a particular IM policy decision. In the case of a proposed change to a package of IMs that implement an IM policy decision, it is the combined changes – rather than each discrete change – that need to meet the relevant overarching objective(s).
- 3.15 For example, our cost of capital IMs do not specify the cost of capital for regulated services directly. Rather, they set out a package of parameters for estimating the cost of capital for regulated services. Accordingly, a proposed change to the IM(s) for one parameter will not meet the above overarching objective(s) if it reduces the extent to which the package of parameters as a whole do so.

Considerations in assessing a proposed IM decision against the overarching objectives

- 3.16 In testing a proposed IM decision against the overarching objectives:
- 3.16.1 in the case of the first and third objectives in paragraph 3.12, we will have regard to whether the proposed decision promotes the section 52R IM purpose more or less effectively than the relevant IM in providing certainty for regulated suppliers and consumers in relation to the rules, requirements, and processes applying to regulation under Part 4;
- 3.16.2 where we consider it relevant and consistent with promoting the section 52A purpose of Part 4, we may have regard to:
- (A) whether there are alternative ways to address the identified issues with the relevant IM that do not involve amending the IMs as part of the review;
 - (B) the permissive considerations under section 5ZN of the CCRA;⁶⁸ and
 - (C) other Part 4 provisions, namely:
 - (i) the purpose of ID (section 53A);
 - (ii) the purpose of DPP/CPD regulation (section 53K);
 - (iii) requirements relating to energy efficiency (section 54Q);
 - (iv) decisions made under the Electricity Industry Act 2010 (section 54V); and
 - (v) decisions under the Gas Act 1992 (section 55I).
- 3.17 Our rationale for the two considerations at paragraphs 3.16.1 and 3.16.2(A) above is, respectively:

⁶⁸ Gas DPP3 draft decision, above n 7, at paras 2.24-2.25.

- 3.17.1 paragraph 3.16.1 ensures the section 52R IM purpose and the impact of a decision on certainty is a mandatory consideration when we apply and analyse the first and third overarching objectives in paragraph 3.12 that do not directly involve the section 52R IM purpose,⁶⁹ and
- 3.17.2 providing scope under paragraph 3.16.2(A) to consider alternatives where relevant and consistent with promoting the section 52A purpose of Part 4 ensures we take a holistic approach to addressing issues identified in the IM Review, choosing to address them in the way we consider best promotes the Part 4 purpose. Considering alternatives and not unnecessarily amending the IMs also preserves certainty on Part 4 regulation, which is consistent with the section 52R IM purpose.
- 3.18 The rationale for the third consideration regarding the scope to take into account the permissive considerations under section 5ZN of the CCRA – where we consider it relevant and consistent with promoting the section 52A purpose of Part 4 – is set out at paragraphs 2.27 to 2.31 above.

Review element: which IMs should we consider changing and why?

The types of questions we propose to consider in reviewing the IMs

- 3.19 In short, in reviewing each current IM against sections 52A and 52R, this element of the decision-making framework asks: is the IM trying to achieve the right thing in the right way? That is, it is focussed on identifying whether there is a problem or unrealised opportunity with the current IM policy decision and its implementation in the relevant IM determination(s).
- 3.20 This can be expanded to a series of more specific questions which can be asked of each IM, including:
- 3.20.1 Is the policy intent behind the IM still relevant and appropriate?
- 3.20.2 Is the current IM achieving that intent?
- 3.20.3 Could the current IM, if changed, achieve the policy intent better?
- 3.20.4 Could the current IM achieve the policy intent as effectively, but in a way that better promotes section 52R or reduces complexity or compliance costs?
- 3.20.5 Do changes to other IMs require any consequential changes to the IM in question for internal consistency or effectiveness reasons?

⁶⁹ As discussed at paragraph 2.21, although the other purpose statements in Part 4 (including the section 52R IM purpose) are relevant matters, section 52A governs our decision making under Part 4.

- 3.21 We will consider these questions, including the sub-questions which we elaborate on below, where we consider relevant in reviewing the IMs. We do not propose to consider them in any particular order; nor will we ascribe any set weighting to each question. The questions provide practical tools, or lenses, that we will use to examine the IMs.

Is the policy intent behind the IM still relevant and appropriate?

- 3.22 Is the policy intent still consistent with the section 52A purpose?
- 3.23 In considering this question, examples of the factors we may have regard to are:
- 3.23.1 What was the IM attempting to achieve, either on its own or as part of the IMs as a package?
 - 3.23.2 Is the objective of the IM still valid and consistent with section 52A, in light of the type of regulation where the IM is applied?
 - 3.23.3 Has the relevance of the policy intent been questioned (either by interested parties, a court, or us)?
 - 3.23.4 Is the IM still required or could the policy intent be achieved without the IM?
 - 3.23.5 Is there other evidence that suggests that the original IM policy decision is no longer promoting section 52A?
 - 3.23.6 Have external circumstances changed in a way that disrupts the assumptions underlying the original policy decision and therefore would cause a need for a change to the policy behind the IM? For example:
 - (A) Has the industry changed?
 - (B) Has relevant economic theory or practice developed?
 - (C) Have other external circumstances changed?
- 3.24 In considering external circumstances, we first consider the extent to which any identified issues are relevant to the Part 4 regime more generally, and then to the IMs, in particular. That is because those external circumstances might suggest a potential enhancement to other aspects of the Part 4 regime instead of, or as well as, to the IMs. For instance, this could include potential changes to our ID requirements, the summary and analysis we undertake of disclosed information, the approach we take to setting PQ paths, or our compliance and enforcement approach, as well as by issuing guidance material about the application of the Part 4 regime.

