

Associated documents

Publication date	Reference	Title
28 February 2013	ISBN 878-1-869452-20-9	<u>Setting default price-quality paths for suppliers of gas pipeline services</u>
28 February 2013	ISBN 978-1-869453-11-4	<u>[2013] NZCC 4 Gas Distribution Services Default Price-Quality Path Determination 2013</u>
27 March 2014	ISBN 978-1-869453-60-2	<u>[2013] NZCC 5 Gas Transmission Services Default Price-Quality Path Determination 2013 (consolidating all amendments as of 26 March 2014)</u>
29 May 2017	ISSN 1178-2560	<u>[2017] NZCC 15 Gas Distribution Services Default Price-Quality Path Determination 2017 (29 May 2017)</u>
29 May 2017	ISSN 1178-2560	<u>[2017] NZCC 14 Gas Transmission Services Default Price-Quality Path Determination 2017 (29 May 2017)</u>
3 April 2018	ISSN 1178-2560	<u>Gas Distribution Services Input Methodologies Determination 2012 (consolidating all amendments as of 3 April 2018)</u>
3 April 2018	ISSN 1178-2560	<u>Gas Transmission Services Input Methodologies Determination 2012 (consolidating all amendments as of 3 April 2018)</u>
29 April 2021	N/A	<u>Open letter – ensuring our energy and airports regulation is fit for purpose</u>

Commerce Commission
New Zealand

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Executive summary

Purpose of this paper

- X1 This paper:
- X1.1 discusses the options for resetting the default price-quality path (DPP) for gas pipeline businesses (GPBs) for the third regulatory period beginning 1 October 2022 (DPP3), including whether we should set starting prices through a rollover of current prices or a reset based on a consideration of current and projected profitability;
 - X1.2 explains our proposed framework for considering changes to our past approach to resetting the DPP; and
 - X1.3 outlines potential issues we have identified in advance of the DPP3 draft decision for consultation.
- X2 We invite submissions in response to this paper by 5pm on 25 August 2021 and cross submissions by 5pm on 8 September 2021. You can find details on how to submit in Chapter 7.

GPBs are regulated under price-quality regulation

- X3 We are required to reset the DPPs that currently apply to GPBs that are subject to price-quality regulation under Part 4 of the Commerce Act 1986 (the Act). Part 4 provides for regulation in markets in which there is little or no competition, and little or no likelihood of a substantial increase in competition.
- X4 We set the current GPB DPP (DPP2) in May 2017. DPP2 specifies the price path and quality standards that GPBs must comply with during the current regulatory period (1 October 2017 to 30 September 2022).
- X5 From 1 October 2022, GPBs will be subject to the new requirements set out for DPP3, which we must set by 31 May 2022. The GPBs subject to price-quality regulation are four gas distribution businesses ('GDBs' - First Gas, GasNet, Powerco Limited, and Vector Limited) and one gas transmission business ('GTB' - First Gas).
- X6 The GDBs are currently subject to a weighted average price cap (WAPC), while the GTB is subject to a revenue cap with a wash-up of under- and over-recovery of revenue. The starting prices we have previously set for both GDBs and the GTB are specified in terms of maximum allowable revenue (MAR), which is an amount net of pass-through costs and recoverable costs.

X7 For this reset, we intend to retain approaches from the last gas DPP reset (DPP2) where they remain fit for purpose. We intend to make changes to the DPP2 approaches where those changes would:

X7.1 promote the purpose of Part 4 better; and

X7.2 promote the purpose of default price-quality path regulation better; or

X7.3 reduce unnecessary complexity and compliance costs.

Context for this DPP

X8 The prospect of climate change affecting the way we create and use energy, and the Government's commitment to net zero carbon emissions by 2050, and 100% renewable electricity by 2030, means that the energy sector is in a period of change and uncertainty, and the pace of change may accelerate. The final advice to the Government from the Climate Change Commission (CCC) outlined a decarbonisation pathway that would result in a decline in natural gas use alongside a potential future role for biogas and hydrogen.¹ The Government must respond to the CCC's advice by 31 December 2021.

X9 This means that the future of gas consumption is uncertain. In its progress report from June 2021, the Gas Infrastructure Future Working Group assessed two very different possible scenarios for gas consumption; a 'wind-down' scenario (where gas consumption is phased out and gas infrastructure decommissioned) and a 're-purpose' scenario (where gas consumption transitions from natural gas to an alternative such as hydrogen or biogas, sometimes termed 'clean gas').²

X10 While there are major uncertainties surrounding repurposing, we cannot rule out 'clean' gas being a technically and economically viable alternative to natural gas for some uses.

Our approach to managing uncertainty

X11 Consistent with the context above, we have set out two priority outcomes for the DPP3 reset:

X11.1 appropriate levels of expenditure on investment and maintenance to ensure safe and reliable natural gas supply; and

¹ Climate Change Commission, "Ināia tonu nei: a low emissions future for Aotearoa" available at <https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa/> pages 29, 69, 111, 284-288, 292-294

² New Zealand Gas Infrastructure Working Group Progress Report - 1 June 2021

- X11.2 predictable natural gas pipeline prices for consumers while limiting excess profitability.
- X12 Increased uncertainty creates significant (and interrelated) challenges for us to address in meeting these outcomes. Key challenges include:
 - X12.1 accurately projecting profitability given the increased uncertainty;
 - X12.2 amending IMs while meeting the statutory timeframe for determining DPP3; and
 - X12.3 addressing increased risk of economic network stranding. There is a risk that GPBs will be unable to, at some point in the future, fully recover their historic capital investment as customers disconnect from GPB networks.

Approach to setting starting prices

- X13 When setting the starting price under a DPP, section 53P(3) of the Act provides for two approaches: rolling over the prices applying at the end of the preceding regulatory period (a rollover); or setting starting prices based on the current and projected profitability of each GPB (a reset). To date, we have followed the latter approach.
- X14 The sectors which we regulate typically have characteristics that have made it appropriate to project profitability. Given the CCC's recommendations and the significant uncertainty over the future direction of the sector, this may no longer be the case for the gas industry. We are therefore considering whether a rollover will better give effect to the Part 4 purpose at this time.
- X15 Using a rollover to set the starting price for GPBs is likely to result in greater short-term cash flows for GPBs. On its own this may result in GPBs earning excess profits during DPP3. However, if decarbonisation makes it unlikely that businesses will achieve financial capital maintenance (FCM) over the life of their assets, then allowing businesses to earn higher short-term revenues is unlikely to result in excessive profits.
- X16 This approach would also be less complex and involve less need to forecast sector conditions than a reset.

Managing demand risk

- X17 We currently use a WAPC for GDBs and a pure revenue cap for the GTB. Form of control was last reviewed in the 2016 IM review, in a policy and sector context where growth in natural gas use was encouraged. Given the changing environment, we are considering the extent to which current forms of control appropriately weight demand risk between consumers and GPBs and promote the Part 4 purpose.

- X18 A WAPC creates an incentive for suppliers to increase the number of connections to their network, because they are rewarded with an increase in total revenue. The efficiencies created by increased demand are shared with consumers at the next reset. A revenue cap conversely protects suppliers from a decrease in revenue associated with lower demand as they are able to share the cost (lost revenue) across their remaining customers. In the current context, we will consider the extent to which it is appropriate to provide an incentive to increase demand in the short term compared to using a revenue cap to help reduce short-term economic stranding costs. In the long term, the costs of stranding remain with consumers as long as FCM is maintained.
- X19 Price path reopeners under a WAPC are an alternative to a revenue cap that may be used to protect GPBs from large changes in demand but still reflect their greater ability to manage demand risk within the regulatory period.
- X20 For the GTB, we are considering whether consumers are still best placed to manage demand risk over the next regulatory period. The purpose of the current 'pure' revenue cap with a wash-up of under- and over-recovery of revenue is to ensure that revenue is not under- or over-recovered over time. It therefore puts demand risk fully on consumers, exposing them to potentially large price increases within a regulatory period if there are disconnections by large customers from the network which were not anticipated at the time of the reset. Moving to a WAPC would shift demand risk to the GTB. Caps on price increases (under the existing revenue cap) are an alternative to manage demand risk within the regulatory period without fully transferring demand risk to the GTB.

Managing capital recovery risk

- X21 Rolling over starting prices is likely to help address economic network stranding or partial capital recovery risk by allowing revenues that are higher than might be allowed under our normal reset approach. However, if we set starting price based on an assessment of current and projected profitability, we could directly address the increased risk of partial capital recovery through new mechanisms that either mitigate or compensate for the risk.
- X22 In the 2016 IM review, we introduced a mechanism to the IMs to allow electricity distribution businesses (EDBs) to apply for shorter asset lives. This was to ease concerns over the risk of partial capital recovery of long-life assets. We have also previously provided ex-ante compensation to regulated fibre services to manage the risk of partial capital recovery. Given the current uncertainty that exists in the gas sector, we are considering whether it would be appropriate to introduce similar mechanisms for GPBs.

Summary of issues

X23 The key issues, our emerging views and options for addressing them in DPP3 are summarised in table X1 below.

Table X1 Summary of issues

Area	Key issues, emerging views and options
Fundamental changes to IMs	<ul style="list-style-type: none"> • We will be guided by our existing decision-making framework for IM changes which sets a high threshold for making fundamental changes to IMs outside of a full IM review (section 52Y review). • Given the exceptional circumstances facing the gas sector, there may be a case for making a small number of changes to IMs that would typically only be reviewed under a full IM review. • We would need to be persuaded that any proposed changes better promote the Part 4 purpose given the significant policy and sector uncertainty. (Chapters 2 and 3).
Approach to setting starting prices	<ul style="list-style-type: none"> • Given the significant uncertainty over the gas sector, we are considering rolling over prices from the 2017 DPP. Alternatively, we may also set starting prices based on current and projected profitability, rather than on a rollover of current prices. We discuss a possible rollover of starting prices in Chapter 5
Rollover reset options and issues with it are discussed in Chapter 5	
A simple rollover may lead to excess profits	<ul style="list-style-type: none"> • A rollover of prices from the DPP2 period into DPP3 would likely result in greater short-term cash flows for GPBs. This may be appropriate where GPBs face significant stranding risk. • On its own this would likely result in excess profits for GPBs. • However, it may have advantages in the short term such as less complexity and providing some compensation for stranding risk.
Price path reset option issues are discussed in Chapter 6 and attachments	
Forecast opex	<ul style="list-style-type: none"> • If we proceed with a reset based on assessing profitability, our current preference is to depart from the intensive 2017 DPP expenditure forecast scrutiny process and implement a base step-and-trend forecasting approach for opex (see attachment B). • We would need to reassess the inputs used to set the trend, and any adjustments to the base year. • If we decide to use base step and trend modelling, we propose aligning it with the 2020 EDB DPP base step and trend modelling approach. • We are considering whether a different approach to new connections and system growth is required in a wind-down scenario.

Area	Key issues, emerging views and options
Forecast capex	<ul style="list-style-type: none"> • Our current preference is to depart from the intensive 2017 DPP expenditure forecast scrutiny approach for capex but to keep aspects of it (see Attachment B). • We propose to use GPBs' own forecasts as a starting point for business as usual (BAU) expenditure that is consistent with historical expenditure. • We are considering whether a different approach to new connections and system growth capex is required in a wind-down scenario. • We are considering how we would treat step change investments due to foreseeable and unforeseeable capex in a manner consistent with the EDB DPP to deal with uncertainty.
Productivity	<ul style="list-style-type: none"> • We will look at the costs and benefits of retaining the approaches to setting the X-factor and opex partial productivity; as well as any alternative methodologies that may exist (see Attachment B).
Issues common to rollover and price path reset	
Climate change policy uncertainty	<ul style="list-style-type: none"> • We are considering whether a reduced asset lives mechanism or ex-ante compensation mechanisms for economic stranding risk is appropriate to deal with climate change policy setting uncertainty. We will need to consider how new and existing assets are treated (see Attachment D). • We are considering whether price path reopeners are appropriate to manage the risk of demand diverging significantly from our forecasts in response to climate change policy (see Attachment A). • We are also interested in stakeholders' views on the use, and form, of reopeners under either a rollover or price path reset that could be used to address changes in climate change policy. • The Act provides for a 5-year price path by default which must be set before the end of DPP2. We can set a 4-year path instead, and are interested in stakeholders' views on whether this option would better meet the Part 4 purpose (see Chapters 2 and 4).
Form of control	<ul style="list-style-type: none"> • We discuss whether a pure revenue cap is now more appropriate for GDBs; and this may remove the need for us to carry out constant price revenue growth (CPRG) forecasting. • If we change the form of control for GDBs we would need to introduce a revenue wash-up mechanism (see Attachment A). • We also discuss possible changes to the form of control for the GTB. The current revenue wash-up mechanism for gas transmission has created prices which are volatile between years and may not be appropriate given the increased uncertainty over demand in the gas sector (see Attachment A).
IRIS	<ul style="list-style-type: none"> • Consistent with our 2017 Gas DPP decision our view is that the benefits from implementing a capex and opex IRIS for gas pipeline services are unlikely to outweigh the costs. • Our emerging view is that we defer judgement on the GPB IRIS until the IM review where the IRIS mechanism across regulated sectors can be reviewed.

Area	Key issues, emerging views and options
Quality of service	<ul style="list-style-type: none">• For gas transmission and distribution, we will consider whether there are other quality of service standards that could be implemented. Our current view is that no additional quality standards are necessary (see Attachment C).

Chapter 1 Introduction

Purpose of this paper

- 1.1 This paper:
- 1.1.1 discusses the options for resetting the default price-quality path (DPP) for gas pipeline businesses (GPBs) for the third regulatory period beginning 1 October 2022 (DPP3), including whether we should set starting prices through a rollover of current prices or a reset based on a consideration of current and projected profitability;³
 - 1.1.2 explains our proposed framework for considering changes to our past approach to resetting the DPP; and
 - 1.1.3 outlines potential issues we have identified in advance of the DPP3 draft decision for consultation.
- 1.2 To achieve this we:
- 1.2.1 explain our framework for making decisions when resetting the DPP;
 - 1.2.2 set out our priorities for the DPP3 reset in the context of changes in the gas industry and regulatory environment;
 - 1.2.3 explain the core components of how DPP regulation works and how it fits into the broader regime under Part 4 of the Commerce Act 1986 (the Act);
 - 1.2.4 set out and analyse potential issues specific to the DPP3 reset and where possible identify options for resolving them; and
 - 1.2.5 explain the DPP3 process, including further opportunities for stakeholders to participate in the reset process.
- 1.3 Our reasons for doing this are:
- 1.3.1 to encourage and facilitate submissions that will assist us in developing the DPP further, with an emphasis on identifying any additional issues or options which we have not identified;
 - 1.3.2 for stakeholders to have clear expectations about how the DPP will work, and what it will cover;

³ Depending on the context, in this paper references to DPP3 can mean the third regulatory period, or the DPP decisions for the third regulatory period.

- 1.3.3 for stakeholders to be able to decide the extent to which they want to be involved in the DPP process; and
- 1.3.4 for all stakeholders to understand the basis on which we intend to make decisions, and to have confidence that we are promoting the purpose of Part 4 in doing so.
- 1.4 We invite submissions in response to this paper by 5pm on 25 August 2021 and cross submissions by 5pm on 8 September 2021. You can find details on how to submit in Chapter 7.

Structure of this paper

- 1.5 The chapters of this paper broadly explain our approach to resetting the DPP, including how we propose to consider changes to the DPP. They summarise the issues we are addressing within each component of the DPP. The attachments then provide greater detail on the issues we are considering, the options we have for addressing them, and the analysis which will inform our decisions.
- 1.6 Details of what each chapter and attachment addresses are set out in Table 1.1 below.

Table 1.1 Structure of this paper

Section	Title	Description
Chapter 1	Introduction	Sets out the purpose of this paper, what it covers, and how it is structured.
Chapter 2	How we intend to make decisions for DPP3	Describes the high-level framework we propose to apply in setting DPP3, including: Part 4 statutory requirements and objectives, and our decision-making framework.
Chapter 3	Context and priorities for DPP3	Sets out our view of the context in which we are setting DPP3, our priorities for the GPB sector, and how these priorities give effect to the Part 4 purpose when applied to the DPP3 reset.
Chapter 4	Our approach for regulating price and quality	Provides a high-level overview of the core components of the DPP and the decisions we will need to make on each of them.
Chapter 5	Options for setting the DPP using a rollover	Discusses the options for setting DPP3 using a rollover of DPP2 prices
Chapter 6	Setting the DPP using building blocks	Discusses the approach of setting DPP3 using building blocks and issues that may need to be addressed across the different components of the DPP. This includes: form of control, expenditure allowances, and quality standards.
Chapter 7	Next steps and how you can provide your views	Explains the next steps in the DPP3 process, how and when parties should make submissions, and other opportunities to provide views.

Attachment A	Form of control	Summarises how we cap revenues or average prices under DPP or CPP regulation.
Attachment B	Setting expenditure allowances	Summarises how we forecast operating and capital expenditure allowances in DPP2, and explains what we are considering with respect to setting expenditure allowances for DPP3.
Attachment C	Quality	Sets out our preliminary views on quality of service measures other than the existing measures of network reliability.
Attachment D	Addressing the risk of economic network stranding	Discusses the issues surrounding economic network stranding risk that may arise due to the transition to a net zero carbon economy and the various techniques that are available to us to address stranding risk.

Chapter 2 How we intend to make decisions for the DPP

Purpose of this chapter

- 2.1 This chapter describes the high-level framework we propose to apply in setting DPP3. To do this, we explain:
- 2.1.1 the requirements for setting DPPs under Part 4 of the Act;
 - 2.1.2 the overarching objectives in the Act that are relevant when setting a DPP;
 - 2.1.3 our proposed framework for making decisions for DPP3; and
 - 2.1.4 our proposed framework for considering input methodologies (IM) changes when setting a DPP.

Requirements for setting DPPs under Part 4

- 2.2 Part 4 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.⁴ For GPBs, it sets out that regulation should apply in two forms:
- 2.2.1 Information disclosure (ID) regulation, under which regulated suppliers are required to publicly disclose information relevant to their performance.⁵
 - 2.2.2 Default/customised price-quality regulation, under which price-quality paths set the maximum prices or revenues that the regulated supplier can charge.⁶ They also set standards for the quality of the services that each regulated supplier must meet. This ensures that businesses do not have incentives to reduce quality to maximise profits under their price quality path.⁷
- 2.3 To set a DPP, Part 4 specifies a number of requirements and obligations we must follow:
- 2.3.1 the scope and application of the regulatory rules and processes, referred to as IMs, which we are required to set for Part 4 regulation;
 - 2.3.2 what the determinations used to set DPPs must specify;

⁴ Section 52 of the Act. The process and criteria for deregulating gas pipelines is set out in sections 55A(5) and (6).