- 3.25 In assessing whether the policy intent behind an IM is still relevant and appropriate, and particularly whether climate change opportunities or risks have disrupted the assumptions underlying the policy, we propose using a Task Force on Climate-Related Financial Disclosure (TCFD)-style framework. This would better enable us to understand and categorise the risks and uncertainties facing regulated suppliers. We set out the details of our TCFD-style framework in Attachment A.

Is the current IM achieving that intent?

- 3.26 Is the IM, either alone or in combination with other IMs, achieving the policy intent behind the IM?
- 3.27 In considering this question, examples of the factors we may have regard to are:
- 3.27.1 Have external circumstances changed in a way that means the current IM might no longer be achieving the policy intent behind it?
 - 3.27.2 Has anything changed in the matters incorporated in the IMs by reference (such as accounting or valuation standards) that means the current IM is no longer achieving its purpose?
 - 3.27.3 Has the effectiveness of the IM in achieving its policy intent been questioned (either by stakeholders, a court, or us)?
 - 3.27.4 Is there other evidence that suggests that the IM is no longer achieving its policy intent or has had unintended consequences?

Could the current IM be improved to achieve the policy intent better?

- 3.28 Could the IM be changed to more effectively achieve the policy intent behind the IM?
- 3.29 In considering this question, examples of the factors we may have regard to are:
- 3.29.1 Have any potential changes been identified (either by stakeholders, a court, or us) that might:
 - (A) Improve the effectiveness of the IM in achieving its policy intent?; or
 - (B) Reduce any unintended consequences of the IM?
 - 3.29.2 Have external circumstances changed in a way that means the current IM might no longer be the most effective way of achieving the policy intent behind it?
 - 3.29.3 Is there other evidence that suggests that a change might improve the effectiveness of the IM in achieving its policy intent?

- 3.29.4 As a cross-check, could the policy intent be better achieved without changing the IM but instead through changes to other aspects of the regulatory regime (including through guidance material)?

Could the current IM be improved so that it achieves the policy intent as effectively, but in a way that better promotes section 52R or reduces complexity or compliance costs?

- 3.30 Could the IM be changed to more effectively promote the section 52R purpose, or reduce complexity or compliance costs, without reducing the effectiveness of the IM in meeting the policy intent behind it?
- 3.31 In considering this question, examples of the factors we may have regard to are:
- 3.31.1 Have any potential changes been identified (either by stakeholders, a court, or us) that would better promote section 52R or reduce unnecessary complexity or compliance costs?
- 3.31.2 Is there other evidence that suggests that the IM can be changed to more effectively promote the section 52R purpose, or reduce complexity or compliance costs, without reducing the effectiveness of the IM in meeting the policy intent behind it?

Change element: should we change the IMs and, if so, how?

How we propose to reach decisions on whether and how to change the IMs

- 3.32 The change element of our decision-making framework necessarily involves considering whether to change or maintain the current IMs or make changes to the Part 4 regime that might lie outside of the IMs.
- 3.33 In considering proposed changes to IMs, we will apply the overarching objectives above at paragraph 3.12, having regard to the considerations under paragraph 3.16.
- 3.34 In reaching our decisions, we will also consider, where relevant, whether there are alternative ways to address the identified issues with the relevant IM that do not involve changing the IMs as part of the review. Alternatives may include:
- 3.34.1 considering whether to change the IMs at a later date in accordance with section 52X or at the next section 52Y review; and
- 3.34.2 options that do not involve changing the IMs, including:
- (A) undertaking a separate process involving our summary and analysis or compliance functions;
 - (B) amending section 52P determinations;
 - (C) publishing guidance; and/or

(D) a combination of the above.

- 3.35 We set out under the following subheadings several other factors informing the change element of our decision-making framework.

No specific statutory threshold: we intend to only make changes that promote the overarching objectives for the review

- 3.36 We remain of the view, established in the 2016 IM review, that there is no specific statutory threshold for making changes to the IMs as part of the review. We acknowledge that there are various statutory criteria for us to apply and have regard to when deciding whether to change an IM, which could be labelled a threshold; however, we do not consider that these amount to a clear and explicit threshold.
- 3.37 Rather, our approach is to only make IM changes that will likely promote one or more of the overarching objectives above at paragraph 3.12. This requires us to apply our framework and exercise judgement, in light of both the pros and the cons of making the change.

The role of quantitative analysis

- 3.38 We see the weighing up of the pros and cons of a proposed IM change primarily as a qualitative exercise, though some quantitative analysis might be informative in situations where doing so is practicable and meaningful. Therefore, while the Act does not require a formal quantitative analysis of proposed changes to the IMs, quantitative analysis may usefully support our qualitative assessment of the pros and cons of a proposed change in some situations.
- 3.39 Types of quantitative analysis often used for regulatory—and policy—decisions include cost benefit analysis (**CBA**) and *ex-post* evaluation.
- 3.39.1 CBA is often conducted before the introduction of new regulations. When done appropriately, it makes assumptions explicit, and values different types of costs and benefits in a consistent way. This provides the basis for more informed choices between different regulatory options.
- 3.39.2 *Ex-post* evaluation is conducted after a regulation has been introduced. It helps form an evidence base to inform changes to current regulations.

- 3.40 We recognise that quantitative analysis may not always be possible, appropriate, or meaningful. For instance, when reviewing a specific IM that acts as an input to a much broader regulatory regime, it may not be possible to isolate its effect on the performance outcomes of regulated suppliers. However, quantitative analysis may be helpful to inform specific decisions. Therefore, we propose to maintain our position from the 2016 IM review of only undertaking a quantitative analysis where this would likely add real value to our weighing of the pros and cons of a proposed change.⁷⁰

Do changes to one IM prompt consequential changes to other IMs?

- 3.41 In considering a potential change to one IM we will consider whether this prompts consequential changes to other IMs for internal consistency or effectiveness reasons, applying the overarching objectives.
- 3.42 In considering this question, examples of the factors we may have regard to are:
- 3.42.1 Where a change is made to a PQ path IM, should a corresponding change be considered to the equivalent IM for ID to maintain alignment between ID and PQ regulation?
 - 3.42.2 Where a change is made to an IM for one sector, should a corresponding change be considered to the equivalent IM for other sectors to maintain cross-sector consistency?
 - 3.42.3 Where a change is made to one IM, does it create a need to consider changing another IM in order to (mechanically or substantively) accommodate the change?

The type of regulation that the IM affects is also relevant

- 3.43 In considering whether the pros of making a change to the IMs outweigh the cons, the role of the IM in question in light of the type of regulation it affects, is also a relevant factor we may have regard to.
- 3.44 The IMs that we set for PQ regulation have a different focus from those that we set for ID regulation. As such, in reaching a draft decision on whether to change a given IM, we will consider the significance of that IM in the context of the type of regulation to which it applies. For instance:
- 3.44.1 For an ID IM: how significant is the role of the IM in assessing the performance of regulated suppliers (eg, profitability and efficiency)?

⁷⁰ 2016 IM review framework, above n 6, paras 103-104.

- 3.44.2 For a PQ path IM: how significant is the role of the IM in setting the maximum revenue or prices of regulated suppliers?
- 3.45 The more significant an IM is to the type of regulation in light of those questions, the more even a small change to the IM might have a significant impact on the promotion of either the section 52A or section 52R purposes. Therefore, the type of regulation affected by the IM, and the significance of the change to the regulation, are together a key consideration when weighing up the pros and cons of changing an IM.
- 3.46 In the case of IMs relating to specific rules and processes, or to CPP proposals, small changes to an IM can have a significant impact on the promotion of the section 52R purpose, or on complexity and compliance costs. However, the significant section 52R impact of a small IM change could be offset if the change means the relevant IM better promotes the section 52A purpose of Part 4.

Considering minor changes as a package

- 3.47 When considering some minor IM changes, the pros of making a particular change in isolation might not outweigh the cons, under our decision-making framework. However, when bundled together with other small changes, the pros of the package of minor changes might outweigh the cons. This might occur, for example, where a number of minor changes are proposed for one IM. The first change might have a relatively high 'cost' associated with it, but the marginal cost of the additional changes to the same IM might then be lower, while the benefits continue to accumulate.

Chapter 4 Application of key economic principles

Purpose of this chapter

- 4.1 The purpose of this chapter is to describe three key economic principles that provide useful guidance to us in giving effect to section 52A when making decisions in the IM Review.

Overview of the key economic principles

- 4.2 We consider there are three key economic principles relevant to our decision-making under the Part 4 regime:
- 4.2.1 *ex-ante* FCM;
 - 4.2.2 allocation of risk; and
 - 4.2.3 asymmetric consequences of over-/under-investment.
- 4.3 We elaborate on these three principles under the subheadings below paragraph 4.6. We first outline the role of the three principles in the IM review framework, and their background in our previous regulatory decision making.
- 4.4 These economic principles support the application of the three overarching objectives outlined at paragraph 3.12 in our decision making.⁷¹ The economic principles are longstanding, dating back to when we first set the IMs in 2010, or to when we changed the WACC percentile for PQ regulation in 2014. They were developed and tested with interested parties in consultation and, in some cases, in the IM merits appeal.⁷² They are a familiar supporting feature of our decision making under Part 4 (and more recently, Part 6 of the Telecommunications Act), including in the 2016 IM review. Using them in this IM Review will accordingly increase regulatory predictability and certainty, consistent with the section 52R IM purpose.⁷³
- 4.5 In reaching our decisions on the IM Review, we propose to use the three principles to inform and support our application and analysis of the overarching objectives set out at paragraph 3.12. However, the principles are only a means to an end, the end being the effective application of the overarching objectives and the sections 52A and 52R purposes they focus on.