⁵ Sections 52B and 55C of the Act.

⁶ Section 53M of the Act.

⁷ Sections 52B and 55D of the Act.

2.3.3 the content and timing of DPPs; and

2.3.4 requirements when resetting DPPs.

2.4 We must also consider the Part 4 purpose and what DPP regulation is intended to achieve when making our decisions. We discuss these objectives and how we are required to use them to set DPPs in the next section of this chapter.

Overarching objectives in the Act used when setting a DPP

Purpose of Part 4

2.5 Section 52A of the Act sets out the purpose of Part 4 regulation:

- (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.

2.6 In the context of DPP3, the key component of this statement is that we are to promote the long-term benefit of consumers of gas pipeline services which includes consumers of natural gas, and this is our primary concern in achieving the purpose of Part 4.⁸ Section 52A guides us that this is to be achieved by promoting outcomes that are consistent with outcomes produced by competitive markets, and gives us four objectives to pursue that are considered consistent with those of competitive markets.

2.7 In practice, when setting a DPP, it is important to note:

- 2.7.1 We do not focus on replicating all the potential outcomes or mechanisms of workably competitive markets; we focus on promoting the section 52A outcomes.

⁸ Section 52C of the Act provides that a consumer “means a person that consumes or acquires regulated goods or services”. The consumers of the regulated goods and services referred to in section 52A therefore include both the direct acquirers of the gas pipelines services and those persons that consume those services via the purchase of natural gas.

2.7.2 None of the objectives listed section 52A(a) to (d) are paramount, and they are not separate and distinct from each other, nor from section 52A(1) as a whole. Rather, we must balance the section 52A(1)(a) to (d) outcomes, and exercise judgement in doing so.⁹

2.7.3 When exercising our judgement, we are guided by what best promotes the long-term benefit of consumers.¹⁰

Purpose of default/customised price-quality regulation

2.8 Section 53K of the Act sets out the purpose of default/customised price-quality regulation:

The purpose of default/customised price-quality regulation is to provide a relatively low-cost way of setting price-quality paths for suppliers of regulated goods or services, while allowing the opportunity for individual regulated suppliers to have alternative price-quality paths that better meet their particular circumstances.

2.9 We have taken this purpose to mean that:

2.9.1 DPPs are to be set in a relatively low-cost way, and are not intended to meet all the circumstances that a GPB may face; and

2.9.2 CPPs are intended to be tailored to meet the particular circumstances of an individual GPB.

2.10 To meet the relatively low-cost purpose of DPP regulation, we must take into account the efficiency, complexity, and costs of the DPP regime as a whole when resetting the DPP. What this means in practice will vary over time and between sectors.

2.11 In the DPPs we have set since we determined the IMs,¹¹ we have developed a combination of low-cost principles including:

2.11.1 applying the same or substantially similar treatment to all suppliers on a DPP;

2.11.2 setting starting prices and quality standards or incentives with reference to historical levels of expenditure and performance;

⁹ Wellington International Airport Ltd & others v Commerce Commission [2013] NZHC 3289, para 684.

¹⁰ Wellington International Airport Ltd & others v Commerce Commission [2013] NZHC 3289, paras 165, 222, 684, 686 and 761.

¹¹ Electricity Distribution Services Default Price-Quality Path Determination 2015 [2014] NZCC 33; Gas Transmission Services Default Price-Quality Path Determination 2013 [2013] NZCC 5; Gas Distribution Services Default Price-Quality Path Determination 2013 [2013] NZCC 4.

- 2.11.3 where possible, using existing information disclosed under ID regulation, including suppliers' own asset management plan (AMP) forecasts; and
- 2.11.4 limiting the circumstances in which we will reopen or amend a DPP during the regulatory period.

Interaction of climate change policy with the section 52A purpose

2.12 The Climate Change Commission (CCC) has published its final advice to the Government containing a number of recommendations relevant to GPBs.¹² The purpose of these recommendations is to propose means by which the Government can achieve the legislated target of net zero emissions of long-lived greenhouse gases by 2050.¹³ The Government must respond to the CCC's advice by 31 December 2021.

2.13 Section 5ZN of the Climate Change Response Act 2002 (CCRA) provides for us to take into account the 2050 net zero emissions target,¹⁴ an emissions budget, or an emissions reduction plan when performing our statutory duties:

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.¹⁵

2.14 However, under the current legislative framework the scope for us to consider the 2050 net zero emissions target when making decisions under Part 4 is limited. Section 52A of the Act does not reference decarbonisation or mitigating climate change as outcomes to be promoted to achieve the purpose of Part 4.

2.15 The Part 4 purpose contained in section 52A of the Act remains paramount and the section 5ZN factors of the CCRA may only be considered to the extent that they do not conflict with it. In making decisions for DPP3 under Part 4, the section 52A purpose statement and desired outcomes specified under it are our primary considerations.

¹² Climate Change Commission, "Ināia tonu nei: a low emissions future for Aotearoa" available at <https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa/>.

¹³ Climate Change Response Act 2002, section 5Q.

¹⁴ Climate Change Response Act 2002, section 5Q.

¹⁵ The Government must set the first three emissions budgets and emissions reduction plans by 31 December 2021. These budgets will cover the period from 2022 to 2035. This information may therefore only become available to us toward the end of the DPP3 process.

- 2.16 While we can have regard to the 2050 target and emissions reduction plan, we cannot do so where it detracts from the Part 4 purpose. This is discussed further in Chapter 3, and we welcome stakeholder views on the options available to us. However, to the extent that climate change legislation imposes obligations on regulated businesses, we consider we can take this into account in setting the price path or could reopen the price path if legislative change occurs during the regulatory period.

Our proposed framework for making decisions on DPP3

- 2.17 In addition to the section 52A and 53K purpose statements, we intend to use a decision-making framework and set of economic principles that we have developed over time to support our decision-making under Part 4. These have been consulted on and used as part of prior processes and help provide consistency and transparency in our decisions (see associated documents).

Decision-making framework for DPP3

- 2.18 For this reset, we intend to retain approaches from the last gas DPP reset (DPP2) where they remain fit for purpose.¹⁶ We intend to make changes to the DPP2 approaches where those changes would:
- 2.18.1 promote the purpose of Part 4 better;¹⁷
 - 2.18.2 promote the purpose of DPP regulation better;¹⁸ or
 - 2.18.3 reduce unnecessary complexity and compliance costs.¹⁹
- 2.19 This approach has been adapted from the 2016 IM review framework, and the framework we applied when resetting the DPP for GPBs in 2017. We consider it will help ensure consistency with the low-cost purpose of the DPP.²⁰

¹⁶ These DPP2 approaches are discussed in the relevant attachments to this paper. However, a full discussion of the DPP2 decision can be found in Commerce Commission “Default price-quality paths for gas pipeline businesses from 1 October 2017 – Final reasons paper” (31 May 2017).

¹⁷ Section 52A of the Act.

¹⁸ Section 53K of the Act.

¹⁹ We will not make a change where we consider that doing so would detract from the promotion of the purpose of Part 4.

²⁰ Commerce Commission “Default price-quality paths for gas pipeline businesses from 1 October 2017 – Final reasons paper” (31 May 2017) paras 2.19-2.22.

- 2.20 In addition to the above, we also intend, where appropriate, to carry across new approaches developed during the DPP we set in 2019 for electricity distribution businesses and for recent CPPs.²¹

Economic principles

- 2.21 We also have three key economic principles that we will have regard to in setting the DPP, unless doing so is inconsistent with section 52A. We consider that these are useful analytical principles when determining how we might best promote the Part 4 purpose.
- 2.21.1 Real financial capital maintenance (FCM): we provide regulated suppliers the ex-ante expectation of earning their risk-adjusted cost of capital (a ‘normal return’). This provides suppliers with the opportunity to maintain their financial capital in real terms over timeframes longer than a single regulatory period. However, price-quality regulation does not guarantee a normal return over the lifetime of a regulated supplier’s assets. The decarbonisation of the energy sector (which we discuss in Chapter 3) will provide additional challenges and uncertainty to the business of conveying natural gas by pipeline, and the returns on and of capital from doing so. Our approach to setting this DPP within that more challenging and uncertain context is discussed in Chapters 4, 5 and 6.
- 2.21.2 Allocation of risk: ideally, we allocate particular risks to suppliers or consumers depending on who is best placed to manage the risk.
- 2.21.3 Asymmetric consequences of over- and under-investment: we apply FCM recognising that usually there are asymmetric consequences to consumers of regulated energy services, over the long-term, of under-investment.
- 2.22 We elaborated on each of these principles and how they should be applied in the context of price-quality regulation in our 2016 IM review framework paper.²²

Our proposed framework for considering changes to gas IMs

- 2.23 As part of our decision-making process when setting a DPP, we may identify changes to the IMs that are necessary to make the DPP workable. When considering changes to the IMs, we intend to adopt the framework we developed as part of the last DPP reset for EDBs. We explain that framework below.

²¹ Commerce Commission “Wellington Electricity’s customised price-quality path – Final Decision” (28 March 2018); Commerce Commission “Powerco’s customised price-quality path – Final Decision” (28 March 2018)

²² Commerce Commission “Input methodologies review decisions: Framework for the IM review” (20 December 2016) pages 38-49.

Statutory context

- 2.24 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 under Part 4. Under section 52T(2)(a), IMs, as far as is reasonably practical, are required to set out relevant matters in sufficient detail so that each affected supplier is reasonably able to estimate the material effects of the methodology on the supplier. So IMs constrain our evaluative judgements in subsequent regulatory decisions and enhance predictability.²³
- 2.25 However, some uncertainty is inevitable.²⁴ As the Court of Appeal observed in 2012: "certainty is a relative rather than an absolute value",²⁵ and "there is a continuum between complete certainty at one end and complete flexibility at the other".²⁶
- 2.26 The section 52R purpose is 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. Where the promotion of section 52A requires amendment to an IM, section 52R does not constrain this. This is because section 52A is the central purpose of the Part 4 regime and other purpose statements within Part 4 are conceptually subordinate.²⁷
- 2.27 We must only give effect to these subordinate purposes to the extent that doing so does not detract from our overriding obligation to give effect to the section 52A purpose.²⁸ Giving effect to the section 52A purpose may, however, require recognition of the role that predictability plays in providing suppliers with incentives to invest in accordance with s 52A(1).
- 2.28 Section 52Y(1) requires us to review all IMs no later than seven years after their date of publication. This can be viewed as providing a regular review cycle for the IMs. However, within that period, IMs can be amended pursuant to section 52X, and we can conduct a section 52Y review earlier within the seven-year period (as long as it is completed for each IM no later than seven years after publication).

²³ Wellington International Airport Ltd & others v Commerce Commission [2013] NZHC 3289, para 213.

²⁴ Wellington International Airport Ltd & others v Commerce Commission [2013] NZHC 3289, para 214.

²⁵ Commerce Commission v Vector Ltd [2012] NZCA 220, para 34.

²⁶ Commerce Commission v Vector Ltd [2012] NZCA 220, para 60.

²⁷ Wellington International Airport Ltd v Commerce Commission [2013] NZHC 3289, para 165.

²⁸ Wellington International Airport Ltd v Commerce Commission [2013] NZHC 3289.

Amending the input methodologies under section 52X

- 2.29 Leading up to a DPP reset, we may need to consider which topics are appropriate to consult on as potential section 52X amendments.
- 2.30 Section 52X allows us to amend an IM at any time, provided that, where the change is material, we follow the consultation process set out in section 52V. However, in deciding whether to exercise our power to consult on amendments to the IMs, we must also have regard to section 52A as the central purpose of Part 4, as well as the purpose of IMs (section 52R).
- 2.31 Accordingly, when undertaking a section 52X amendments process, outside the review cycle mandated by section 52Y, we must carefully assess what amendments are most appropriately (in light of sections 52A and 52R) considered through that process, as opposed to being considered through a review of IMs under section 52Y.
- 2.32 On the one hand, it is important that the IMs are appropriate going into the DPP reset—particularly since IM amendments made after the reset will not impact on the DPP.²⁹ On the other hand, in determining the scope of a section 52X amendments process, we must be mindful that this may have an unduly detrimental effect on:
- 2.32.1 the role that predictability plays in providing suppliers with incentives to invest in accordance with section 52A(1); and
 - 2.32.2 the role that the IMs play in promoting certainty for suppliers and consumers in relation to the rules, requirements, and processes in advance of being applied by us and suppliers (for example, in setting the DPP).
- 2.33 It will not generally be appropriate to consider fundamental changes to the IMs as part of a section 52X amendments process.
- 2.34 By fundamental changes, we mean significant changes to the IMs listed in section 52T(1)(a) – being the cost of capital, valuation of assets, allocation of common costs, and treatment of taxation. These IMs provide the foundational building blocks used to set price-quality paths. While we might consider such amendments in exceptional circumstances, they will normally be more appropriately considered as part of the next section 52Y review of the IMs.

²⁹ Section 53ZB(1) of the Act.

- 2.35 The section 52Y review process is better suited to considering amendments to these foundational building blocks. Where fundamental changes are being considered to the building blocks, this is best done when all aspects of a particular IM (or a group of IMs) are subject to review, so that stakeholders are able to consider the impact of any changes to some aspects of the IM on the overall policy stance given by the IM as a whole.

Decision-making framework for assessing whether IM amendments should be progressed as part of DPP3

- 2.36 In deciding whether to bring forward potential IM amendments within the scope of this DPP3, we will apply a decision-making framework that we have developed over time to support our decision-making under Part 4 of the Act.³⁰ This has been consulted on and used as part of prior processes, and helps provide consistency and transparency in our decision-making.
- 2.37 Specifically, we will consider whether, within the context of the DPP3, candidate IM amendments would:
- 2.37.1 promote the Part 4 purpose in section 52A of the Act more effectively than the current IMs;
 - 2.37.2 promote the IMs purpose in section 52R of the Act more effectively (without detrimentally affecting the promotion of the section 52A purpose); or
 - 2.37.3 significantly reduce compliance costs, other regulatory costs or complexity (without detrimentally affecting the promotion of the section 52A purpose).
- 2.38 Where relevant, we will also consider the purpose of default price-quality regulation.

³⁰ See Commerce Commission “Input methodologies review decisions: Framework for the IM review” (20 December 2016), para 59.

Chapter 3 Context and priorities for this DPP

Purpose of this chapter

- 3.1 This section sets out our view of the context in which we are setting DPP3, our priorities for the GPB sector, and how these priorities give effect to the Part 4 purpose when applied to the DPP3 reset.
- 3.2 As discussed in Chapter 2, our fundamental aim when setting a price-quality path is to promote the Part 4 purpose and the purpose of default/customised price-quality regulation. However, what this means in practice changes in response to a changing industry and regulatory context.
- 3.3 Furthermore, there is a limit to the scope of issues we can address at any given time, especially given the relatively low-cost nature of DPP regulation. As such, we must identify priority areas that help us to focus our activity and resources.
- 3.4 To help stakeholders understand our reasons for choosing to focus on the issues discussed in the remainder of this paper, this chapter discusses:
 - 3.4.1 the context for setting DPP3;
 - 3.4.2 New Zealand’s planned transition to a net zero carbon emissions economy;
 - 3.4.3 demand uncertainty in the natural gas sector; and
 - 3.4.4 prioritising the long-term interests of consumers of natural gas in DPP3.

Context for setting DPP3

- 3.5 Periodic resets allow us to update the DPP to respond to changing circumstances. This includes not only changes in GPBs’ costs and performance, but also wider issues affecting the sector.
- 3.6 The backdrop for this reset is a period of change and uncertainty. Our view of the most prominent factors is discussed below, specifically:
 - 3.6.1 the Government’s target, set out in the Climate Change Response Act, of carbon neutrality by 2050 and role of fossil gas during the transition to 100% renewable energy;
 - 3.6.2 demand and supply uncertainty in the natural gas sector; and
 - 3.6.3 the role of new gas technology.

New Zealand’s transition to a net zero carbon emissions economy

- 3.7 The Government’s recent commitment to net zero emissions by 2050, and 100% renewable electricity by 2030, means that the energy sector is in a period of change and uncertainty, and the pace of change may accelerate.
- 3.8 There are climate change initiatives already in place that may be having an impact on the supply and demand for natural gas.
- 3.8.1 In 2018, the Government decided there will be no further offshore oil and gas exploration permits granted, limiting potential gas supplies.
- 3.8.2 The New Zealand Emissions Trading Scheme, which is a key tool for the Government to reduce greenhouse gas emissions and meet international and domestic climate change targets. The scheme has resulted in rising carbon prices potentially impacting the demand for natural gas.

Climate Change Commission’s recommendations to Government

- 3.9 The final advice to the Government from the CCC outlined a decarbonisation pathway that may mean an increasingly significant role for electricity, a decline in natural gas use, and a potential future role for biogas and hydrogen.³¹ The Government must respond to the CCC’s advice by 31 December 2021. The Government’s decisions in response to the CCC’s final advice will have a profound impact on the future of natural gas use in New Zealand.
- 3.10 The CCC stated that the speed at which New Zealand replaces natural gas use with electricity needs to be managed to ensure electricity remains reliable and affordable. To manage the transition, the CCC’s final advice proposes setting a date from when no new fossil gas connections are permitted, and where feasible, all new or replacement heating systems installed are electric or bioenergy. The CCC proposed that this should be no later than 2025 and earlier if possible.
- 3.11 Whether or not this recommendation is adopted by the Government, gas use is likely to decline as New Zealand decarbonises.