⁷¹ 2016 IM review framework, above n 6, at para X19.

⁷² For example, see IM merits appeal, above n 8, at para 256.

⁷³ 2016 IM review framework, above n 6, paras 113-153, and, [Commerce Commission "Fibre Input Methodologies – Main final decisions and reasons paper" \(13 October 2020\) \(Fibre IMs final decision\)](#), at para 2.287.

- 4.6 Beyond the three familiar key economic principles, we are not aware of any other economic principles that would be appropriate additions to our decision-making framework. To be an appropriate addition to our framework, an economic principle would need to help us in applying and analysing the overarching objectives at paragraph 3.12.⁷⁴

Ex-ante real financial capital maintenance (FCM)

- 4.7 The FCM principle is that regulated suppliers should have the *ex-ante* expectation of earning their risk-adjusted cost of capital (ie, a ‘normal return’), and of maintaining their financial capital in real terms over timeframes longer than a single regulatory period.⁷⁵
- 4.8 Price-quality regulation does not guarantee a normal return over the lifetimes of a regulated supplier’s assets. Suppliers’ exposure to various risks will also differ depending on the applicable IMs and price-quality path settings, thereby affecting *ex-post* returns. For example, suppliers’ exposure to inflation risk will differ depending on whether the asset valuation IM provides for or requires CPI-indexation of the regulated asset base, and suppliers’ exposure to demand risk under PQ regulation will depend on whether the specification of price IM requires a revenue cap or a weighted average price cap. However, given that a typically efficient firm would expect *ex ante* to earn at least a normal rate of return over time, application of this principle can assist in promoting the section 52A(1) outcomes and purpose.

Application of FCM in PQ regulation

- 4.9 In practice, we apply this principle at the beginning of each regulatory period, based on current expectations of future circumstances at that time, by:
- 4.9.1 recognising the asymmetric consequences to consumers over the long term of under-investment versus over-investment;
 - 4.9.2 providing appropriate compensation to suppliers for the risks they are required to manage either:

⁷⁴ In considering the case for additional economic principles relating to competition and pricing in setting the fibre IMs under Part 6 of the Telecommunications Act, we formed the view that, given the context, those additional economic principles would not assist us in giving effect to the statutory purposes of Part 6 at this stage, or otherwise fill gap in the regulatory regime under Part 6 – see [Commerce Commission “Fibre regulation emerging views – Technical paper \(21 May 2019\)](#), at paras 105-106.

⁷⁵ 2016 IM review framework, above n 6, para X18.1.

- (A) through an *ex-ante* allowance to suppliers for bearing the risk (through either the WACC and/or cashflows), the cost of which ultimately falls on consumers;⁷⁶
 - (B) by providing for *ex-post* compensation of actual costs incurred when the risk eventuates – although *ex-post* regulatory assessments of business performance that affect subsequent prices have their own risks in that they may detract from incentives to invest, so should be carefully considered; or
 - (C) through a combination of the above, provided there is no double counting, and where it would promote the section 52A Part 4 purpose to do so; and
- 4.9.3 using estimates/forecasts of cost of capital, prudent capex, prudent opex, and demand that are free of systematic bias.
- 4.10 As a result of applying the FCM principle each regulatory period when setting PQ paths:
- 4.10.1 suppliers have the opportunity to earn a normal return on their efficient investments, consistent with section 52A(1)(a) and (d);
 - 4.10.2 suppliers are rewarded for superior performance, consistent with section 52A(1)(b); and
 - 4.10.3 efficiency gains are shared with consumers when the price path is reset (or via the IRIS mechanism), consistent with section 52A(1)(c).

Application of FCM in ID regulation

- 4.11 We also apply FCM when setting ID requirements. The rationale for this is that disclosures which are consistent with the concept of FCM enable interested persons to assess the extent to which regulated suppliers' profitability levels are consistent with outcomes produced in a workably competitive market— meaning 'normal returns'.

⁷⁶ Note that where long term demand risk (ie longer than one regulatory period) is allocated to suppliers, then the potential outcome of stranded assets is consistent with *ex-ante* FCM.

Allocation of risk

- 4.12 Our risk allocation principle is that, ideally, particular risks should be allocated to suppliers or consumers depending on which are best placed to manage them. Workably competitive markets tend to manage risks efficiently by allocating identified risks to the party considered best placed to manage them.⁷⁷
- 4.13 Applying this principle in the context of Part 4 regulation tends to promote the section 52A(1)(a)-(d) outcomes for the long-term benefit of consumers in a manner similar to the way those outcomes are promoted in workably competitive markets.⁷⁸ In particular:
- 4.13.1 Suppliers should bear (at least some of) the costs associated with risks they are best placed to manage if they eventuate. This provides incentives to manage these risks efficiently.⁷⁹ This is relevant where risk compensation is provided *ex-post*. Where compensation is provided *ex-ante*, suppliers are in principle already exposed to the full cost of the risk eventuating. This is consistent with the outcomes in section 52A(1)(a) and (b).
- 4.13.2 If suppliers are not compensated for the risks they bear, this may have a detrimental impact on investment incentives, to the detriment of outcomes in section 52A(1)(a).
- 4.13.3 Suppliers should not be compensated for risks that consumers bear – such an allocation to consumers should result in lower prices to consumers of the regulated service (relative to a situation where the risks were allocated to the suppliers with the associated compensation for bearing the risks). This is consistent with outcomes in workably competitive markets (and specifically, section 52A(1)(b) and (c)).
- 4.14 Managing risks includes:
- 4.14.1 taking actions to influence the probability of occurrence where possible;
- 4.14.2 taking actions to mitigate the costs of occurrence; and
- 4.14.3 the ability to absorb the impact where it cannot be mitigated.

⁷⁷ Our focus is not on replicating all the potential outcomes of workably competitive markets *per se*, but rather with specifically promoting the section 52(1)(a)-(d) outcomes for the long-term benefit of consumers consistent with the way those outcomes are promoted in workably competitive markets.

⁷⁸ [Commerce Commission “Setting the customised price-quality path for Orion New Zealand Limited” \(29 November 2013\)](#), paras B31, B37.

⁷⁹ This approach helps avoid the problems associated with moral hazard, ie, a situation where a party will tend to take risks because the costs that could result will not be borne by that party.

- 4.15 Regulated suppliers have various risk management tools at their disposal, including insurance, investment in network strengthening/resilience, hedging, contracting arrangements, and delaying certain decisions, like when to make large investments. Some of these tools may have associated costs to suppliers.

Application of the risk allocation principle to PQ regulation

- 4.16 FCM is applied to PQ regulation to compensate suppliers for the risks they are required to manage. To determine the regulatory settings necessary to give effect to the FCM principle, we need to consider the allocation of risk. We aim to allocate risks to the party best placed to manage them. Once risks are allocated between suppliers and consumers, we compensate suppliers and consumers⁸⁰ accordingly through the PQ path we set.⁸¹
- 4.17 The way that Part 4 has been implemented, interpreted and understood to date means that consumers ultimately bear most risks over the long term, with some scope for ensuring suppliers bear short-term risks that they are better placed to manage, where this is consistent with section 52A.

Application of the risk allocation principle to ID regulation

- 4.18 We have also applied the principle that risks are allocated to the party best placed to manage them in ID regulation. In the context of airports, we noted that, when considering how to allocate risks, it may be useful to consider any risk sharing arrangements that have already been agreed between airports and airlines.⁸²

Asymmetric consequences of over-/under-investment

- 4.19 The FCM principle is applied recognising there could be asymmetric consequences to consumers of regulated energy services, over the long term, of under-investment versus over-investment.
- 4.20 If a material asymmetry exists, this principle allows us to recognise the asymmetry and consider ways to mitigate the risks to end-users (eg, through applying an uplift to the regulatory WACC). However, if suppliers were already at or above the optimal level of investment, there would be no benefit to consumers in incentivising increased investment.

⁸⁰ Where consumers bear risks, they are, in effect, compensated through prices that are lower than they would have been had suppliers borne those risks.

⁸¹ [Commerce Commission "Setting the customised price-quality path for Orion New Zealand Limited Final reasons Paper" \(29 November 2013\)](#), paras B20-B97, C5.2; and, [Commerce Commission "Amendment to the WACC percentile for price-quality regulation for electricity lines services and gas pipeline services: Reasons paper" \(30 October 2014\)](#), chapter 3.

⁸² [Commerce Commission "Input methodologies review decisions, Topic paper 5: Airports profitability assessment" \(20 December 2016\)](#), at paras 472-476.

- 4.21 The principle of asymmetric consequences of under/over-investment can help give effect to the outcomes under section 52A(1)(a) and (b). In many cases, it involves trading off the costs to consumers of promoting investment (ie, higher prices) against any expected benefits associated with reducing the risk of under-investment (such as improved quality).

Application of the asymmetric consequences principle to PQ and ID regulation

- 4.22 In the context of the IMs, the principle of asymmetric consequences of over-/under-investment is relevant mainly to our decision on whether an adjustment might be required when calculating the regulatory WACC to protect consumers from the risk of under-investment. However, this principle may also be helpful in future decisions on the quality standards we set under PQ regulation or the performance measures to be reported under ID.