³¹ Climate Change Commission, “Ināia tonu nei: a low emissions future for Aotearoa” available at <https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa/> pages 29, 69, 111, 284-288, 292-294

- 3.12 To supplement the recommended emissions budgets, the CCC recommended that the Government publish, prior to June 2024, a national energy strategy to decarbonise the energy system and ensure the electricity sector is ready to meet future needs. According to the CCC, the strategy should ensure a smooth phase-down of fossil fuels, and a scale-up of renewable electricity generation and new-emissions fuels to meet supply and demand requirements.
- 3.13 In planning for the diminishing role for natural gas, the CCC advised that choices the Government makes as the energy system decarbonises should keep options open as far as possible. The scope of the national energy strategy would need to cover how to eliminate fossil gas use in residential, commercial and public buildings (by 2050). The recommended actions include:
- 3.13.1 setting a date to end the expansion of pipeline connections in order to safeguard consumers from the costs of locking in new natural gas infrastructure;
 - 3.13.2 evaluating the role of low-emission gases as an alternative use of pipeline infrastructure; and
 - 3.13.3 determining how to transition existing natural gas users towards low-emissions alternatives like biogas or hydrogen.
- 3.14 However, the immediate future for the energy transition, particularly in the gas sector, is highly uncertain. While the Government’s response in December 2021 will provide some clarity to the direction for the gas sector, the Government will still need to develop policies and implement them over the next “first emissions budget” period (2022-2025).
- 3.15 Uncertainty regarding the Government’s response and implications for the energy sector poses challenges for us in setting DPP3. In response to our recent open letter, some submitters suggested making fundamental changes to the IMs and bringing forward the full IM review. For example.
- 3.15.1 First Gas submitted that it is not appropriate to delay decisions around the Gas DPP and IM review until there is greater certainty regarding government policy. First Gas suggest we consider as part of DPP3 a number of mechanisms to prevent growth of RABs and address the risk of price escalation and economic stranding.³²

³² First Gas “Response to Open Letter on Fit for Purpose Regulation” (28 May 2021) at p3 and 6-7.

- 3.15.2 Greymouth Gas submitted that the reset should not be conducted with the current IMs, highlighting changes to the gas sector since DPP2. Greymouth Gas suggested that locking in prices that are not informed by a review of inputs such as asset valuation risk accelerating the decline of the market.³³
- 3.15.3 Major Gas Users Group stated that in light of the Government’s policy announcements on decarbonisation, ideally the full IM review should be brought forward to precede the DPP review.³⁴
- 3.15.4 Vector suggested amending IMs for new asset lives and considering accelerating depreciation of the existing RAB.³⁵
- 3.16 Given the timing of the Government’s response to the CCC’s report, and the provisions of Part 4, we consider it infeasible to implement any changes to the IMs following the Government’s decisions in time for DPP3.
- 3.16.1 The process of amending IMs requires a formal notice, a process entailing careful consideration of what can be material and complex matters, and consultation with stakeholders over the draft IMs before revised IMs are determined.
- 3.16.2 We are required to determine the DPP3 by 31 May 2022. Prior to this, we are required to consult interested persons on a draft DPP decision. We currently expect the draft decision to be released in February 2021.
- 3.16.3 Ideally, the IMs should reflect any significant changes in government policy and regulations stemming from the CCC’s report.
- 3.16.4 However, the Government’s response to the CCC’s report is only due by 31 December 2021.
- 3.17 However, we note that these are exceptional circumstances, and that there may be a case for making some changes to IMs that would typically only be reviewed under a full section 52Y IM review (see chapter 2 for our decision-making framework). If we were to consider changes to any of the foundational building blocks, we would need to be convinced that the proposed changes better promote the Part 4 purpose given the significant policy and sector uncertainty.

³³ Greymouth Gas, “Feedback on open letter: ensuring our energy and airports regulation is fit for purpose” (26 May 2021), pp1-2.

³⁴ Major Gas Users Group, “Open letter on priorities for energy networks and airports” (28 May 2021), p3.

³⁵ Vector, “Submission to the Commerce Commission’s Open Letter on the Input Methodology Review, Gas Pipeline Business Reset and Information Disclosure Review” (28 May 2021) p29.

- 3.18 We consider that a limited number of IM changes may be workable and likely to better promote the long-term benefit of consumers. We discuss potential options throughout this document.

GIC gas market settings investigation

- 3.19 At the request of the Minister of Energy & Resources, the Gas Industry Company (GIC) initiated an investigation into “the role of gas in supporting the energy transition and the fitness of the current market, commercial and regulatory settings”.³⁶ The study also aims to provide major gas users with sufficient certainty about gas supply for their operations, as New Zealand pursues decarbonisation.
- 3.20 On 21 May 2021, GIC released a consultation paper seeking industry views with a stated aim of providing the Minister its report in August 2021. The paper is focussed on the security of natural gas supply and New Zealand’s path to a net zero carbon emissions economy by 2050. In its consultation paper, the GIC assesses that natural gas will play a role in the electrification of New Zealand, with thermal fuels helping to shore up electricity supply until 2030.
- 3.21 The GIC consultation paper also identified some areas for consideration that impact DPP3, including:³⁷
- 3.21.1 whether price/quality regulation of gas pipelines is still suitable, given industry changes;
 - 3.21.2 consumer interest in the maintenance of the network for security of supply in light of the transition to a low carbon future;
 - 3.21.3 clarifying how other gases (such as hydrogen and biogas) will be treated and how existing pipeline infrastructure is, if at all, able to deliver these new gases; and
 - 3.21.4 increasing policy certainty about the nature and timing of the transition to a low carbon future.

³⁶ <https://www.gasindustry.co.nz/work-programmes/gas-market-settings-investigation/developing-2/consultation-3/>

³⁷ Gas Market Settings Investigation Consultation Paper 21 May 2021 pp 1-5
<https://www.gasindustry.co.nz/work-programmes/gas-market-settings-investigation/developing-2/consultation-3/document/7263>

- 3.22 We will consider the GIC recommendations in its consultation paper where these are relevant to informing our approach to this reset. However, any subsequent changes to the regulatory settings for the sector are unlikely to be in place in time for DPP3. We may consider whether reopeners are appropriate to respond to any changes to regulatory settings (see Attachment A).
- 3.23 Previously, stakeholders have highlighted the importance of coordination between different regulators in the sector, and particularly between the Commission and the GIC. We agree with this view, and so will be taking steps to be aligned where it is practical to do so where this does not detract from the Part 4 purpose.³⁸

Demand uncertainty in the natural gas sector

- 3.24 Demand for natural gas use is expected to decline given the transition to renewable energy. However, the rate at which demand decreases is uncertain. In its recent advice to the Government, the CCC assumes that demand for natural gas will gradually decline over the next 15 years. This viewpoint is supported by the GIC's position that natural gas has a role to play in the energy transition for the next ten years.
- 3.25 Based on the demand projections prepared by Concept Consulting (Concept) for the GIC, a decline in demand for gas may not materialise until late in DPP3. Concept also observed that:³⁹
- 3.25.1 for residential, commercial and agricultural gas users, demand reflects the outcome of decisions by many thousands of consumers. Because decisions to switch energy source (to or away from gas) typically involve capital expenditure for appliances and modifications to premises, there are unlikely to be sudden shifts in the level of annual gas demand for these users;
 - 3.25.2 demand for larger industrial gas users is likely to gradually decline through to 2035; and
 - 3.25.3 demand for power generation is likely to decline. While electricity demand growth may increase demand for natural gas in the short-term, Concept assesses that in the long-term, a larger share of power generation is likely to come from renewable sources.

³⁸ The Commission's relationship to the GIC regarding our respective roles under the Commerce Act 1986 and the Gas Act 1992 are explained in our Memorandum of Understanding see: Commerce Commission/Gas Industry Company "Memorandum of Understanding" (5 August 2011).

³⁹ Concept Consulting, Gas demand and supply projections – 2021 to 2035, pp19-22 (<https://www.gasindustry.co.nz/work-programmes/gas-supply-and-demand/gas-demand-and-supply-projections-2021-to-2035/document/7268>).

- 3.26 The supply of gas is likely to follow demand. While there is sufficient 'gas in the ground' to meet mass market, industrial and power generation demand until at least 2035, the production of gas, beyond 2027, is likely to require development of new resources. This is dependent on producers' willingness to invest more capital in supply-side assets.
- 3.27 In their responses to our open letter, GPBs noted that uncertainty in the rate of decline of demand for gas affects their investment decisions. Submitters wanted incentives to invest to maintain reliable gas networks. They were concerned over increasing economic network stranding risk, partial asset recovery risk and the ability to recover future investment. To strengthen incentives to invest and mitigate these risks, the suggestions included:
- 3.27.1 shorter lives for new and existing assets;
 - 3.27.2 adjusting quality path expectations;
 - 3.27.3 removing indexation of new capital investments;
 - 3.27.4 removing RAB indexation;
 - 3.27.5 accelerated depreciation for new and existing assets; and
 - 3.27.6 change the WACC/revenue uplift.
- 3.28 GPBs have made extensive investment in recent years, particularly to grow networks. Our preliminary examinations of GPB forecasts, from the most recent AMPs, has identified a potential conflict between GPB investment plans and their concerns about increased economic network stranding and partial capital recovery risk noted in the open letter responses.
- 3.29 As a result of recent investment, all GDBs have average asset lives greater than 20 years. As of June 2021, GPBs' AMPs continue to include high levels of capex on new connections, connection growth, and a mix of capital contribution requirements.
- 3.30 We note that current GPB AMPs forecast capex exceeding \$1.1 billion over the next ten years, a level which is over half of the current combined RAB of \$1.85 billion. While there may have been adjustments to investment plans since then, this appears to be a high level of forecast expenditure over the next ten years for an industry which the CCC advice suggests may not have a long-term future.

- 3.31 Our priority is to ensure that safe and reliable gas infrastructure is available to satisfy demand from consumers, which means that GPBs have incentives to invest and maintain their assets efficiently. GPBs are likely to face forecasting challenges in light of the policy and sector uncertainty. This may make it difficult to identify prudent expenditure levels (see Attachment B), and therefore to set a price path for DPP3. We are interested in views on approaches to manage these challenges.

Alternative uses for gas pipelines

- 3.32 The global gas industry has been signalling for some time now that new low carbon emission ‘clean’ gas solutions (biogas and hydrogen) may replace natural gas. There is a considerable amount of research being undertaken internationally on the potential use of hydrogen. In New Zealand, First Gas has been studying the possibility that its gas pipelines may be re-purposed for ‘clean’ gas use and recently published a report on the feasibility of hydrogen as a future conveyance gas.⁴⁰
- 3.33 The First Gas report identifies what it thinks are the likely technical and economic challenges in converting its pipelines to convey hydrogen, first as a blended gas and then moving to 100% hydrogen. The report notes that global research is demonstrating that most customer appliances will not be affected by blends of hydrogen up to 20%.⁴¹
- 3.34 Pipeline testing for hydrogen use is planned between 2021 to 2030, with hydrogen blending with biogas and fossil fuel natural gas possible from 2030. First Gas are positive about the future of hydrogen as a conveyance gas and see this as a viable solution to the Governments’ net-zero carbon emissions target by 2050.⁴²
- 3.35 In addition, a recent joint-study between Beca, First Gas and Fonterra into biogas and biomethane outlined an initial pathway for the use of these two alternative gases, though we note that further research is needed.⁴³
- 3.36 Key New Zealand gas sector stakeholders have been discussing the future of gas use. The Gas Infrastructure Future Working Group (GIFWG), which Commission staff have been attending as observers, has been meeting since May 2021 to offer constructive input to the Government’s response to Climate Change.

⁴⁰ “Zero carbon gas to Aotearoa – Hydrogen Feasibility Study Summary Report” March 2021 available at <https://firstgas.co.nz/about-us/bringing-zero-carbon-gas-to-aotearoa/>.

⁴¹ “Zero carbon gas to Aotearoa – Hydrogen Feasibility Study Summary Report” March 2021 available at <https://firstgas.co.nz/about-us/bringing-zero-carbon-gas-to-aotearoa/>, p55.

⁴² See the Climate Change Response (Zero Carbon) Amendment Act 2019 available at <https://environment.govt.nz/acts-and-regulations/acts/climate-change-response-amendment-act-2019/>.

⁴³ “Biogas and Biomethane in New Zealand” July 2021 available at <https://www.becca.com/ignite-your-thinking/ignite-your-thinking/july-2021/biogas-and-biomethane-in-nz-report>.

- 3.37 In its progress report from June 2021, the GIFWG assessed two very different scenarios for future gas use in New Zealand:⁴⁴
- 3.37.1 the wind-down scenario – where gas consumption is phased out and gas infrastructure decommissioned in a safe and reliable way; and
 - 3.37.2 the repurpose scenario – where, for some uses, gas consumption transitions from natural gas to a green alternative (sometimes called ‘clean’ gas), such as hydrogen or biogas.
- 3.38 Both scenarios will pose challenges. For a wind-down scenario there will be a tension between maintaining pipelines and delivery quality in the face of a diminishing customer base. Following advice from Oakley Greenwood, GPBs are concerned over the potential for stranded assets and adverse price shocks as the customer base shrinks.
- 3.39 At this stage the repurposing scenario is highly speculative, and there are several economic and technical issues that would need to be resolved before we could agree that it is a technically feasible or likely outcome. In its Progress Report the GIFWG conclude that the repurposing scenario faces many hurdles, stating that:⁴⁵
- The challenge with the second scenario, however, is that future zero carbon gas technologies and fuel production costs are uncertain. It will require gas supply chain participants (e.g. producers, infrastructure investors, and consumers) to align their decision making – but this is at a time when the proof of concept is unproven in New Zealand and to a large extent internationally, with hydrogen and biogas production capability essentially non-existent in New Zealand.
- 3.40 Our role under both scenarios is guided by the Part 4 purpose. We must promote the interests of consumers while ensuring that ex-ante, businesses can expect to earn a normal return; that they have incentives to innovate and invest and improve efficiency while providing services at a quality that consumers demand. If there is to be a ‘clean’ gas transition, or if the ‘wind-down’ scenario is more likely, the transition in both cases must be carefully managed consistent with the Part 4 purpose.
- 3.41 While there are major uncertainties surrounding repurposing, we cannot rule out ‘clean’ gas being a technically and economically viable alternative to natural gas.

⁴⁴ New Zealand Gas Infrastructure Working Group Progress Report - 1 June 2021.

⁴⁵ New Zealand Gas Infrastructure Working Group Progress Report - 1 June 2021, page 6.

Our ability to consider alternative gas uses under Part 4 regulation

- 3.42 While we support maintaining optionality for alternative gases, the Act’s definition of natural gas creates limits regarding the extent we can do so. The service we regulate is the conveyance of ‘natural gas’ by pipeline (section 55A), but ‘natural gas’ is not a defined term under the Act.
- 3.43 Our current view is that:
- 3.43.1 it is likely that neither biogas nor hydrogen can be considered ‘natural gas’ under the Act; and
 - 3.43.2 a blend of small quantities of biogas or hydrogen with natural gas would be considered ‘natural gas’; but
 - 3.43.3 there is significant uncertainty as to the threshold at which the addition of greater quantities of biogas or hydrogen into natural gas would mean the resulting blended gas would cease to be considered as natural gas. However, a blend of natural gas and alternative gases that does not require pipeline or appliance conversion may be a reasonable threshold for consideration under Part 4 regulation.
- 3.44 There are implications of this for our consideration of alternative gases as part of DPP3. For instance, the scope of regulated gas pipeline services might affect:
- 3.44.1 what research and development costs may be attributed to the regulated service. So, for example, we cannot facilitate the recovery of the costs of conveying any gas other than natural gas; and
 - 3.44.2 the extent we may take potential repurposing of gas pipelines to carry gases other than natural gas into account.

Submissions on alternative gases

- 3.45 In responses to our open letter, submitters seek greater incentives to preserve the option of using gas infrastructure to transport zero carbon gases, and are asking for:
- 3.45.1 clarity on the use of renewable gas for compression;⁴⁶
 - 3.45.2 accelerated depreciation;⁴⁷ and

⁴⁶ First Gas “Response to Open Letter on Fit for Purpose Regulation” (28 May 2021), p15.

⁴⁷ GasNet, “Feedback on Fit for Purpose regulation” (2 June 2021) p3.

- 3.45.3 an innovation allowance to undertake trials and investigate the viability of alternative gases.⁴⁸
- 3.46 Our initial view is that:
- 3.46.1 we can allow the cost of renewable gas used for compressing natural gas to convey that natural gas by pipe;
- 3.46.2 the potential to accelerate depreciation for DPP3 is discussed in Attachment D and can be further considered in the section 52Y IM review; and
- 3.46.3 an innovation allowance for conveying gases other than natural gas would appear to be beyond the scope of Part 4.

Prioritising the long-term interest of existing consumers for DPP3

- 3.47 Given the high degree of uncertainty that currently exists in the gas sector, and the potential transition to alternative gases, wholesale changes in our approach to DPP3 may give rise to unintended outcomes. However, there are areas that we intend to prioritise to ensure consumers benefit from the continued supply of natural gas.
- 3.48 To the extent that natural gas use is permitted as we transition to other fuels, existing consumers are likely to want:
- 3.48.1 safe and reliable gas supply, with ‘prudent’ levels of expenditure on gas pipeline investment and maintenance;
- 3.48.2 stable (or at least predictable) gas pipeline prices so they can make their own long-term investments with certainty; and
- 3.48.3 protection from market power, particularly if consumer connections fall, and remaining consumers are unable or cannot afford to switch fuels.
- 3.49 Consistent with the context, we have set out two priority outcomes for the DPP3 reset:
- 3.49.1 appropriate levels of expenditure on investment and maintenance to ensure safe and reliable natural gas supply; and

⁴⁸ Vector, “Submission to the Commerce Commission’s Open Letter on the Input Methodology Review, Gas Pipeline Business Reset and Information Disclosure Review” (28 May 2021), [121]-[124]; Powerco, “Submission to the Commerce Commission’s open letter on fit-for-purpose regulation of energy networks”, p5; First Gas, “Response to Open Letter on Fit for Purpose Regulation” (28 May 2021), p14.

- 3.49.2 predictable natural gas pipeline prices for consumers while limiting excess profitability.
- 3.50 While gas pipelines could be repurposed to carry alternative gases and create option value for consumers, we need to consider whether preserving optionality for GPBs is within the scope of Part 4 regulation given the definition of the regulated services in the Act.
- 3.51 Government policy and the potential transition to alternative energy sources may create a strong disincentive to invest during the next regulatory period. It is appropriate to consider whether supplier's investments are consistent with the risk, and whether the current regulatory framework appropriately reflects the risk.
- 3.52 Natural gas is likely to be an important energy source for many consumers for some time yet. For those consumers, it will be important to ensure that GPBs are funded to undertake a prudent level of expenditure on investment or maintenance to maintain safe and reliable natural gas supply.
- 3.53 Natural gas consumers are likely to face rising energy prices in future. Supply constraints are likely to persist according to Concept, and government policy could accelerate the transition away from natural gas.
- 3.54 To the extent possible, consumers are likely to value some predictability in natural gas pricing. This is because decisions to switch energy sources will involve capital expenditure, and some degree of predictability will allow them to assess the trade-off more accurately in switching energy source.

Matters we intend to prioritise for DPP3

- 3.55 With the outcomes above in mind, there are a number of matters we intend to prioritise as part of DPP3, which we briefly summarise below. In reaching decisions on these matters, changes to the IMs might be necessary to make a decision workable.

Our approach to setting starting prices

- 3.56 To date, we have set starting prices based on an assessment of current and projected profitability. The sectors which we regulate typically have characteristics that make it appropriate to project profitability. However, significant uncertainty exists for GPBs and the future direction of the sector hinges substantially on decisions that are yet to be made by the Government.
- 3.57 We are therefore considering whether a rollover will better give effect to section 52A at this time. We further discuss the relevant considerations for our approach to setting starting prices in Chapter 4.

Who should bear within period demand risk

- 3.58 GDBs are currently subject to a limit on their maximum average price ('weighted average price cap'), while the GTB is currently subject to a limit on maximum revenue ('pure revenue cap').
- 3.59 A key difference between the weighted average price cap and the revenue cap is whether the GPB, or consumers, bear the risk of changes in demand within the DPP period.
- 3.59.1 A GTB regulated by a revenue cap can change its prices as demand changes so as to recover the full amount of revenue set as the aggregate revenue cap. Consumers effectively bear the risk of changes in demand during the DPP period. In this way, a revenue cap can also protect GPBs from the cost of physical asset stranding in the short term, by allowing them to recover those costs from other consumers. It is likely that the extent to which GPBs will increase prices to remaining customer as demand declines will be limited in order to limit the risk of accelerating further declines in demand. This means that the cost of physical asset stranding may be shared, even under a revenue cap.
- 3.59.2 Conversely, a GDB regulated by a weighted average price cap is exposed to changes in demand during the DPP. GDBs can earn additional revenue if actual demand is more than forecast, but will earn less revenue if actual demand is less than forecast. The GPB bears the risk of changes in demand within the DPP period.
- 3.60 Given the changing environment in which the GPBs are operating, particularly the increased uncertainty about demand over the DPP period, we are considering the extent to which the current forms of control for GPBs appropriately weight demand risk within the DPP period between consumers and GPBs and promote the Part 4 purpose.
- 3.61 Price path reopeners under a WAPC are an alternative that may protect GPBs from large changes in demand but still reflect their greater ability to manage within period demand risk. We are considering whether price path reopeners are appropriate to manage the risk of demand diverging significantly from our forecasts in response to climate change policy (see Attachment A).

Addressing the increased risk of economic network stranding

- 3.62 Moves to decarbonise our energy sector and in particular to phase out the use of natural gas by 2050 raise the question of whether mechanisms should be introduced to reduce the risk of partial capital recovery due to economic network stranding. There are several ways that we could address increased risk of partial capital recovery. Potential options we are considering for DPP3 include:

- 3.62.1 a rollover of starting prices (Chapter 5);
 - 3.62.2 introducing an optional mechanism to shorten asset lives, akin to what was introduced in the 2016 IM review for EDBs, as First Gas proposed in its submission on the open letter (Attachment D);⁴⁹ and
 - 3.62.3 introducing an ex-ante allowance to compensate for increased risk of economic network stranding as we have allowed for regulated fibre services (Attachment D).
- 3.63 Other options include removing indexation of the RAB as proposed by some submitters on our open letter,⁵⁰ and reviewing and shortening specific asset lives. These options may be better addressed through the upcoming comprehensive section 52Y IM review that is due to commence in 2022.

We propose to amend the estimate of TAMRP to reflect recent work done in fibre regulation

- 3.64 We propose to update the parameter estimate for the tax-adjusted market risk premium (TAMRP) in the WACC for DPP3 based on the estimate made when determining the fibre IMs. This is because TAMRP is an economy wide parameter,⁵¹ rather than something specific to fibre, and we have published our analysis and consulted extensively on that matter. The TAMRP is the best estimate of a return which gives an ex-ante expectation of a normal return for a diversified portfolio (which is relevant for FCM).
- 3.65 Our conclusion from that work was to increase the estimate of TAMRP from 7.0% to 7.5% and we propose amending the IMs for GPBs (and other sectors) to reflect that revised estimate.
- 3.66 This proposed change to the TAMRP estimate requires a change to the Cost of Capital IM. As discussed in Chapter 2, this is one of the fundamental IMs which we would generally only amend outside of a section 52Y review in exceptional circumstances. Our current view is that, for the following reasons, this is the sort of exceptional circumstance in which we would change a fundamental IM outside of the section 52Y review.

⁴⁹ First Gas “Response to Open Letter on Fit for Purpose Regulation” (28 May 2021) at p 6.

⁵⁰ First Gas “Response to Open Letter on Fit for Purpose Regulation” (28 May 2021) at p 9. Vector, “Submission to the Commerce Commission’s Open Letter on the Input Methodology Review, Gas Pipeline Business Reset and Information Disclosure Review” (28 May 2021) at 115-117. GasNet also identified concerns with the differences between forecast and actual inflation: GasNet “Feedback on Fit for Purpose regulation” (2 June 2021) at 4.

⁵¹ The TAMRP is the premium above the risk-free rate an investor would expect from investing in the universe of investment opportunities.

- 3.66.1 Importantly, to be consistent with FCM, we consider that we should not use an IM which includes an estimate of TAMRP which we consider is lower than our best estimate for that parameter when that parameter is a key component of our estimate of a normal return.
 - 3.66.2 The best evidence we have supports a different estimate of TAMRP than the current IM uses (and that work has been subject to consultation by a range of interested parties albeit in a different sector).
 - 3.66.3 We have adopted that different estimate of TAMRP when exercising our regulatory functions under a different regime (the fibre regime).
 - 3.66.4 There is no logical or policy reason why we should adopt a different value of TAMRP for one sector than another when TAMRP, by definition, is an estimate of a market-wide variable.
- 3.67 A review of the rest of the cost of capital IM will occur as part of the comprehensive section 52Y IM review, which begins in 2022.

Matters we do not intend to prioritise in DPP3

- 3.68 Given the need to prioritise the matters discussed above, there are certain matters which – while important to the regime as a whole – we do not intend to focus on for this reset. In some cases, this is because tools outside the DPP provide a better response to particular issues. In other cases, finding solutions to the issues in question requires long-term development, and may be better addressed in future resets, building on work done in this DPP and in other areas of the regime.
- 3.69 The most significant examples of these issues are:
- 3.69.1 Quality standards. We would need to be persuaded that additional quality standards are appropriate for GPBs and that they do not add unnecessary cost and complexity for the value they provide in promoting the Part 4 purpose (see attachment C).
 - 3.69.2 A full IM review including a review of the entire cost of capital IM. While we acknowledge stakeholder concerns in responses to our open letter seeking a number of changes to the IMs, we do not think they make the case for a full IM review outside the normal timeframe. This is particularly the case given the high degree of sector and policy uncertainty at present. The requirements and process for undertaking a full review are significant and set out by statute.⁵²

⁵² Sections 52V, 52X and 52Y of the Act.

Chapter 4 Our approach to regulating price and quality

Purpose of this chapter

- 4.1 This chapter provides a high-level overview of the core components of the Gas DPP and the decisions we will need to make on each of them. It covers:
- 4.1.1 which businesses are regulated under the GPB DPP;
 - 4.1.2 how we set the price path, specifically how we should approach setting starting prices at the start of DPP3 and how we should approach setting the rate of change in prices in subsequent years of the price path;
 - 4.1.3 how we set quality standards; and
 - 4.1.4 the length of the regulatory period.
- 4.2 Of these decisions, how we set starting prices is the most challenging and complex issue. Most of this chapter is directed to that issue and, in particular, to whether we should rollover prices from the end of DPP2 to form the starting prices for DPP3 or whether we should reset starting prices for DPP3 based on current and projected profitability of GPBs.

GPBs regulated under price-quality regulation

- 4.3 Currently we regulate one GTB and four GDBs through price-quality path regulation - the same regulation that applies to electricity lines companies.⁵³ This means we set the maximum prices/revenues each GPB can collect from gas consumers and the minimum quality standards they must maintain. Price paths are generally reset every five years.⁵⁴

⁵³ We price-quality regulate one GTB, First Gas Transmission, and four GDBs; First Gas Distribution, Vector Distribution, Powerco and GasNet.

⁵⁴ We may set price-quality paths for a shorter period where this would better meet the purpose of Part 4. In the case of a DPP the term may not be less than four years (section 53M(5)) and in the case of a customised price-quality path the term may not be less than three years (section 53W(2)).

- 4.4 The intent of the Act is to ensure regulated gas businesses have incentives to invest and innovate in their networks, while preventing them from making excessive profits over time. Where one of these businesses collects more revenue than allowed, or fails to meet the minimum quality standards we have set, we can take enforcement action. This could take the form of requiring such businesses to undertake to repay money recovered to consumers, or otherwise take action to remedy the breach.⁵⁵ We can also take court action leading to substantial penalties and orders of compensation in the case of serious breaches.⁵⁶
- 4.5 We do not oversee the daily operations of the gas sector or set the exact prices regulated GPBs charge their customers. They are responsible for their own decisions on the operation and maintenance of their networks within the boundaries we set for them.
- 4.6 GPBs are on DPPs, which involves a more generic and efficient assessment of their business needs. If a GPB believes the DPP does not meet its needs or there is uncertainty around the costs of a major project, particularly in terms of future investment requirements, it can apply for a customised price-quality path (CPP). A CPP is tailored to the company's specific circumstances and requires us to complete a detailed assessment of its proposals before making a decision on what its price-quality path should be.

How we set a price path

IMs establish whether we limit maximum prices or revenues

- 4.7 The DPP must specify maximum prices of revenues for each GDB for the regulatory period.⁵⁷
- 4.8 The decision on whether the DPP limits maximum prices or revenues is determined by the IMs and depends on the type of service provided.
- 4.9 Presently GDBs are subject to a limit on their maximum average price charged ('weighted average price cap'). First Gas Transmission, the supplier of gas transmission services, is subject to a limit on its maximum revenue ('pure revenue cap').

⁵⁵ Sections 74A and 74B of the Act.

⁵⁶ Section 87 of the Act.

⁵⁷ Section 53M(1)(a) of the Act.

- 4.10 In the IM review final decision, we decided to remove the option within the IMs for a weighted average price cap or a lagged revenue cap for transmission businesses, instead specifying that the form of control will be a ‘pure’ revenue cap with a ‘wash-up’ for under- or over-recovery of revenue against the cap.⁵⁸
- 4.11 Under the IMs the price paths comprise:
- 4.11.1 the price or revenue limit; and
 - 4.11.2 allowances for pass-through costs and recoverable costs.
- 4.12 In DPP2, the price and revenue limits we set mean that profitability during the regulatory period is dependent on the extent to which costs are controlled. The way we specified price limits for GDBs has meant that profitability is also dependent on quantity growth (connections and throughput) assumptions we made about suppliers over the regulatory period. Actual costs may have differed from forecasts for a variety of reasons, but the incentive to increase profits helps to put incentives on suppliers to reduce costs.
- 4.13 GDBs also had an incentive to outperform their given demand forecast. Under a weighted average price cap GDBs bear demand risk (the risk of quantities being less than forecast at the start of the period). However, if they are able to grow demand at a rate higher than their constant price revenue growth (CPRG) forecast, they are able to retain the revenue from this growth.
- 4.14 Costs that suppliers have little or no control over are recovered through separate allowances for ‘pass-through costs’ and ‘recoverable costs’. The items that qualify for these categories are set out in the IMs.⁵⁹

Prices are set as a starting price for the first year and a rate of change in prices for subsequent years

- 4.15 The price or revenue limits are set net of pass-through costs and recoverable costs. The two main components of these price limits are:
- 4.15.1 the ‘starting price’ allowed in the first year of the regulatory period; and

⁵⁸ Commerce Commission “Input methodologies review decisions: Topic paper 1” (20 December 2016) available at https://comcom.govt.nz/_data/assets/pdf_file/0018/60534/Input-methodologies-review-decisions-Topic-paper-1-Form-of-control-and-RAB-indexation-for-EDBs-GPBs-and-Transpower-20-December-2016.pdf

⁵⁹ Gas Distribution Services Input Methodologies Amendment Determination 2016 [2016] NZCC 25, clauses 3.1.2 and 3.1.3; Gas Transmission Services Input Methodologies Determination 2016 [2016] NZCC 26, clause 3.1.2 and 3.1.3.

4.15.2 the ‘rate of change in price’, relative to the Consumer Price Index (CPI), that is allowed in later parts of the regulatory period.

4.16 Of these components the starting price is the more important as it forms the base for all the subsequent prices or revenues during that regulatory period. The rate of change has typically been set to reflect forecast increases in CPI. The rate of change in the case of a rollover has a more important role than in a reset as any difference from CPI reflects a real change in revenue.

Starting prices can be reset or rolled over

4.17 When setting the starting price under a DPP, the Act provides for two approaches:⁶⁰

4.17.1 rolling over the prices applying at the end of the preceding regulatory period (a rollover); or

4.17.2 prices, determined by us, that are based on the current and projected profitability of each GPB (a reset).

How quality standards are specified

4.18 The Act requires us to set quality standards for suppliers of gas pipeline services.⁶¹

4.19 When we set quality standards, we are aware of the difficulties that exist in developing an outage or reliability-related quality standard for gas pipeline services. We also need to consider that other regulatory measures are in place for quality of gas services, and the differences between electricity and gas.

4.20 The characteristics of gas are different to those of electricity and so it is not appropriate to transfer the quality standards that exist in electricity across to gas pipelines. There are also significant differences between gas transmission and gas distribution.

4.21 The quality standards set by us are also not the only influence on gas pipeline services’ quality of supply. Other agencies have overlapping responsibilities in this area, and we must take this into account when considering future quality standards.

⁶⁰ Section 53P(3) of the Act.

⁶¹ Section 53M(1)(b) of the Act.

The length of the regulatory period

- 4.22 The Act requires us to set a five-year regulatory period for a DPP unless we consider a shorter period would better meet the purposes of Part 4, but that shorter period cannot be for less than four years.⁶²
- 4.23 The length of the regulatory period is a decision we make, and we would only depart from the default period of five years if we considered it was in the long-term interests of consumers. Given the prevailing uncertainty facing the gas sector, we are interested in stakeholders' views regarding whether a four-year regulatory period would better meet the Part 4 purpose, such that GPBs:
- 4.23.1 have better incentives to innovate and to invest (section 52A(1)(a));
 - 4.23.2 have better incentives to improve efficiency and provide services at a quality that reflects consumer demands (section 52A(1)(b));
 - 4.23.3 better share the benefits of efficiency gains, including through lower prices (section 52A(1)(c)); and
 - 4.23.4 are limited in their ability to extract excessive profits (section 52A(1)(d)).

⁶² Sections 53M(4) and (5).

Chapter 5 Options for setting the DPP using a rollover

Purpose of this chapter

- 5.1 A discussed in Chapter 4, we can either set starting prices using a rollover or an assessment of current and projected profitability when setting starting prices for DPP3. This chapter discusses options for how we could set the DPP3 if we were to set starting prices using a rollover. We highlight the potential benefits, issues and uncertainties that would affect how we could approach this.

Setting starting prices by rolling over current prices

- 5.2 We are considering the merits of using a rollover of prices from the end of DDP2 to set starting prices for DPP3. Under the current IMs, starting prices are defined in terms of Maximum Allowable Revenue (MAR). Depending on choices for form of control and the rate of change in prices over DPP3 (discussed briefly at the end of this chapter), this could result in consumer prices remaining near current levels in real terms over DPP3.
- 5.3 Typically, we have set starting prices based on current and projected profitability. The sectors which we regulate typically have characteristics that make it appropriate to forecast projected profitability. Doing so ensures that suppliers have an expectation of a normal profit and therefore appropriate incentives to invest.
- 5.4 When we set DPP2 in 2017, we decided to set prices based on an assessment of the current and projected profitability of each supplier. Doing so saved consumers an estimated \$163m during DPP2 when compared with a rollover of prices from the end of the preceding regulatory period (DPP1).⁶³

Increased uncertainty and risk of economic network stranding

- 5.5 As already highlighted in Chapter 3, significant uncertainty currently exists in the gas sector and the future direction of the sector hinges substantially on decisions that are yet to be made by the Government. A wide range of long-term outcomes are possible, from a complete wind down of GPB businesses to repurposing some or all of the networks towards clean gasses.
- 5.6 This increased uncertainty creates significant (and interrelated) challenges for us to address. Key challenges include:
- 5.6.1 accurately projecting profitability given the increased uncertainty;

⁶³ Commerce Commission “Default price-quality paths for gas pipeline businesses from 1 October 2017 Final Reasons Paper” (31 May 2017), para 3.25.

- 5.6.2 amending IMs while meeting the statutory timeframe for determining DPP3; and
- 5.6.3 addressing increased risk of economic network stranding.

It will be difficult to reliably estimate GPBs' profitability at this time

- 5.7 Projecting profitability at this time would be challenging. Doing so requires projections of opex, capex, and capital contributions, along with various other assumptions including CPI, WACC, and the estimated rate of productivity growth. If GDBs remain on a WAPC we will also need CPRG forecasts based on a demand forecast.
- 5.8 The reliability of AMPs as inputs to opex and capex projections is a significant concern (see Attachment B for our proposed approach to setting expenditure allowances). While we are requiring GPBs to update their AMPs, it is not yet known (and may not be for some time) what decisions the Government will make and as such any revised AMP expenditure projections are likely to be heavily caveated.
- 5.9 The difficulties in obtaining reliable and robust inputs do not prevent us from assessing GPBs' current and projected profitability, but they will likely make any assessment we do make subject to greater uncertainty and a higher degree of potential error.