Our view of the status of the key economic principles

- 4.23 When applying these key economic principles to date, we have done so because we considered the principles to be consistent with the section 52A purpose. For example, we have used FCM as a way of promoting section 52A(1)(a)-(d) outcomes that would be achieved in competitive markets—ie, in competitive markets suppliers expect to make at least a normal return over the long term. However, we have also recognised that the FCM concept is not absolute—it does not guarantee that regulated suppliers earn a normal return over the life of the assets, as such a guarantee would be inconsistent with section 52A.
- 4.24 We have also applied FCM recognising the asymmetric consequences of over-investment and under-investment to consumers, and seeking, where practicable, to allocate risks between consumers and suppliers according to the party best placed to manage them, but only where this is consistent with section 52A.
- 4.25 The Court approved of our application of the FCM principle in the IM merits appeal, observing that:⁸³

[256] Central to the Commission's approach to Part 4 regulation and to regulatory control of natural monopolies more generally are the related concepts or principles of NPV (net present value) = 0 (NPV = 0) and financial capital maintenance (FCM). In terms of the Commission's determination of the IMs, these are first mentioned in the executive summary to the June 2009 IMs Discussion Paper. There the Commission, in what we think is a non-controversial way, explains the relationship between the s 52A(1) purpose and outcomes, and economic principles stemming from the three dimensions of economic efficiency – allocative, productive and dynamic – which the s 52A(1) outcomes both reflect and are designed to promote.

⁸³ IM merits appeal, above n 8, at para 256.

- 4.26 We do not consider the key economic principles amount to a ‘regulatory compact’ between us and regulated suppliers that might bind us to accepting the outcome of applying the principles to a proposed decision. However, to the extent the key economic principles continue to assist us to give effect to the section 52A purpose and outcomes we would not depart from them lightly. The Part 4 regime was intended to provide greater certainty over time,⁸⁴ and we accept that wholesale rejection of principles we have consistently applied may affect this certainty.
- 4.27 If applying one or more of the principles to a proposed decision is unhelpful to, or inconsistent with, the overarching objectives, then we will not apply the relevant principles to that decision, and we will be transparent with stakeholders as to our reasons.⁸⁵
- 4.28 Specifically, we acknowledge that there may come a time when, due to various circumstances, the key economic principles no longer assist us in promoting the section 52A purpose and application of these principles is no longer sustainable.
- 4.29 At the time of the 2016 IM review, the continued uptake of some emerging technologies that might act as substitutes to the regulated electricity lines service provided important context. For the current IM Review, a key contextual issue is the impact on regulated sectors of the transition to a low carbon economy, in particular the risk of significantly reduced demand in the gas sector.
- 4.30 The market risk, in either context, is that if enough consumers disconnect from the network, the remaining consumers will not be willing or able to pay the prices that would be required for regulated suppliers to achieve FCM, even if our price path remains consistent with FCM. There may also be a political risk in that if circumstances change to a sufficient extent, the government may intervene and amend or repeal Part 4. If such a ‘tipping point’ occurs, regardless of any action we might take, suppliers may not be able to achieve FCM.

⁸⁴ IM merits appeal, above n 8, at para 135.

⁸⁵ 2016 IM review framework, above n 6, para X19, and, Fibre IMs final decision, above n 73, at paras 2.285-2.286.

Attachment A The Task Force on Climate-Related Financial Disclosures

Purpose of this Attachment

A1 This Attachment introduces the Task Force on Climate-Related Financial Disclosure (TCFD) framework, which we propose using in the IM Review to help us understand and categorise the climate-related uncertainties, risks and opportunities facing regulated suppliers.

Climate change is affecting the sectors regulated under Part 4

A2 The energy and airport sectors are in a period of transition and change, particularly in relation to the impact of climate change and the transition to a low carbon economy.

A3 These sectors face risks and opportunities from climate change and decarbonisation, including the physical risks of climate change to network resilience, and changing investment drivers due to increased electrification.

A4 To assist us in identifying and reviewing these risks and opportunities we are proposing to use the TCFD framework for categorising climate-related risks and issues.

Background on the TCFD framework

A5 In 2017, the Financial Stability Board, an international body of financial regulators, released the final recommendations from its TCFD. This provided a global framework for financial institutions, large corporates, and other organisations to develop more effective climate-related financial disclosures through their existing reporting processes.⁸⁶

A6 New Zealand has introduced mandatory climate-related financial disclosures under the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021. The Act aligns with the TCFD and requires large-listed issuers, registered banks and other deposit takers, licensed issuers, and managers of managed investment schemes to make climate-related disclosures from 2023 onwards.

A7 The framework provides a useful structure for capturing and categorising a broad range of risks and opportunities related to climate change, including both physical and transitional risks.

⁸⁶ [TCFD “Recommendations of the Task Force on Climate-related Financial Disclosures” \(July 2017\).](#)

Why we are proposing to use the TCFD framework

- A8 There has been an increasing focus on climate-related risks and opportunities since the 2016 IM review. The TCFD framework has been widely adopted internationally to promote better understanding of climate-related risks and opportunities in both the private and public sector. Eight regions, including New Zealand,⁸⁷ have proposed or introduced TCFD-aligned official reporting requirements and climate-related disclosures.
- A9 As most of the stakeholder feedback we have received to date on the external environment and its impact on the sectors our regulated suppliers operate in has been decarbonisation-focussed, the TCFD presents an internationally recognised (and increasingly adopted in New Zealand) method for categorising these risks and opportunities.