Without changes to IMs, prices would likely fall based on current and future profitability, despite increased stranding risk

- 5.10 We have not fully analysed GPBs' profitability for DPP3, but there are indications that gas network prices would fall if we set starting prices based on current and future profitability using current IMs.
 - 5.10.1 WACC, a key driver of changes in prices in prior resets, has fallen materially since the DPP2 path was set due to significant falls in in the risk-free rate of interest since 2016. A reset would use the now lower estimate of WACC, rather than rolling over prices from DPP2 (which depend in part on the higher estimate of WACC). The proposed increase in the estimate of TAMRP would likely not offset the impact of the fall in the risk-free rate.
 - 5.10.2 Actual revenue from lines charges has been above the levels anticipated in DPP2. Comparing actual revenue for the 2020 ID year, with notional revenue under the compliance statements for 2020, suggests this may be around \$5m per annum in 2020 in aggregate for the four GDBs.⁶⁴

⁶⁴ It is not possible to make the same observation for the GTB as it is subject to a 'pure' revenue cap. This includes a wash up to ensure that revenue is not under or over-recovered over time.

- 5.10.3 However, current GPBs AMP forecasts for opex and capex (which we use as inputs to assessing profitability) do not fully anticipate the Government's response to the CCC work and include strong growth in capex, which would likely have an offsetting upward effect on prices.⁶⁵ We would have to consider whether these forecasts are appropriate in light of the Government's response.⁶⁶
- 5.10.4 Given the Government's moves to decarbonise and reduce the use of natural gas, other GPBs may follow Vector's recent move to increase the level of customers' capital contributions for new connections. If so, this would reduce the amount of expenditure that is required to be recovered through network prices.
- 5.11 Despite indicators that costs have fallen, having consumers' prices decrease from DPP2 to DPP3 may not be in the long-term interest of consumers. This is because if demand declines in the future (faster than costs decline), prices may need to increase to maintain an expectation of FCM. Given the high degree of uncertainty facing the industry, it may be in the long-term interest of consumers to have higher prices now, if it reduces the chance of prices escalating in the future.

There may be merit in rolling-over current prices rather than trying to reset prices

- 5.12 There may be merit in simply rolling over the prices at the end of DPP2 as the starting prices for DPP3 rather than resetting starting prices based on an analysis of current and projected profitability.
- 5.13 Rolling over starting prices could help address the increased risk of economic network stranding by providing more revenue than resetting using current IMs and could reduce the need to make fundamental changes to IMs prior to the full IM review (scheduled to begin in 2022). Rolling over prices may result in a different level of profit in the short term to the cost of capital. We are interested in stakeholders views on whether we should seek to address this in some way, and if so how.

⁶⁵ We note that current GPB AMPs forecast capex exceeding \$1.1 billion over the next ten years, a level which is over half of the current combined RAB of \$1.85 billion.

⁶⁶ Vector, for example, note in its latest AMP update that its forecasts do not reflect the possible changes brought about by the Government's response to the final CCC recommendations, which may invalidate its assumptions to develop its forecasts. See <https://blob-static.vector.co.nz/blob/vector/media/vector-regulatory-disclosures/gas-distribution-amp-update-2021-final.pdf>.

- 5.14 Attachment D considers options for addressing the increased risk of economic network stranding if we are to set starting prices based on current and future profitability (our typical approach). Addressing the increased risk of economic network stranding through an assessment of current and future profitability, would likely require amendments to some foundational building blocks prior to the upcoming section 52Y IM review.
- 5.15 Note we are considering form of control independently of our approach to setting the starting price. Considerations for changing form of control for either GDBs or the GTB are discussed in Attachment A.

We welcome submissions on whether to roll-over prices

- 5.16 Submissions on the open letter expressed differing views on whether to rollover starting prices.
- 5.16.1 Vector supported it as it considered a rollover was “entirely appropriate in the current circumstances”, was consistent with the legislative intent, and would limit any judgements by us on the projected level of profitability over the DPP period and beyond given the current level of uncertainty with the direction of future reticulated natural gas use.⁶⁷
- 5.16.2 First Gas noted that a rollover “has some appeal”, but that “the risk of this approach is that it results in regulatory settings that are constantly ‘chasing’ policy shifts”.⁶⁸
- 5.17 We would welcome submissions from interested persons on whether we should opt for a rollover when resetting starting prices as described in this chapter or whether we should reset starting prices by assessing current and projected profitability (and preceded by only limited IM changes given the constraints on making fundamental changes to IMs as described in Chapter 2).

The rate of change, length of control period and other considerations

- 5.18 We note the following additional considerations for stakeholders:

⁶⁷ Vector, “Submission to the Commerce Commission’s Open Letter on the Input Methodology Review, Gas Pipeline Business Reset and Information Disclosure Review” (28 May 2021) at 103.

⁶⁸ First Gas “Response to Open Letter on Fit for Purpose Regulation” (28 May 2021) at p 5.

- 5.18.1 Rolling over starting prices would not directly affect the rate of change of prices or revenues. The Act requires us to set a rate of change, which is expressed in the form $CPI \cdot X$.⁶⁹ CPI reflects general inflation, and X is a percentage differential known as the 'X-factor'. In determining the X-factor, we are required to determine a default rate of change in price that is based on the long-run average productivity improvement rate of suppliers. We may consider the long-run average productivity improvement rate achieved by suppliers in New Zealand and/or comparable countries. The X chosen will matter for the total revenue received over the period (in contrast to a profitability approach when it just affects the profile of cash flow);
- 5.18.2 Our proposed rollover approach outlined above does not preclude us from also providing ex-ante compensation for increased risk of economic network stranding (discussed in Attachment D);
- 5.18.3 We would also need to choose the length of control period. As discussed in Chapter 4, we are seeking views on whether a 4-year DPP may be preferable to a 5-year DPP given sector uncertainty; and
- 5.18.4 We are interested in stakeholders' views on the use, and form, of reopeners to address the potential changes in climate change policy.
- 5.19 We also welcome stakeholders' views on any of these related matters.

⁶⁹ Section 53P(1) of the Act.

Chapter 6 Setting the DPP using building blocks

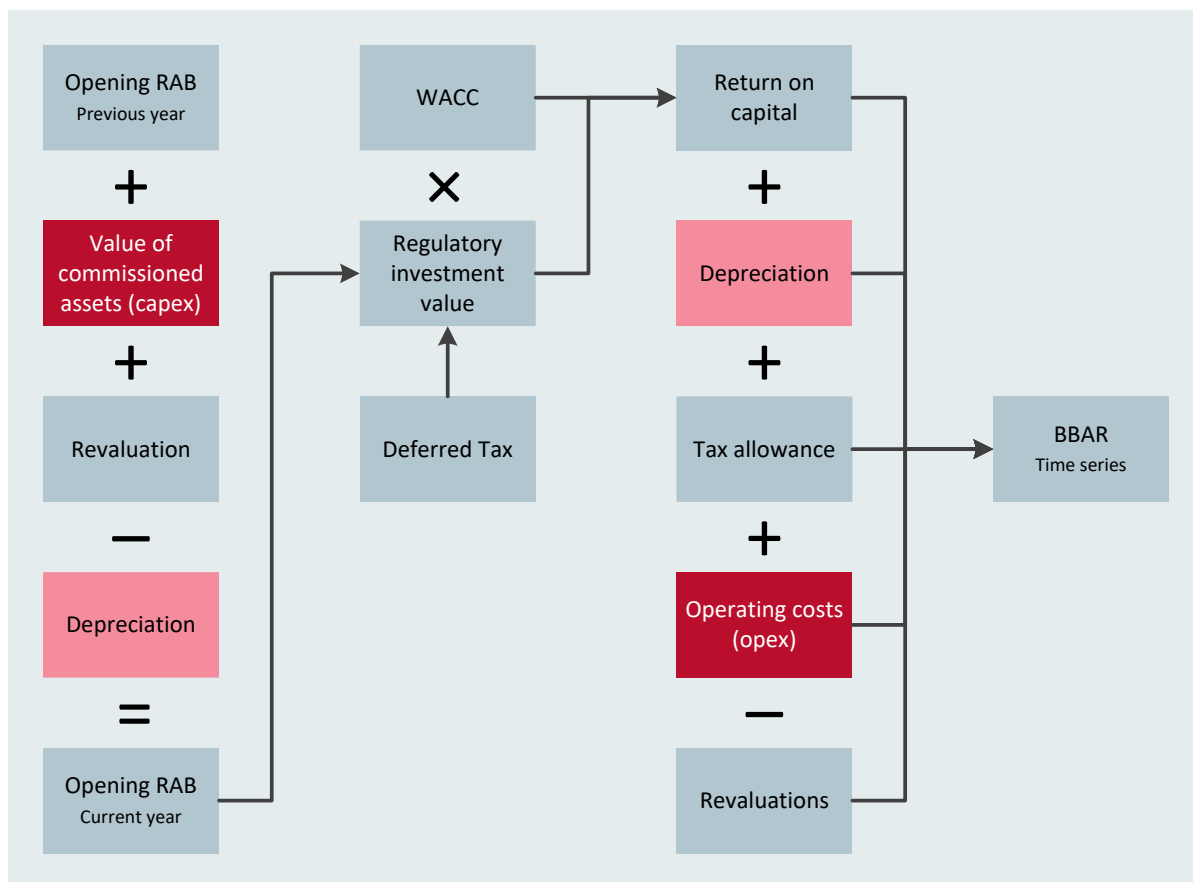
Purpose of this chapter

- 6.1 As discussed in Chapter 4, there are two approaches available to us when setting starting prices for DPP3. While there may be merit to rolling over prices, we are open to undertaking a building blocks approach which is based on suppliers' current and projected profitability.
- 6.2 This chapter discusses how we would set DPP3 using the building blocks approach and highlights the potential benefits, issues and uncertainties that would affect how we approach this.

Setting starting prices by assessing profitability

- 6.3 Instead of setting starting prices by rolling over current prices, we would set new starting prices by assessing suppliers' current and projected profitability. This is how we have previously set starting prices for GPBs (and EDBs). The approach for this is summarised in Attachment A and we would adopt a similar approach if we were to reset GPBs starting prices in DPP3.
- 6.4 To assess the current and projected profitability of each GPB, we use a 'building blocks' approach, which adds up the components of an GPBs costs, and sets revenue equal to them.

Figure 4.1 How we calculate BBAR



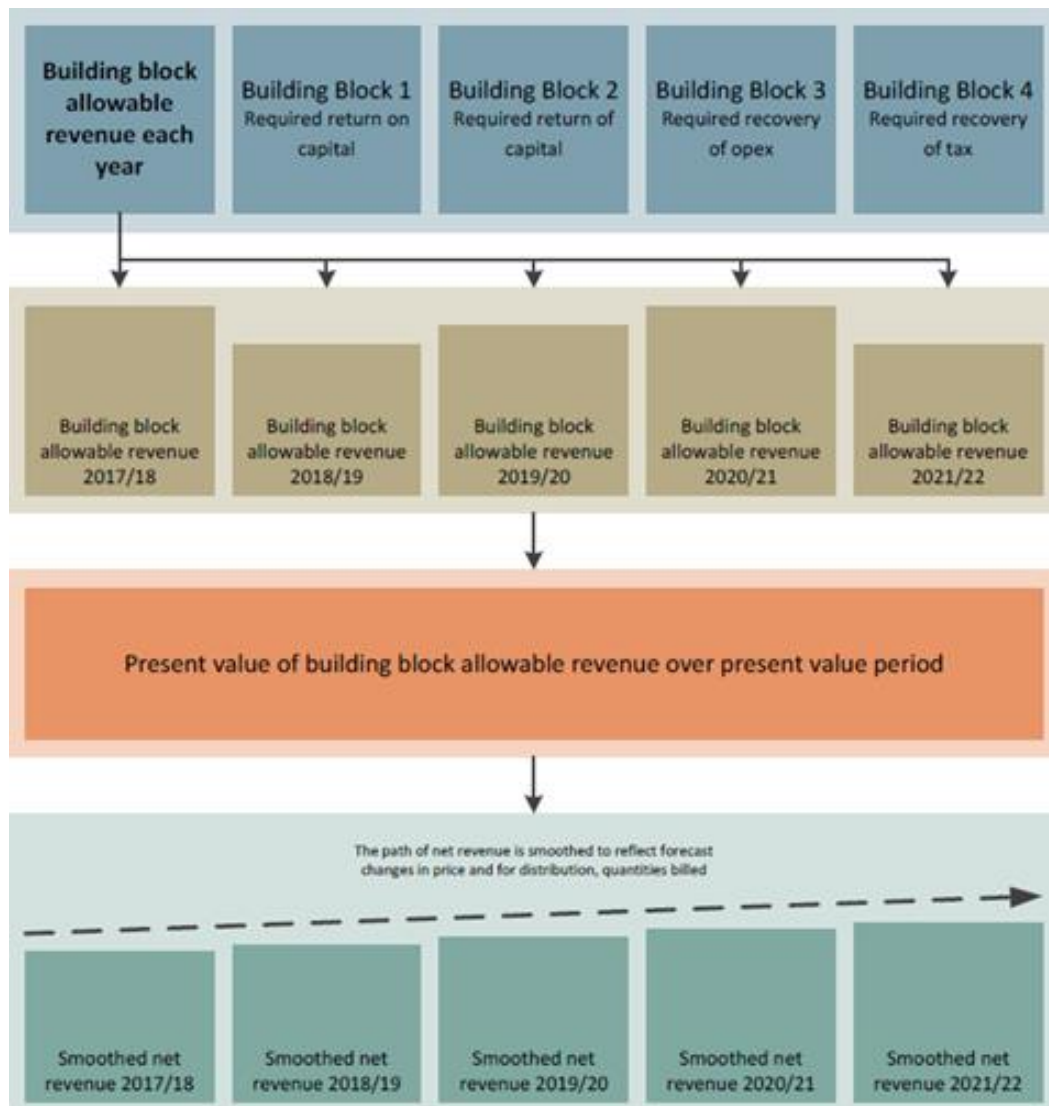
The building blocks allowable revenue approach

- 6.5 The starting prices we set for GPBs are specified in terms of maximum allowable revenue (MAR), which is an amount net of pass-through costs and recoverable costs. We calculate the MAR through two key processes.
- 6.5.1 Determining a building blocks allowable revenue (BBAR) for each year of the regulatory period. This process is represented in Figure 4.1 above.
- 6.5.2 Smoothing each of the BBAR amounts over the regulatory periods by CPI in present value terms. This represents the yearly changes to the revenue limit that are allowed over the regulatory period. This process is represented in Figure 4.2 below.
- 6.6 The inputs highlighted in red (capex and opex) are those which we must forecast as part of the DPP, neither are determined by the IMs. The input in pink (depreciation) is affected by our decisions on accelerated depreciation but is predominantly determined by the IMs.
- 6.7 Some other inputs come from ID, while others are specified in the IMs. Some of these ID and IMs inputs have a material effect on starting prices. For example, the RAB is assessed from ID, and the WACC rate is determined based on the IMs.

From building blocks to starting prices

- 6.8 The components in Figure 4.1 combine as building blocks to provide total BBAR for each year of the regulatory period. This BBAR is then smoothed into annual MAR figures through applying forecast CPI, and the X-factor. We smooth this in such a way that the present value of BBAR and MAR are the same. Figure 4.2 below illustrates this process.

Figure 4.2 From BBAR to MAR



- 6.9 The overall present value of revenues which the regulated suppliers will be able to earn over the DPP regulatory period is unaffected by the choice of the X-factor. The X-factor will determine the timing of the MAR that the regulated supplier can earn over the regulatory period, but not the present value of revenues.

Demand uncertainty in price path setting

- 6.10 If we decide to set the price path using building blocks there are uncertainties surrounding demand that will affect our approach.

- 6.11 Uncertainty in government policy settings, and how it intends to incentivise or legislate to manage a transition to net-zero carbon by 2050, means there is much greater uncertainty than usual with respect to future gas demand.
- 6.12 In DPP2, the GDB form of control incentivised demand growth and new connections. This may no longer be appropriate, and it may no longer be reasonable to assume the demand growth during DPP2 will continue into DPP3.
- 6.13 We are likely to take an interest in GDB consumer connection capital contributions policies and what levels of consumer connection capex are reasonable. Our preliminary analysis of consumer capital contributions since 2013 shows new connections have been heavily subsidised by existing consumers. In an environment where the future of gas is uncertain, continuing with this policy may need to be revised by gas businesses.
- 6.14 There is also uncertainty surrounding the possibility that hydrogen may be both economically and technically feasible as a replacement for fossil fuel natural gas. Future use of hydrogen may mean that quality settings about leakage may need to be introduced, though we would need to consider whether this is within the scope of the regulations.
- 6.15 These uncertainties will affect how we consider expenditure allowances, quality settings and set a price path. The key issues we will need to consider include.
- 6.15.1 Form of control – given the increased demand uncertainty – particularly over the next regulatory period – we are considering whether current forms of control for GPBs give best effect to the Part 4 purpose. Specifically, we are considering whether a WAPC is still appropriate for GDBs and whether a pure revenue cap is still appropriate for the GTB (see Attachment A).
- 6.15.2 How we set opex allowances – whether we take a more traditional top-down approach to opex and use base step and trend modelling (see Attachment B).
- 6.15.3 How we set capex allowances – whether we take a top-down modelling approach with thresholds to cap allowances, introduce reopeners or address the consumer connection capex subsidy (see Attachment B).
- 6.15.4 How we set quality standards – whether the present quality standards are sufficient, or if new quality standards are necessary (see Attachment C).

- 6.15.5 How GPBs are incentivised to maintain reliability and safety of their networks in a 'wind-down' scenario – it may be more economic for GPBs to maintain old assets for longer rather than replace them. This may necessitate higher maintenance opex allowances (see Attachment C).

Chapter 7 Next steps and how you can provide your views

Purpose of this chapter

- 7.1 This chapter sets out the process we intend to follow for the rest of DPP3 and what each step of the process will address. It also provides details on how you can provide your views on this paper.

Process for the Gas DPP3 reset

- 7.2 We have structured the DPP3 reset process to allow interested parties opportunities to participate in its development. In Table 6.1 we set out the key dates of the DPP process, which are then discussed below.

Table 7.1 Gas DPP3 key dates

Date	Key process or publication
4 August 2021	Process and Issues paper published
25 August 2021	Submissions on Process and Issues paper
8 September 2021	Cross-submissions on Process and Issues paper
September-October 2021	Stakeholder workshops (if required)
10 February 2022	Draft decision
11 March 2022	Submissions on draft decision
25 March 2022	Cross-submissions on draft decision
31 May 2022	Final decision

Process and Issues paper

- 7.3 As discussed in Chapter 1, the purpose of this process and issues paper is to explain our framework for considering changes when resetting the DPP, and to consult on potential issues we have identified in advance of the draft decision. Details on the submission process are discussed below from paragraph 7.11.

Draft decision

- 7.4 We intend to publish a full draft DPP decision on 10 February 2022. This draft decision will build on the material discussed in this paper and on submissions we receive in response.
- 7.5 The draft decision will include:
- 7.5.1 a reasons paper setting out and explaining how we are dealing with uncertainty, the indicative starting prices, rates of change, and quality standards, which we propose should apply to GPBs for DPP3;
 - 7.5.2 the financial model used to determine starting prices;

- 7.5.3 the forecasts of opex and capex that the financial model is based on;
 - 7.5.4 any quality of service models used to determine additional quality standards;
 - 7.5.5 the draft DPP3 determination; and
 - 7.5.6 any associated changes to Information Disclosure and Input Methodology determinations necessary to implement the DPP.
- 7.6 The draft decision will be based on the data available to be considered in advance of the draft. This includes:
- 7.6.1 the initial conditions for the financial model, quality of service information, and other historical data up to 31 December 2021;
 - 7.6.2 the 30 June 2021 AMP forecasts for Vector and GasNet;
 - 7.6.3 the 30 September 2021 AMP forecasts for First Gas and Powerco; and
 - 7.6.4 the cost of capital determined for information disclosure purposes on 31 July 2021.
- 7.7 The draft decision will be followed by a three-week submission window and a two-week window for cross-submissions.

Final decision

- 7.8 We will publish our final DPP3 decision by 31 May 2022 confirming the starting prices, rates of change, and quality standards that will apply to GPBs for DPP3.
- 7.9 The final decision will be based on the data available to be considered in advance of the draft. This includes the 2021 disclosure year data for Powerco and First Gas prior to 31 March 2022.
- 7.10 We will also take account of any new information and views provided as part of our consultations on the draft decision material when we make our final decision.

How you can provide your views

- 7.1 We welcome your views on the matters raised in this paper, and on any other matters relevant to the Gas DPP3 reset, within the timeframes below:
- 7.1.1 submissions by 5pm on Wednesday 25 August 2021; and
 - 7.1.2 cross-submissions by 5pm on Wednesday 8 September 2021.

- 7.2 Please email your submissions to regulation.branch@comcom.govt.nz with “GPB DPP3 reset” in the subject line of your email. 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. If you consider your submission to be confidential, please clearly mark which parts of the submission are confidential and provide your reasons for why this is the case.

Stakeholder workshops

- 7.3 We may hold issue-specific workshops following submissions and cross-submissions on this Process and Issues paper.
- 7.4 We anticipate these workshops would focus on common themes raised by multiple parties in submissions and discuss possible IM changes that will affect DPP3. If there are topics that you consider merit further discussion, you are welcome to indicate as such in your submission in response to this paper, or via email to the Commission.

Attachment A Form of control

Purpose of this attachment

- A1 The purpose of this attachment is to outline our current approach to ‘form of control’ that is used to cap revenues or average prices under DPP or CPP regulation, and the current considerations if we were to change our approach.

Our current approach

- A2 A key component of the specification of price IM is the ‘form of control’ that is used to cap revenues or average prices under default/customised price-quality regulation.
- A3 Part 4 provides us with a broad discretion to shape the form by which revenues or prices are constrained under price-quality regulation.
- A4 In practice, we have developed IMs that specify the form of control for each service and have primarily considered whether to apply a revenue cap or a ‘weighted average price cap (WAPC)’. The decision on whether we limit maximum prices or revenues is determined by the IMs and depends on the type of service provided:
- A4.1 GDBs are subject to a limit on their maximum average price (a ‘WAPC’); or
- A4.2 GTBs are subject to a limit on their maximum revenue (a ‘pure revenue cap’ with a wash-up of under- or over-recovery of revenue).⁷⁰ The purpose of the wash up is to ensure that revenue is not under or over-recovered over time.
- A5 Under either a revenue cap or a WAPC approach, we determine the MAR based on anticipated expenditure. Anticipated expenditure is driven by suppliers’ own demand forecasts:
- A5.1 Under a revenue cap, suppliers are allowed to set prices as they see fit, but cannot exceed the revenue cap (except to the extent of a subsequent wash-up of previously under-recovered revenue); and
- A5.2 Under a WAPC, we combine MAR with our own demand forecasts to set a weighted average price path that suppliers must not exceed.
- A5.2.1 however, there may be an inconsistency between the forecasts used by suppliers when determining expenditure and the forecasts used to set prices; and

⁷⁰ Commerce Commission “Default price-quality paths for gas pipeline businesses from 1 October 2017 Final Reasons Paper” (31 May 2017) Attachment F.

A5.2.2 demand forecasting at this time will be very difficult and the margin for error is large.

A5.3 At the time of the price reset expected revenue over the regulatory period will be the same under both forms of control.

The different effects of form of control on consumer prices and supplier revenue

- A6 The choice between revenue caps or price caps can have an impact on the variability and predictability of consumer prices and suppliers' revenues.
- A7 Within a regulatory period, the cost associated with the difference between actual and forecast demand (demand risk) is allocated to suppliers under a WAPC, and to consumers under a revenue cap.
- A7.1 A WAPC provides within-period average price stability for consumers, but suppliers are exposed to the risk of over- or under-recovery of revenue;
- A7.2 In contrast, a revenue cap provides suppliers with guaranteed revenue, but it may lead to more price volatility for consumers within the price control period.
- A8 This means that in the short-term, an un-forecast decline in demand would be a cost to suppliers under a WAPC but those costs could be shared with or passed to consumers under a revenue cap. However, over the life of the assets, long term demand risk remains with consumers under both forms of control to the extent that expected FCM is maintained and assets are not economically stranded (see Attachment D).
- A9 Either approach can be modified to avoid allocating all within period demand risk to consumers or suppliers. Caps on price increases (such as those available for EDBs) could be used to minimise within period price volatility under a revenue cap. Or under a WAPC price cap, price reopeners could be allowed within a period if actual demand diverges from our forecasts, beyond a predetermined threshold. These approaches can be used to avoid extreme gains or losses to suppliers or consumers under each approach, at the cost of additional complexity.
- A10 Under a WAPC, customers face the risk of price volatility at the resets between periods. Conversely, under a revenue cap, price volatility may be greater within the period, but less volatile between periods.

We are considering form of control in light of increased demand uncertainty

- A11 Since we last reviewed form of control for GPBs there has been a significant increase in demand uncertainty. In the long run, possible outcomes for GPBs range from a wind-down of the entire network to a full repurposing of the pipelines to carry different gases. In the short run, a wide range of outcomes are also possible (including continued growth), although sharp declines are more likely to occur for transmission rather than distribution businesses if they lose large industrial gas users that are connected directly to the transmission network.
- A12 Given the increased demand uncertainty – particularly over the next regulatory period – we are considering whether current forms of control for GPBs give best effect to the Part 4 purpose. Specifically, we are considering whether a WAPC is still appropriate for GDBs and whether a pure revenue cap is still appropriate for the GTB.
- A13 Note that for DPP3 we are considering either a rollover and a full price reset based on current and projected profitability to set the starting price (as discussed in chapter 5). Changes to form of control could be considered under either approach.
- A14 Form of control is included within the specification of price IM and is not a foundational building block (as discussed in Chapter 2).

We are considering whether a WAPC is beneficial for GDB consumers

- A15 The current form of control for GDBs was introduced at a time when steady growth in natural gas connections was expected. As a result of the CCC recommendations and transition to a zero emissions economy we are considering:
- A15.1 whether GDBs or consumers are best placed to manage demand risk over the regulatory period; and
- A15.2 whether incentivising new or maintaining existing connections is in the long-term interest of existing or potential customers.
- A16 Our economic principles used to set the IM imply that we should allocate risks to suppliers or consumers depending on who is best placed to manage the risk, as long as doing so is in the long-term interests of consumers.
- A17 In the 2016 IM Review, we stated that suppliers were best placed to manage within-period demand risk. This is because we considered that GDBs were able to actively manage demand risk through driving growth in new connections.

- A18 Our view was that this allocation of risk was in the long-term interests of both potential and existing consumers. We expected new customers would benefit from access to a potentially more cost-effective option, and that existing customers would benefit from a larger customer base to spread costs over. It is efficient to share the cost of network assets over many customers and we anticipated that this efficiency would be shared with consumers at the next reset.
- A19 For the upcoming regulatory period, GDBs' ability to influence demand by growing new connections will be significantly influenced by government policy decisions that are yet to be made. If the Government adopts the CCC's final advice to set a date where new fossil gas connections are restricted, then GDBs' ability to influence demand will be severely constrained. On the other hand, final government policy may be more supportive of repurposing natural gas pipelines towards low carbon gases, in which case suppliers would continue to be able to influence demand by promoting new connections throughout the regulatory period.
- A20 It is worth noting that current high levels of uncertainty about the future direction of government policy for GPBs, may be impacting on incentives for new connections. It could be uneconomic at this time to subsidise new connections if GPBs expect demand to decline in the future. However, depending on other factors, such as the age of their assets and spare capacity, suppliers may still have an incentive to connect more customers in the short term because of the fixed cost nature of their network. We note strong recent industry investment in new connections, and that most capital contributions policies still encourage new connections. Given these factors, it is not clear whether the greater uncertainty from government policy is strongly disincentivising new gas connections.
- A21 Consumers are also constrained in their ability to manage demand in the short run (or manage exposure to unexpected price increases within a regulatory period). Historically gas use has been very inelastic to price changes. This has been for a variety of reasons, including its relatively low cost and the high cost of switching fuels. This may change in the long run if the economics of end-use efficiency and alternative fuels improve relative to gas. However, it is not known how many consumers would find this to be a realistic option in this regulatory period.
- A22 Changing from a WAPC to a revenue cap would shift within period demand risk to consumers. While supplier ability to manage demand risk may be lower than in the past, consumer ability to manage demand risk is still limited in the short run, so we would need to consider whether the diminished ability of suppliers to manage risk would justify a full allocation of short-term demand risk to consumers. Price reopeners under a WAPC, are an alternative that may better reflect the ability to manage within period demand risk.

A23 Consumers already bear long run demand risk, as when prices are reset, firms are given an expectation of FCM, and consumers prices are adjusted accordingly. If costs outpace demand growth, or do not fall as quickly as demand, prices will inevitably rise.

Form of control can also affect GDBs incentives for pricing efficiency and tariff restructuring

A24 In the 2016 IM review we examined in detail for EDBs the incentives for pricing efficiency and tariff restructuring under both a revenue cap and a WAPC.

A24.1 We identified that the complexity involved in tariff restructuring under a WAPC created a potential disincentive to pursue tariff restructuring.

A24.2 We also identified that revenue caps can create short-run incentives for inefficient pricing by overcharging price-sensitive customers to reduce demand and defer what would otherwise be efficient investment.

A24.3 But we noted that in the long run suppliers are incentivised to adopt efficient pricing to avoid customer disconnection irrespective of the form of control.

A25 We noted in the 2016 IM review that the same issues would exist for GDBs, but that GDBs were unlikely to want to restructure tariffs to the same extent as EDBs. In the context of expected long-term declines in demand, it is worth reconsidering short-run pricing incentives.

A26 ‘Over-charging’ under a revenue cap is less of a concern, as suppliers will want to avoid accelerating customer disconnections. And increased flexibility to restructure tariffs to manage more price sensitive demand may be in the long-term interest of consumers if it defers investments with a high probability of becoming economically stranded.

A27 Conversely, a WAPC may incentivise suppliers to maintain volumes within a regulatory period, even if long term demand declines are expected. While this could potentially incentivise some unnecessary asset renewal within period, this would likely be countered by stronger long-term incentives to avoid making uneconomic investments.

A28 Overall, our view is that GDBs are likely to have strong long-term incentives to price efficiently, and that these concerns are secondary to concerns about who is best placed to manage within period demand risk for the upcoming DPP.

GDBs may need increased price flexibility to manage demand risk within the regulatory period

- A29 In the current context, where large deviations from demand forecasts within the DPP period are a real possibility, and GDBs' ability to manage demand risk is constrained, it may be appropriate to provide GDBs with increased price flexibility to manage demand within the regulatory period.
- A30 We note that moving to a pure revenue cap would fully shift (or largely shift if there are caps on consumer price increases) within period demand risk from GDBs to consumers.
- A31 Allowing price reopeners under the current WAPC for GDBs may be preferable to wholesale changes to the form of control. Price reopeners would more evenly share the increased within period demand risk over the next regulatory period, while acknowledging that consumers are still very limited in the ability to manage short term demand risk.
- A32 As noted above, demand forecasting at this time will be very difficult and the margin for error is large. However, this concern could be managed under a WAPC by allowing price reopeners if actual demand diverges significantly from our forecasts. This would still require amendments to IMs, with consideration given to whether any changes are likely to be in the long-term interest of consumers of GDB services.

We could consider changing the form of control for the GTB

- A33 The GTB potentially faces greater demand uncertainty than GDBs within the next regulatory period. In 2016 we adopted a 'pure' revenue cap for the GTB with a wash-up of under- and over-recovery of revenue (changing from a lagged revenue cap).⁷¹ The purpose of the wash-up of revenue is to ensure that revenue is not under- or over-recovered over time. We note that while we use the term 'cap' – which implies something that is asymmetric – the effect is actually symmetric.
- A34 First Gas' response to our open letter acknowledged that the current wash up mechanism can cause relatively large changes in prices for customers between years. It submits that we should investigate other regulatory tools to smooth out revenue. Transpower's EV account is one approach suggested.⁷²

⁷¹ Commerce Commission "Input methodologies review decisions: Topic paper 1 Form of control and RAB indexation for EDBs, GPBs and Transpower" (20 December 2016) see Chapter 3: Form of control for GTBs, available at https://comcom.govt.nz/data/assets/pdf_file/0018/60534/Input-methodologies-review-decisions-Topic-paper-1-Form-of-control-and-RAB-indexation-for-EDBs-GPBs-and-Transpower-20-December-2016.pdf

⁷² First Gas, "Response to Open Letter on Fit for Purpose Regulation" (28 May 2021), p17.

- A35 When we set DPP2 we considered that gas transmission demand was difficult to forecast and that transmission businesses had little ability to influence demand.
- A36 Gas transmission demand is still difficult to forecast, and transmission businesses still have very little ability to grow demand. However, in the context of potential declines in demand, consumers are also limited in their ability to efficiently manage within period demand risk. For example, price volatility and uncertainty over the next regulatory period and beyond may encourage (potentially inefficient) consumer disconnections.
- A37 We could reconsider the form of control for gas transmission. The main alternative approach would be moving to a WAPC. If we set a WAPC, we would need to forecast constant price revenue growth. If a large customer was expected to leave the transmission network, we would need to include that in our forecast, which would result in higher expected prices for customers.
- A38 Moving to a WAPC would:
- A38.1 place within period demand risk on the GTB;
 - A38.2 create stronger short-term incentives on the GTB to try and retain a customer who is considering reducing or ceasing its use of natural gas;
 - A38.3 reduce, during the regulatory period, the potential impact from the unexpected loss of customers (losses not factored into our demand forecasts) on the prices charged to the remaining GTB consumers; and
 - A38.4 restrict the GTB's ability to restructure prices during the regulatory period.
- A39 As noted for GDBs, caps on price increases and price reopeners can complement either a revenue cap or a weighted average price cap to share within period demand risk between suppliers and consumers. We welcome parties' submissions on which form of control best promotes the Part 4 purpose.

Attachment B Setting expenditure allowances

Purpose of this attachment

- B1 This attachment explains our proposed approach to setting capex and opex allowances for DPP3 and the potential issues we will need to address if we set expenditure allowances based on current and projected profitability.

Background

- B2 In DPP2 we took a tailored approach to setting GPB forecasts for both capex and opex. We considered that DPP2 was a good opportunity to assess gas business asset management planning and whether GPB forecasts were supported by asset management planning processes.
- B3 We also considered that tailoring GPB forecasts was appropriate at the time as it helped ensure price-quality paths provided for more efficient investment, and that it benefited consumers by reducing opportunities for upwardly biased GPB forecasts.
- B4 Following the DPP2 process we concluded that GPB AMPs and asset management planning processes had been well-tested, and that bottom-up asset management planning appeared to be informing expenditure forecasts.
- B5 In this section we summarise what we did in DPP2 to set capex and opex allowances. While we propose to depart from the DPP2 approach and take a more traditional top-down approach to setting DPP allowances, we are interested in views on this.

How we set capex and opex in DPP2

- B6 The DPP2 capex and opex allowance forecasting approach followed four key steps:
- B6.1 business as usual (BAU) variance tests;
 - B6.2 AMP evidence stage;
 - B6.3 GPB evidence stage; and
 - B6.4 the use of fallbacks and alternative forecasts.
- B7 At a capex and opex category level and in an aggregate sense we applied BAU variance tests of:
- B7.1 a 5% increase above historical average opex; and
 - B7.2 a 10% increase above historical average capex.

- B8 For each GPB, we accepted any year of its forecast aggregate opex or forecast aggregate capex as supported expenditure if it was less than the BAU variance level.
- B9 For GPBs with forecast aggregate opex or forecast aggregate capex above the BAU variance level, we considered those years of expenditure on an individual expenditure category basis. We accepted any years of individual categories of expenditure as supported expenditure if they were less than the BAU variance level for that category.
- B10 We applied a more detailed assessment to the categories of expenditure that we did not accept because they were above BAU variance levels. This was the AMP and supplier evidence stages where we sought supporting evidence that there were reasonable explanations for expenditure above the BAU variance levels. We considered evidence provided by GPBs (in their AMPs and in response to our requests).
- B11 The AMP evidence step involved performing a review of the GPB AMPs. Relevant metrics and ratios of data derived from the AMPs were used to explore credible and reasonable quantitative explanations for the individual categories of expenditure that were above the upper variance level. For example, for GPBs with increasing levels of consumer connection expenditure, reasonable ICP growth forecasts were a suitable piece of quantitative evidence.
- B12 The metrics and ratios also provided information on where to target qualitative assessment of the AMPs – that is, what sections of the AMPs to review to seek explanations of the areas of increasing expenditure.
- B13 Where more evidence was necessary because the AMP alone did not provide a reasonable explanation of the expenditure increase, we asked for this evidence from a GPB. It was voluntary for a GPB to respond, and had it not responded we would have forecast those areas of expenditure to the BAU fall-back levels for capex and opex.
- B14 We expected that the necessary information should already exist and could have been in the form of existing documents, or a specific response to the questions. We sought information that specifically addressed the area of expenditure concerned, such as information on the overall governance and expenditure decision-making processes.
- B15 When developing questions for GPBs and assessing the responses, we applied greater scrutiny to areas of expenditure that are larger or have larger increases from historical levels. However, we limited this scrutiny in some cases and considered some expenditure was more appropriate for a CPP application.