Climate-related disclosures in New Zealand

- A10 As noted above, the TCFD framework is the basis of New Zealand's recently introduced mandatory climate-related financial disclosures reporting regime. Beyond mandatory reporting, the TCFD framework is being voluntarily adopted across several state-owned enterprises, mixed ownership model companies, and government entities as a framework for disclosing and/ or better understanding climate-related issues.
- A11 The TCFD framework and its terminology will be familiar to some of our regulated suppliers already (eg, Auckland Airport, as a listed company, is required to make TCFD disclosures⁸⁸ and Orion has produced a TCFD style report).⁸⁹

How we are proposing to apply the TCFD framework

- A12 We have adapted the TCFD's approach to identifying, assessing and managing climate-related risks. We are not requiring firms to complete a TCFD disclosure, nor are we producing one ourselves. Instead, we propose to use the TCFD framework to classify the climate-related issues raised by stakeholders that could impact regulated suppliers' operations.

⁸⁷ Other regions include Brazil, the European Union, Hong Kong, Japan, Singapore, Switzerland, and the United Kingdom.

⁸⁸ <https://corporate.aucklandairport.co.nz/sustainability/environment/energy-and-carbon>.

⁸⁹ <https://www.oriongroup.co.nz/assets/Company/Corporate-publications/2020-Orion-Climate-Change-Report.pdf>.

- A13 We have captured themes from engagement with stakeholders and mapped them to elements of the Part 4 regime (including non-IM parts of the regime). This is documented in Chapter 4 of the Process and Issues paper published alongside this paper.
- A14 The risk themes and subcategories are:
- A14.1 **Transition risks** – transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organizations.
 - A14.2 **Physical risks** - physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns. Physical risks may have financial implications for organizations, such as direct damage to assets and indirect impacts from supply chain disruption. Organisations' financial performance may also be affected by changes in water availability, sourcing, and quality; food security; and extreme temperature changes affecting organizations' premises, operations, supply chain, transport needs, and employee safety.
 - A14.3 **Opportunities** - efforts to mitigate and adapt to climate change also produce opportunities for organisations, for example, through resource efficiency and cost savings, the adoption of low-emission energy sources, the development of new products and services, access to new markets, and building resilience along the supply chain. Climate-related opportunities will vary depending on the region, market, and industry in which an organization operates. The Task Force identified several areas of opportunity as described below.

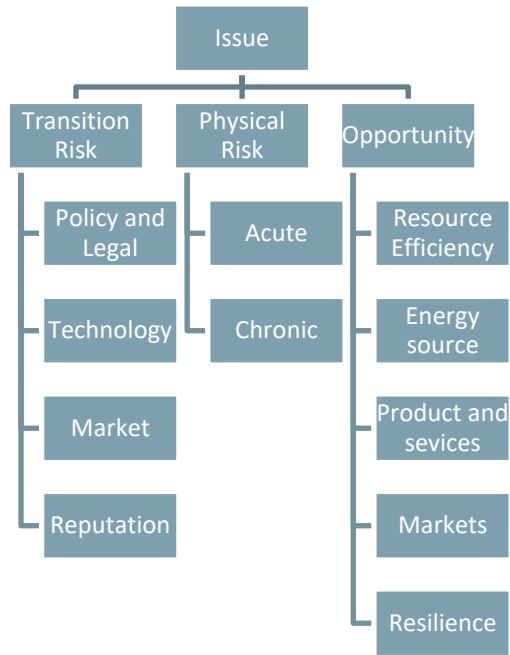


Figure A1: Schematic of Physical and Transition risks and Opportunities adapted from TCFD “Recommendations of the Task Force on Climate-related Financial Disclosures” (July 2017).

Theme	Subcategory	Definition	Examples	Impact
Transition Risk	Policy and Legal	The risk that legislation, regulations and obligations change over time. Also, increased litigation and legal risk due to changing statutory interpretation and/or an organisation's failure to adequately mitigate risks	<ul style="list-style-type: none"> Increased administrative or compliance costs Enhanced obligations Increased exposure to litigation Mandate or regulation of existing products and services 	<ul style="list-style-type: none"> Increased operating costs (eg, higher compliance costs, increased insurance premiums) Write-offs, asset impairment, and early retirement of existing assets due to policy changes Affects ability to recover costs Underutilisation of existing infrastructure Increased costs and/or reduced demand for products and services resulting from fines and judgments
	Technology	Technological improvements or innovations that have a significant impact on organisations	<ul style="list-style-type: none"> Substitution of existing products and services with a more efficient or effective option Unsuccessful investment in new technologies Costs to transition to new technologies 	<ul style="list-style-type: none"> Write-offs and early retirement of existing assets Reduced demand for products and services Research and development expenditures on new and alternative technologies Capital investments in technology development Costs to adopt/deploy new practices and processes
	Market	Shifts in supply and demand for certain commodities, products, and services	<ul style="list-style-type: none"> Changing consumer behaviour Uncertainty in market signals Increased cost of raw materials or inputs 	<ul style="list-style-type: none"> Reduced demand for goods and services due to shift in consumer preferences Increased production costs due to changing input prices (eg, energy, water) and output requirements (eg, waste treatment) Abrupt and unexpected shifts in output prices Change in revenue mix and sources, resulting in decreased revenues Re-pricing of assets (eg, fossil fuel reserves, land valuations, securities valuations)
	Reputation	Changing customer or community perceptions of an organization's contribution to or detraction from the transition to a lower-carbon economy.	<ul style="list-style-type: none"> Shifts in consumer preferences Stigmatisation of the sector Increased stakeholder concern or negative stakeholder feedback 	<ul style="list-style-type: none"> Reduced revenue from decreased demand for goods/services Reduced revenue from decreased production capacity (eg, delayed planning approvals, supply chain interruptions)