Revenue growth

- B16 In DPP2 we used CPRG forecasts to predict the rate at which revenues will change for GDBs due to changes in quantities delivered and number of connected consumers, with prices remaining constant. The CPRG forecast was used to set starting prices as well as our view of likely revenue growth due to new connections and gas volumes.
- B17 CPRG forecasts were used along with forecasts of CPI to estimate the amount that each supplier's revenue would change throughout the regulatory period and to incentivise new connection growth.
- B18 In DPP2 we tailored CPRG forecasts to better reflect the operating environments of the individual GDBs. More specifically, we used gas demand forecasts that relate to the region in which each gas business operates.
- B19 For this purpose, we used a Concept gas demand study report, produced for the GIC. This demand forecast was produced at a regional level and covered the Central and Lower North Island, Auckland, Non-Auckland, and Whanganui regions, instead of one aggregate forecast covering the North Island.

Productivity: The X-factor and opex

- B20 Under the Act, we are required to consider the price changes implied for each supplier when the rate of change in price is based on the long-run rate of productivity improvement in the industry (either in New Zealand or including overseas markets). We refer to this rate of change in productivity as the 'X-factor'.
- B21 In DPP2 we amended the method we used in DPP1 to set the X-factor, to reflect our view that greater reliance should be placed on supplier forecasts for opex and capex.
- B22 We did not set opex based on a step and trend method for DPP2 and adopted a simpler approach to setting the X-factor. Because of the less material impact of productivity growth forecasts, we based our decision on the X-factor on productivity studies from Australia and North America, and historic evidence from New Zealand. This analysis concluded that for DPP2, an X-factor of 0% was appropriate.

Initial views on how we set capex and opex allowances for this DPP

- B23 We are interested in stakeholder views about how we approach the setting of capex and opex allowances for DPP3 and how we deal with capex uncertainty. Our early view is that we do not fully repeat the DPP2 capex and opex allowance setting process but retain some aspects of it for DPP3.

- B24 Our initial view is that a top-down assessment approach is more appropriate than the bottom-up assessment approach we took to support our DPP2 decision. We are more comfortable with GPBs' AMPs following the DPP2 process and considered that GPB bottom-up asset management processes had been informing the capex and opex forecasts.
- B25 Our initial view is that we may:
- B25.1 use GPB forecasts for capex and apply a BAU variance test against each capex category, and for total capex, like the BAU variance test approach we took in DPP2;
 - B25.2 introduce capex reopeners to deal with foreseeable projects with uncertain cost and timing, and unforeseeable projects;
 - B25.3 reconsider how we agree to forecast allowances for consumer connection and system growth capex, informed by GPB capital contribution policies, considering potential government policy changes on new gas connections;
 - B25.4 retain CPRG modelling to forecast gas demand trends using the most up-to-date information such as the recent CCC final report; and
 - B25.5 use the base step and trend modelling approach for opex.

BAU variance test for capex and reopeners

- B26 Our early view is that we will use GPB capex forecasts and apply a similar BAU variance test that we used in DPP2. The BAU variance test accepted capex category level and aggregate capex as supported expenditure if it was less than the BAU variance level - a 10% increase above historical average capex across the DPP period in DPP2.
- B27 Our early view is that we will not carry out further scrutiny of GPB AMPs or engage with GPBs to seek further supporting evidence if the AMPs do not support the capex that exceeds the BAU variance tests.
- B28 To accommodate uncertain capex, that exceeds historical expenditure BAU thresholds, we consider that capex reopeners in the GPB IM's (like those in the EDB IM's) will serve this purpose.
- B29 This approach would align with the reopeners available in the EDB DPP and reduce capex project forecasting uncertainty due to climate change policy changes affecting consumer gas connection uptake, system growth and GPB capex investment decision-making.

B30 At this stage we consider that these reopeners will have an upper bound cost threshold to ensure that major investments are more appropriately considered under a CPP. Our preliminary view is that this capex upper bound threshold will be consistent with the threshold set in the EDB IM's, of \$30 million.⁷³ We maintain our view that major capex investment programmes are best dealt with under a CPP.

Base step-and-trend modelling for opex

B31 Our early view is that we will forecast GPB opex using a base step-and-trend model. This involves adopting a base level of opex (with appropriate 'step' adjustments which may also be downward adjustments) projected using the rate of change of modelled drivers over the future regulatory period (ie, the 'trend').

B32 We did not use the base step and trend method in DPP2 but adopted the following three main drivers of opex in DPP1: network scale, opex partial productivity and input prices. We are interested to understand if stakeholders consider these are appropriate trend drivers for DPP3 and if other trend drivers should be considered.

B33 We are interested to understand if stakeholders consider that significant substitution of opex for capex is likely within DPP3 and how we could allow for this to occur efficiently.

Base level opex

B34 The base step-and-trend approach relies on a base level of opex from which to project future levels of opex. If we do choose to use base step-and-trend forecasting, we must consider what base year amount is appropriate. Presently we consider that there are two main options for setting the base year amount, namely:

B34.1 the base year opex amount is set as the opex incurred by the GPB in the year prior to the first year of DPP3; and

B34.2 the base year opex amount is set using a multi-year average of opex incurred by the GPB several years prior to the first year of DPP3.

B35 We may also consider adjustments to the base level of opex for either method. There may be circumstances where GPB-specific base opex adjustments are appropriate – we encourage GPBs to evidence this early in the process so that it can be fully assessed.

⁷³ Electricity Distribution Services Input Methodologies Determination 2012 (20 May 2020) clause 4.5.6 (4) available at https://comcom.govt.nz/_data/assets/pdf_file/0017/60542/Electricity-distribution-services-input-methodologies-determination-2012-consolidated-20-May-2020-20-May-2020.pdf.

How we may consider growth in an uncertain environment

B36 A final consideration is how we deal with new connection growth from 2022 given the present uncertainty in the gas sector. In a sector ‘wind-down’ scenario it would seem inappropriate to be considering new connection growth to be a BAU activity.

B37 At present some GPBs are heavily subsidising new connection costs to varying degrees. Figure B1 demonstrates the extent of this subsidy by GDBs over the 2016 to 2020 period.

Figure B1 Consumer connections capex and capital contributions by GDB and by year (2016-2020)⁷⁴



B38 While it could be argued that subsidising new connections can benefit the wider consumer base, as there are more consumers to pay for existing network costs, continuing to subsidise new connections that result in the need for wider network reinforcement may not be appropriate unless it becomes clear that the pipeline has a sufficiently long life to justify the investment either as a natural gas network or if re-purposing and hydrogen gas conveyance is feasible both technically and economically.

⁷⁴ Source data from GDB Information Disclosure available at <https://comcom.govt.nz/regulated-industries/gas-pipelines/gas-pipelines-performance-and-data/information-disclosed-by-gas-pipeline-businesses>.

- B39 Early indications from some GDBs are that they still see new connection growth continuing past 2022 and well beyond, and we have observed limited plans to modify how new connections will be treated.
- B40 It is difficult to reconcile some GDB views that networks will grow, facilitated by subsidy, while simultaneously seeking an ability to depreciate existing and new assets at a faster rate.
- B41 We will also be factoring in our approach to consumer connection and system growth capex when we consider opex allowances, particularly how new connections and system growth influences opex, and whether this should be reduced to reflect that new connections should not be subsidised by existing consumers in DPP3.
- B42 Another potential opex issue, if a sector ‘wind-down’ scenario is more likely, is GPBs changing from a capex intensive strategy to a more opex intensive strategy. This may occur when it becomes more economic to maintain assets for longer rather than replace and cost recover them over a shorter period.
- B43 It is possible that decisions like this may be necessary over the DPP3 period. We are interested in supplier views on this point and would be interested in how businesses are making capex/opex trade-offs presently.⁷⁵

Network scale

- B44 In DPP1 we captured the effect of network scale on the opex trend through observed trends in network length and the number of customers. Trends in network scale were multiplied by the estimated elasticities of opex to network length and the number of customers, respectively.
- B45 We consider that the network scale elasticities could be modelled and updated using the most recent data or investigate alternative methods and approaches to estimating network scale elasticities.
- B46 However, we are unsure that a continuation of consumer connection growth is appropriate over the DPP3 period, and if we do use base step-and-trend modelling for opex, we will consider if network scale effects are incorporated.

⁷⁵ This issue also links with how we continue to incentivise the maintaining of existing quality standards in a ‘wind-down’ scenario

Input prices

- B47 In DPP1, the step-and-trend approach captured the effect of opex input prices through forecasting all industry price indices. The opex input prices were measured through a weighted average of the forecast of the Producer Price Index (PPI) and the Labour Cost Index (LCI).
- B48 The forecast change in input prices reflects how the annual cost of providing a given level of service is expected to evolve over the next regulatory period. We have identified opportunities for refinement to this approach, namely:
- B48.1 Sub-industry measures of input prices. Instead of using all industry cost indices, we could explore using industry specific indices that are more reflective of the gas pipeline sector; and
 - B48.2 The weights applied to the LCI and the PPI. Suppliers may be able to provide information to update the weight applied between the two cost indices used to forecast input prices.
- B49 We are interested in supplier views about how we consider industry price indices and how these might be applied in the base step-and-trend modelling. Some submitters to our recent open letter have noted that COVID-19 has affected their ongoing costs and that this is likely to continue. We will be considering COVID-19 in our modelling.
- B50 We are also interested if there are alternative approaches that are more appropriate or if the LCI and PPI indices sufficiently capture price increase effects.

Attachment C Quality

Purpose

- C1 The purpose of this attachment is to summarise our current approach to setting quality standards and incentives relating to reliability and the potential options we are considering for GDBs and GTB in DPP3.

Background

- C2 When we set quality standards, we are aware of the difficulties that exist in developing meaningful outage or reliability-related quality standards for gas pipeline services that align with electricity network reliability-related quality standards.⁷⁶
- C3 We consider it is not appropriate to transfer quality standards that exist in electricity across to gas pipelines. There are also significant differences between gas transmission and gas distribution.
- C4 We also understand that there are other regulatory measures in place for quality of gas services. Other agencies have overlapping responsibilities in this area, and this needs to be considered in our initial views for any future quality standards.
- C5 Responsibilities for the security, reliability, and safety of gas transmission services in New Zealand are shared between us, Worksafe NZ and the GIC.
- C6 Worksafe NZ is responsible for the Health and Safety in Employment (Pipelines) Regulations 1999, which impose a certificate of fitness requirement on gas and petroleum pipelines and all equipment necessary for the safe operation of those pipelines.
- C7 The GIC has an objective to ensure that gas is delivered in an efficient and reliable manner, and it does this in part by being involved in amendments to the Maui Pipeline Operating Code (MPOC) and the Vector Transmission Code (VTC). These code agreements set out general commercial and operating terms and conditions for access to the former MDL and Vector transmission systems which are now owned and operated by First Gas Transmission.

⁷⁶ Gas distribution networks typically have SAIDI and SAIFI reliability figure orders of magnitude lower than in electricity networks and reliability is driven by other considerations.

- C8 First Gas Transmission was planning to align the Maui Pipeline Operating Code (MPOC) and the Vector Transmission Code (VTC) into a new Gas Transmission Access Code (GTAC) by 1 October 2020 but officially cancelled this project on 19 March 2021. Presently the MPOC and VTC arrangements are still governing operating and commercial access the gas transmission network.
- C9 The GIC also administers the Gas Governance (Critical Contingency Management) Regulations 2008 which set out how industry participants plan for, and respond to, a serious incident affecting gas supply via the gas transmission pipelines.
- C10 The Gas (Safety and Measurement) Regulations 2010 contain the primary legal requirements that keep interruptions to a minimum in gas distribution, including requirements around safety, quality, reliability and continuity of supply. We do not seek to duplicate these.

Current quality settings for GPBs

- C11 The Act requires us to set a quality standard for suppliers of gas pipeline services.
- C12 In 2013, we set quality standards based on annual targets for response time to emergencies (RTE). The specific targets are:⁷⁷
- C12.1 all suppliers of gas pipeline services must take 180 minutes or less to respond to any emergency; and
- C12.2 gas distributors must take 60 minutes or less to respond to 80% of emergencies.
- C13 In 2017 our decision was to retain the RTE quality standards set in 2013, with drafting improvements, and change the definition of emergency. We also introduced a new quality standard that there should be no major interruptions for the GTB, and that GTBs should provide a detailed publicly available report if there was a major interruption.⁷⁸

RTE quality standard drafting improvements

- C14 Following submissions, we agreed to extend the application period for the 180-minute RTE standard. We decided to extend the period suppliers have to provide information about the causes of a failure to meet the 180-minute RTE from 30 working days to 45 working days.

⁷⁷ Section 53M(1)(b) of the Act.

⁷⁸ "Default price-quality paths for gas pipeline businesses from 1 October 2017 Final Reasons Paper" – 31 May 2017 Chapter 7 pp 103-114 available at https://comcom.govt.nz/_data/assets/pdf_file/0015/62250/Gas-DPP-2017-Reasons-Paper-31-May-2017-.pdf.

- C15 We agreed that a supplier can request to treat the emergency as having complied with the quality standard where they have a reasonable excuse for the failure. If suppliers obtain our approval, they will be able to report that they are compliant with that quality standard in relation to that emergency in their compliance statements.
- C16 The DPP2 Determinations also contained drafting changes that simplified the quality standards by replacing the quality standard formulae with words that have equivalent effect to the formulae. We considered that the revised wording improved the clarity of the provisions.

Definition of emergency

- C17 In DPP2 we amended the definition of emergency by replacing the reference to the Guidelines for a Certificate of Fitness for High-Pressure Gas and Liquids Transmission Pipelines with the text contained in the current guidelines. This means that the test for an emergency set before the start of the regulatory period will continue to apply for the full regulatory period even if the guidelines change during the regulatory period.
- C18 We also amended the second limb of the test for an emergency by replacing the current subjective test “for which the GTB considers a representative of the GTB is required to immediately respond to” with an objective test “that should be responded to immediately based on good industry practice (GIP)”.

Major interruptions quality standard

- C19 In DPP2, we introduced a major interruptions quality standard for GTBs because while interruptions in gas transmission are rare, they can have a large impact when they do occur. We considered that introducing a major interruptions standard was an appropriate measure to incentivise the GTB to maintain reliable gas transmission.
- C20 We also required that, following a major interruption, the GTB must notify the Commission within 5 working days that the major interruption has occurred, and provide a written report to the Commission for publication, 60 days after the critical contingency, leading to the major interruption, has ended.
- C21 The major interruption report was required to include:
- C21.1 a description of the interruption (including the cause(s), location, assets involved);
 - C21.2 whether the risk of the interruption was identified in advance, and any steps the GTB took to reduce or mitigate that risk;
 - C21.3 the duration of the interruption;

- C21.4 the GTB's best estimate of the quantities of services not delivered as a result of the interruption, and the revenues that would have been earned for any undelivered services, to the extent that it is possible to determine them;
 - C21.5 the direct cost of the interruption (including repair costs) to the GTB; and
 - C21.6 what actions (if any) the GTB intends to take to avoid similar interruptions in future.
- C22 We did not introduce a quality standard for major interruptions for GDBs. GDBs did not support this and highlighted that it was unclear whether there was an issue that warranted its introduction.
- C23 While MGUG was supportive of a major interruption quality standard, our analysis at the time of historical GDB major interruptions Information Disclosure data showed there were few significant distribution interruptions.
- C24 We concluded that it was not necessary to introduce a major interruptions quality standard for GDBs. Our view was that the introduction of a major interruptions' quality standard was unlikely to deliver additional benefits and that it would lead to unnecessary costs being passed on to consumers.

Our approach to quality standards for DPP3

- C25 As noted in Chapter 3, we do not intend to prioritise considering additional quality standards for DPP3. We would need to be convinced additional quality standards are appropriate and carefully weigh whether they add unnecessary cost and complexity for the value they provide.
- C26 The following sections set out information that we currently collect that could be used to set quality standards where they benefit consumers of natural gas services.

Gas transmission services

- C27 Since DPP2 was set on 31 May 2017, First Gas Transmission has disclosed that there have been no emergencies that have exceeded 180 minutes and no major interruptions on the gas transmission network.
- C28 There are several additional metrics available from GPB ID data that could be used to set meaningful quality standards and provide reliability incentives to the GTB such as compressor availability.
- C29 Compressor availability may be aligned with low pressure incidents. We would like to understand if low pressure incidents affect offtake customers and whether a compressor availability quality standard could be used to reduce the impact of these if this is the case.

- C30 We also collect data on gas leaks per 1000 km of pipeline. We now have data for these metrics that could be used to generate a meaningful historical baseline of performance. While the data we collect suggests the performances of compressor availability, low pressure events and gas leaks per 1000 km do not seem to be declining, we would be interested to understand if quality standards related to these metrics have merit.

Gas distribution services

- C31 Since DPP2 was set on 31 May 2017, all GDBs have disclosed that they have met the 2017 DPP quality standards; that they must take 60 minutes or less to respond to 80% of emergencies. Our initial view is that the current quality standard with regards to the RTEs should remain in place for DPP3.
- C32 We seek views on whether additional quality standards are necessary in gas distribution – for example gas escapes per 1000 kilometres, poor pressure events and the number of emergencies.
- C33 Preliminary analysis of information disclosure data is inconclusive about whether these observed metrics are worsening significantly over time or whether they are an issue for consumers.
- C34 We would like to understand if additional quality standards for gas distribution are both necessary and useful to consumers. Like our consideration of additional gas transmission quality standards, we would need to weigh whether additional gas distribution quality standards do not add unnecessary cost and complexity compared to the value they would provide.

Attachment D Addressing the risk of economic network stranding

Purpose

D1 This attachment discusses the issues surrounding economic network stranding risk that may arise as we transition to a net zero emissions economy. We address the concern that increased economic network stranding risk may compromise our ex-ante Financial Capital Maintenance (FCM) pricing principle and outline options for addressing the risk during DPP3.⁷⁹

What is economic network stranding?

D2 Due to the transition to a net zero emissions economy, there is an increased risk of the gas pipeline networks becoming economically stranded. This means there is a risk that GPBs may be unable to, at some point in the future, fully recover their historic capital investment as customers disconnect from GPB networks.