				<ul style="list-style-type: none"> • Reduced revenue from negative impacts on workforce management and planning (eg, employee attraction and retention) • Reduction in capital availability • Reduction in ability to recover costs
Physical Risk	Acute	Risks that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes, or floods	<ul style="list-style-type: none"> • Increased severity of extreme weather events such as cyclones and floods 	<ul style="list-style-type: none"> • Reduced revenue from decreased production capacity (eg, transport difficulties, supply chain interruptions) • Reduced revenue and higher costs from negative impacts on workforce (eg, health, safety, absenteeism) • Write-offs and early retirement of existing assets (eg, damage to property and assets in “high-risk” locations) • Increased operating costs (eg, inadequate water supply for hydroelectric plants or to cool fossil fuel plants) • Increased capital costs (eg, damage to facilities) • Reduced revenues from lower sales/output • Increased insurance premiums and potential for reduced availability of insurance on assets in “high-risk” locations
	Chronic	Longer-term shifts in climate patterns (eg, sustained higher temperatures) that may cause sea level rise or chronic heat waves.	<ul style="list-style-type: none"> • Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels 	
Opportunities	Resource Efficiency	Actions that can result in direct cost savings to organizations’ operations over the medium to long term and contribute to the global efforts to curb emissions.	<ul style="list-style-type: none"> • Use of more efficient modes of transport • Use of more efficient production and distribution processes • Reduced water usage and consumption 	<ul style="list-style-type: none"> • Reduced operating costs (eg, through efficiency gains and cost reductions) • Increased production capacity, resulting in increased revenues • Increased value of fixed assets (eg, highly rated energy efficient buildings) • Benefits to workforce management and planning (eg, improved health and safety, employee satisfaction) resulting in lower costs
	Energy source	The trend toward decentralized clean energy sources, rapidly declining costs, improved storage capabilities, and subsequent global adoption of these technologies are significant. Organizations that shift their energy usage toward low emission	<ul style="list-style-type: none"> • Use of lower-emission sources of energy • Use of supportive policy incentives • Use of new technologies • Participation in carbon market • Shift toward decentralized energy generation 	<ul style="list-style-type: none"> • Reduced operational costs (eg, through use of lowest cost abatement) • Reduced exposure to future fossil fuel price increases • Reduced exposure to greenhouse gas emissions and therefore less sensitivity to changes in cost of carbon • Returns on investment in low-emission technology • Increased capital availability (eg, as more investors favour lower-emissions producers)

		energy sources could potentially save on annual energy costs.		<ul style="list-style-type: none"> • Reputational benefits resulting in increased demand for goods/services
	Products/services	Innovation and development of new low-emission products and services may improve their competitive position and capitalize on shifting consumer and producer preferences.	<ul style="list-style-type: none"> • Development and/or expansion of low emission goods and services • Development of climate adaptation and insurance risk solutions • Development of new products or services through R&D and innovation • Ability to diversify business activities • Shift in consumer preferences 	<ul style="list-style-type: none"> • Increased revenue through demand for lower emissions products and services • Increased revenue through new solutions to adaptation needs (eg, insurance risk transfer products and services) • Better competitive position to reflect shifting consumer preferences, resulting in increased revenues
	Markets	Opportunities in new markets or types of assets that may diversify activities and better position market participants for the transition to a lower-carbon economy.	<ul style="list-style-type: none"> • Access to new markets • Use of public-sector incentives • Access to new assets and locations needing insurance coverage 	<ul style="list-style-type: none"> • Increased revenues through access to new and emerging markets (eg, partnerships with governments, development banks) • Increased diversification of financial assets (eg, green bonds and infrastructure)
	Resilience	Developing adaptive capacity to respond to climate change to better manage the associated risks and seize opportunities, including the ability to respond to transition risks and physical risks. Opportunities include improving efficiency, designing new production processes, and developing new products.	<ul style="list-style-type: none"> • Participation in renewable energy programs and adoption of energy efficiency measures • Resource substitutes/diversification 	<ul style="list-style-type: none"> • Increased market valuation through resilience planning (eg, infrastructure, land, buildings) • Increased reliability of supply chain and ability to operate under various conditions • Increased revenue through new products and services related to ensuring resiliency