D3 At some point economic network stranding may be unavoidable. As customers leave, prices for remaining consumers may need to rise beyond their willingness to pay given their economic alternatives as GPBs recover their costs across a smaller base. Setting higher prices that result in further customers leaving the network would not be in the long-term interest of consumers, or an efficient outcome. Further, those remaining customers with limited ability to switch away from gas, may face unreasonably high prices when considered relative to the capacity of the network they are using.

GPBs are concerned about increased risk of partial capital recovery

D4 Responses to our open letter raised concerns about increased risk of partial capital recovery considering the Government's commitments to net carbon zero by 2050. GPBs have made extensive investment in recent years, particularly to grow networks. As a result, all GDBs have average asset lives greater than 20 years.

D5 Increased economic network stranding risk may create a strong disincentive to invest during DPP3. This may be appropriate given the current levels of uncertainty, but only to the extent that suppliers are still incentivised to maintain a safe and reliable gas network that meets the needs of existing consumers.

⁷⁹ The IMs allow for assets to stay in the RAB even though they have ceased to be used (ie, become physically stranded). Physical asset stranding is not the risk under consideration. Rather, it is the risk that the network becomes economically stranded.

- D6 While we are yet to review investment profiles for the next regulatory period, if further investment is needed to meet consumer demands over the next DPP period, it would be appropriate to consider whether:
- D6.1 suppliers' actions are consistent with the risk; and
 - D6.2 the current regulatory framework appropriately reflects the increased risk of economic network stranding.
- D7 A key consideration for investment incentives is our FCM pricing principle which states that we should provide regulated suppliers the ex-ante expectation of earning their risk-adjusted cost of capital (a 'normal return'). This provides suppliers with the opportunity to maintain their financial capital in real terms over timeframes longer than a single regulatory period. However, price-quality regulation does not guarantee a normal return over the lifetime of a regulated supplier's assets.

A number of factors influence economic network stranding risk for GPBs

- D8 In the context of transitioning to net carbon zero by 2050, changes in government policy may make it difficult or impossible to set a price path with an expectation of full capital recovery or FCM. For example, if gas use (or alternative gas use) were banned (or heavily restricted) at some point in the future, we may be unable to set price paths that provide an expectation of full capital recovery (or suppliers may not be able to charge those prices even if we allowed them).
- D9 In our 2016 IM review we identified some other drivers of the risk of partial capital recovery (or economic network stranding) for GDBs at that time (some of these may have since changed).⁸⁰
- D9.1 The somewhat more discretionary nature of pipeline-delivered gas as a fuel for meeting domestic consumers' energy needs. For example, electricity can meet most of these energy needs, and bottled gas is an economic alternative for 'low-volume' users.
 - D9.2 The increasing competitiveness of economic alternatives to gas for meeting these needs (e.g., electricity heat pumps for space heating). The degree of substitutability between gas and electricity will be influenced by whether the consumer has already invested in the relevant domestic equipment (eg, gas water heater) or not.
 - D9.3 The lower penetration of piped gas may place GDBs closer to the 'death spiral tipping point'. As the number of consumers per 'unit' of network is lower, the average cost may be higher and on the steeper side of the

⁸⁰ Commerce Commission "Input methodologies review decisions: Topic paper 3 The future impact of emerging technologies in the energy sector" (20 December 2016) at [98].

average cost curve. This in turn may imply that every disconnection causes average costs to rise by an increasing amount, making it increasingly likely that the remaining consumers will be unwilling to pay the costs, given the alternatives. On the other hand, low market penetration means that GDBs have more ability to grow connections in any given regulatory period and that this may make the risk (of falling demand) facing GDBs less asymmetric (or one sided) than for EDBs.

- D9.4 The fixed component of EDB prices (including capacity charges), which may increase (relative to variable charges) in the coming years as they respond to emerging electricity technology developments. This would result in lower average per unit (variable) electricity prices (than if tariffs had not been restructured), which would encourage greater electricity consumption (assuming consumers do not disconnect), potentially at the expense of gas.
- D9.5 Households with their own distributed generation (eg, rooftop solar PV) will likely have an incentive to consume it, again potentially at the expense of gas.
- D9.6 The higher cost of safety regulations for gas (relative to electricity) is another factor that may discourage gas use.

Potential measures to address increased economic stranding risk

- D10 Economic network stranding risk for GPB assets has increased since the 2016 IM review. As noted in the discussion on form of control (see Attachment A), GDBs may be constrained in their ability to continue to grow connections within this regulatory period.
- D11 As a result, GDBs may face an increased (downside) risk from economic network stranding. Consequently, it may be appropriate to consider ways to manage this increased risk if doing so is in the long-term interest of consumers.

GPBs can take actions now to manage this increased risk

- D12 Our preliminary examinations of supplier forecasts, from the most recent AMPs, has identified a potential conflict between supplier investment plans and their concerns about increased economic network stranding risk noted in the open letter responses.
- D13 As at June 2021, most supplier AMPs continue to forecast high levels of capex on new connections, connection growth, and mix of capital contribution requirements from new connecting consumers.

- D14 Capital contribution policies differ between GDBs. As of 1 July 2021, Vector prices new gas connections based on the costs Vector incurs (eliminating ‘Vector contributions’ and ‘rebates’ previously offered).⁸¹ First Gas (distribution),⁸² Powerco,⁸³ and GasNet⁸⁴ policies require customers to contribute the difference between the cost of modifying the network, and the (long-term) revenue they expect to receive from doing so. What these policies mean in practice for different consumer types and locations varies, but many consumers are offered free connections. For example, PowerCo and First Gas offer free connections for customers located close to the existing gas networks.
- D15 While we acknowledge there is increased risk of economic network stranding since the last DPP was set, it is our emerging view that suppliers have the responsibility and means to mitigate at least part of the increased risk themselves. For example, if there is limited spare capacity, suppliers can mitigate increased economic network stranding risk by:
- D15.1 lowering expenditure on new connection and system growth; and
 - D15.2 requiring larger contributions from new connections.
- D16 We would like to hear from GPBs about how they are addressing the risk of economic network stranding themselves and how they would approach this situation if they were operating in an unregulated environment.
- D17 Our priorities are to ensure GPBs can invest where necessary to continue to provide safe and reliable natural gas supplies while protecting consumers from unnecessary cost burdens now and in the future.
- D18 We may conclude that direct action by suppliers to reduce economic network stranding risk (eg, through lower expenditure, and higher capital contributions from new connections) is necessary to justify changes to IMs to reduce economic network stranding risk (eg, shortening asset lives as was allowed for EDBs after the 2016 IM review).

⁸¹ Vector new connections contribution policy documents available at <https://blob-static.vector.co.nz/blob/vector/media/vector-regulatory-disclosures/2021-policy-for-determining-capital-contributions-gas-distribution.pdf>, <https://www.vector.co.nz/personal/gas/new-connection/simple> and <https://www.vector.co.nz/personal/gas/new-connection/complex>

⁸² First Gas new connections contribution policy available at <https://firstgas.co.nz/wp-content/uploads/FGL-DX-Capital-Contributions-Policy-1-July-2019.pdf>

⁸³ Powerco new connections contribution policy available at <https://www.powerco.co.nz/media/1401/gas-capital-contribution-guide-vf.pdf>

⁸⁴ GasNet new connections contribution policy available at <https://www.gasnet.co.nz/wp-content/uploads/2017/11/GNX-080-Capital-Contributions-Policy-20130415.pdf>

D19 We also understand that in a situation where normal capital expenditure recovery timeframes no longer apply, that opex solutions may be more economic. This may mean that in future, to maintain safe and reliable networks, opex allowances may need to increase when the normal capex/opex trade-off calculations no longer favour asset replacement.

Our focus for the Gas DPP is on mechanisms to address non-systematic risk of economic network stranding

D20 In the 2016 IM review we primarily considered economic network stranding risk for GDBs in two ways:

D20.1 as part of the review of the WACC; and

D20.2 as part of work on future technologies which focused on EDBs.

D21 The WACC compensates investors for systematic risk. These are risks that are correlated with the economy or average market performance and so investors cannot use diversification to insulate themselves from these risks.

D22 The extent to which economic network stranding risk is systematic depends on the nature of the risk. In most general contexts (and by regulators in other jurisdictions such as Australia), economic network stranding risk is considered non-systematic in nature, and so not relevant to WACC.

D23 Our current view is that most economic network stranding risks for GPBs are likely to be non-systematic in nature, and not relevant to WACC. This includes the risk of government policy interventions that restrict gas use (or gas pipeline use – which could also lead to physical asset stranding) and the risk of competitive stranding associated with technological developments specific to the energy or gas industries.

D24 However, given the relatively low penetration of gas infrastructure in New Zealand, economic network stranding risk may be partly systematic. In the context of decarbonisation and likely declines in gas demand, it is plausible that adverse economic shocks could further curtail growth and potentially accelerate disconnections increasing economic network stranding risk.

- D25 In our 2016 IM review we acknowledged that economic network stranding risk may be partly systematic for GPBs' infrastructure. We did not consider that economic network stranding risk alone would justify an asset beta uplift. However, when combined with other factors, primarily the higher income elasticity of demand for gas,⁸⁵ we considered there remained support for an upwards adjustment to the gas asset beta and allowed an asset beta uplift of 0.05 for GPBs relative to EDBs and Transpower (down from the 0.10 adjustment we allowed in 2010).
- D26 While economic network stranding risk for GPBs may be partly systematic, other non-systematic factors are likely to pose a more material and significant risk to full capital recovery. Therefore, our focus for the Gas DPP is on non-systematic risk (particularly risk of changes in government policies related to decarbonisation). We will reconsider the WACC during the IM review which is due to commence in 2022.

We are assessing whether mechanisms we have used in other regulated sectors to address stranding risk could be applied to GPBs

- D27 We are considering whether measures we have used to address economic network stranding in other regulated sectors could be applied to GPBs. We have intentionally focused on mechanisms that we have previously implemented, as we think these may be more appropriate in the context of a DPP.
- D28 We would not make changes lightly, as doing so would require changes to elements of the foundational building blocks used to set price-quality paths. As discussed in Chapter 5, a rollover of starting prices would also indirectly address economic stranding risk at this time by allowing higher revenues than if we applied current IMs – while providing additional time for all stakeholders to consider the broader impacts of any change within the context of the upcoming Part 4 IM review.
- D29 When we have addressed the risk of economic network stranding in the past, we have either mitigated (or reduced) the risk of an economic stranding event or provided ex-ante compensation.
- D30 Measures that mitigate asset stranding risk by bringing forward cash flows are (in principle) NPV-neutral to suppliers and consumers, as long as economic network stranding does not occur. In the 2016 IM review we introduced such a mechanism to allow shortening of asset lives for EDBs to mitigate economic stranding risk due to technological change.⁸⁶

⁸⁵ See Commerce Commission "Input methodologies review decisions Topic paper 4: Cost of capital issues" (20 December 2016), para 344.

⁸⁶ See Commerce Commission "Input methodologies review decisions Topic paper 3: The future impact of emerging technologies in the energy sector" (20 December 2016).

- D31 Mitigation measures alone may be insufficient to ensure suppliers have an expectation of FCM. If so, ex-ante compensation may be appropriate. Ex-ante compensation mechanisms provide consumers with insurance against future price shocks, while explicitly exposing suppliers to the risk that assets may be economically stranded in the future. We have previously provided ex-ante compensation for stranding risk for regulated fibre services.⁸⁷
- D32 The following discussion outlines considerations for applying these measures to GPBs.

We are interested in stakeholder views on whether changes made in the 2016 IM review to allow shorter asset lives for EDBs would be appropriate for GPBs

- D33 Stakeholders have suggested shortening asset lives as a way to reduce the risk of economic network stranding. We are interested in whether the mechanism we introduced in the 2016 IM review for addressing increased economic stranding risk for EDBs in response to technological change is appropriate for GPBs in the current environment.⁸⁸
- D34 At the time we considered that the best way to reflect the higher uncertainty, attached to the magnitude and direction of the risk of partial capital recovery due to technological change, was to allow EDBs to apply for a discretionary NPV-neutral shortening of remaining asset lives. This would happen at the time of the DPP reset.
- D35 This adjustment was capped at a 15% reduction to remaining average asset lives as compared to asset lives recorded at the time of the DPP reset. EDBs can propose a smaller reduction which the Commission can accept or reject. We noted that the IMs already allow EDBs to extend their asset lives.
- D36 We considered extending our decision to allow shorter asset lives for EDBs to apply to GPBs. We decided not to make any changes to the IMs for GPBs given the evidence available at the time.⁸⁹ However, we noted that if in the future emerging technology developments might impact on gas networks, we could revisit IMs at that stage.
- D37 We may be justified at this time to reconsider extending our decision to allow shorter asset lives for EDBs to GPBs. However, we note the following.

⁸⁷ Commerce Commission “Fibre input methodologies: Main final decisions – reasons paper” (13 October 2020) available at: https://comcom.govt.nz/data/assets/pdf_file/0022/226507/Fibre-Input-Methodologies-Main-final-decisions-reasons-paper-13-October-2020.pdf

⁸⁸ Commerce Commission “Input methodologies review decisions Topic paper 3: The future impact of emerging technologies in the energy sector” (20 December 2016), paras 83-95.

⁸⁹ Ibid, at paras 96-104.

- D37.1 Shorter assets lives were specifically allowed for EDBs in the context of increased economic stranding risk due to technological change and these changes were made as part of the 2016 IM review process.
- D37.2 Because of the possibility of future repurposing of networks to clean gases, shorter assets lives may not be the most appropriate mechanism (to advance cash flows).
- D37.3 A 15% cap on the reduction in asset lives may not allow an appropriate response to the increased risk of asset stranding for GPBs.
- D37.4 Allowing shorter asset lives for GDBs would require amendments to the Asset Valuation IM, a foundational building block used to set price-quality paths.
- D38 We also note that shorter asset lives have been allowed for gas networks in other jurisdictions in response to increased risk of economic network stranding due to changes in government policies related to decarbonisation. Recently the Australian Energy Regulator allowed shorter asset lives for all new gas pipeline assets owned by Evoenergy (based in the Canberra region). This change was allowed following the ACT Government’s policy commitment to prohibit new gas connections in new residential developments and other measures including, interest-free loans of up to \$15,000 for households to help with the cost of replacing gas appliances with electric alternatives.⁹⁰

Ex-ante compensation may also be appropriate for GPBs

- D39 As noted above, we have previously provided ex-ante compensation for stranding risk for regulated fibre services. The approach taken for regulated fibre services could possibly be adapted to GPBs. This approach entailed providing an explicit cash flow allowance to compensate for possible future economic stranding events.
- D40 There could be several positive impacts from implementing such a mechanism. Importantly, it would provide a strong incentive on suppliers to manage the risk of economic network stranding (to the extent they can) and would reduce the chance of substantial price shocks to consumers.
- D41 The primary disadvantage is the difficulty in calculating the extent of compensation required. This can lead to over- and under-compensation to the supplier.

⁹⁰ AER “Final decision - Evoenergy Access Arrangement - 2021 to 2026 - Attachment 4 - Regulatory depreciation” (April 2021) available at <https://www.aer.gov.au/system/files/AER%20-%20Final%20decision%20-%20Evoenergy%20access%20arrangement%202021-26%20-%20Attachment%204%20-%20Regulatory%20depreciation%20-%20April%202021%20.pdf>

- D42 We note that to implement ex-ante compensation, we would also need a process to identify and exclude economically stranded assets from the RAB, depending on the extent of the stranding risk being compensated for. This would require fundamental changes to IMs that may be best considered within the broader context of the next IM review (which could consider a wider range of issues relating to risk, for example, whether it still appropriate to use the 67th percentile for the WACC for GPBs).
- D43 While it may be possible to provide an ex-ante allowance prior to establishing processes for dealing with future stranding events, doing so may limit the effect of the mechanism on supporting ex-ante expectations of FCM.

We could consider applying measures only to new assets

- D44 Most approaches to addressing asset stranding risk could be applied to only new assets, only existing assets, or all assets in the RAB. If changes were to only apply to new assets this would have a smaller impact on consumer prices. However, it would not address economic stranding risk for existing assets.
- D45 If we were to implement either shorter asset lives or an ex-ante allowance for asset stranding risk, we could consider targeting these changes to only new investments (or selected assets). This may be appropriate if it provides incentives for GPBs to invest in assets that have a high probability of becoming stranded in the near term, but which are also necessary to support the continuation of safe and reliable gas supplies in the near term.
- D46 If measures were only applied to new assets, then ex-ante compensation would better support ex-ante expectations of FCM (than shorter asset lives), as NPV neutrality is not dependent on the assets not being stranded. However, there may be challenges with implementation in the context of a DPP.

We are currently considering other mechanisms to address economic stranding risk

- D47 We note there are other approaches that we have not considered that could be used to either mitigate or compensate for economic stranding risk. For example, we could mitigate stranding risk by using an alternative depreciation profile (to straight line depreciation) or remove CPI indexation of the RAB (discussed below) to front load cash flows. Or we could use a WACC uplift to provide ex-ante compensation to GPBs.
- D48 While all options to manage economic network stranding risk should be considered, we do not think it is appropriate to introduce entirely new mechanisms in the context of the Gas DPP. We intend to consider more broadly how best to manage increased risk of economic stranding as part of the upcoming Part 4 IM review.

- D49 One existing alternative raised by stakeholders in response to our open letter, was the option of removing CPI indexation of the RAB. Transpower's RAB is currently not indexed by the CPI and applying a similar approach to GPBs would have the effect of mitigating asset stranding risk by front-loading capital recovery relative to an indexed approach.
- D50 When setting Transpower's IMs in 2010 we stated that an un-indexed approach would likely lead to higher revenues in the near-term that better matched their investment needs. In our 2016 IM review, we decided to continue not indexing Transpower's RAB for inflation on account of the uncertainty around capital recovery resulting from emerging technologies and that making such a change would not be consistent with our approach to shortening asset lives for EDBs.⁹¹
- D51 While removal of indexation is an existing tool available to us and making such a change would have the effect of bringing forward cash flows, there is less justification for doing so to address increased economic network stranding risk (relative to the other approaches discussed above). The effective adjustment in risk may not appropriately reflect the magnitude of the change in risk or who is most able to manage the within period risk.

⁹¹ Commerce Commission "Input methodologies review decisions Topic paper 1: Form of control and RAB indexation for EDBs, GPB and Transpower" (20 December 2016), pages 71-72.