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Transpower capex input methodology review

Draft decisions

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Associated documents

Publication date	Reference	Title
31 January 2012	978-1-869451-80-6	Transpower Capital Expenditure Input Methodology: Reasons Paper
27 November 2014	978-1-869454-17-3	Amendments to input methodologies for Transpower to provide a listed project mechanism: Reasons paper
5 March 2015	978-1-869454-34-0	Transpower Capital Expenditure Input Methodology Determination 2012 [2012] NZCC 2 – Consolidated as of 5 February 2015
20 December 2016	978-1-869455-53-8	Input methodologies review decisions - Framework for the IM review
28 April 2017	Notice of intention	Notice of Intention – Input Methodology Review: Transpower Capital Expenditure Input Methodology
15 May 2017	978-1-869455-80-4	Proposed focus areas for the capex IM review
28 July 2017	978-1-869455-98-9	Process update paper
1 September 2017	978-1-869456-10-8	Emerging views on incentives mechanisms

Commerce Commission
Wellington, New Zealand

CONTENTS

Executive summary

Purpose of this paper

X1. This paper explains our draft decisions on our review of the Transpower capital expenditure input methodology and seeks your input on those decisions.

General overview of draft findings

X2. We propose a small number of substantive changes to the existing capex IM, along with a number of incremental improvements.

X3. Our proposed changes relate to:

X3.1 the incentives regime that applies to Transpower;

X3.2 the approval processes for base capex and major capex; and

X3.3 information requirements.

X4. An overview of the specific changes we have proposed in these areas is provided below.

The capex IM and the Part 4 regime

X5. The Part 4 regime seeks to promote the long-term benefit of consumers of regulated services; which are electricity line services (including transmission services provided by Transpower), gas pipelines services and specified airport services at Auckland, Wellington and Christchurch international airports.

X6. We promote the long-term benefit of those consumers by promoting the following outcomes consistent with the way they are promoted in workably competitive markets – namely that suppliers of regulated services:[1]

X6.1 have incentives to innovate and invest including in replacement, upgraded, and new assets;

X6.2 have incentives to improve efficiency and provide services at a quality that reflects consumer demands;

X6.3 share with consumers the benefits of efficiency gains in the supply of the regulated services, including through lower prices; and

X6.4 are limited in their ability to extract excessive profits.

[1] Commerce Act 1986, s 52A(1)(a)-(d).

X7. Under Part 4, Transpower is subject to two types of regulation:

X7.1 Individual price-quality path (**IPP**) regulation:[2] This determines the maximum revenues that Transpower can recover from consumers, as well as the quality standards it must meet, for each year of each five-year regulatory period.[3] The IPP for the current 2015-2020 regulatory period (**RCP2**) is set out in the *Transpower Individual Price-Quality Path Determination 2015* [2014] NZCC 35 (the **Transpower IPP Determination**).

X7.2 Information disclosure (**ID**) regulation:[4] This sets requirements on Transpower to publicly disclose certain information to allow interested persons to assess whether the Part 4 purpose is being met. The ID requirements for Transpower are set out in the *Transpower Information Disclosure Determination 2014* [2014] NZCC 5 (the **Transpower ID Determination**).

X8. These regulatory mechanisms are supported by input methodologies (**IM**s), which set out the underlying rules, requirements, and processes. The purpose of IMs is to provide certainty to both regulated suppliers and consumers about the rules, requirements and processes applying to Part 4 regulation. A stable and predictable regime provides suppliers and investors in regulated firms with the confidence to invest in long-lived infrastructure that provides essential services to all New Zealanders.

X9. There are two IMs determinations that apply to Transpower:

X9.1 *Transpower Input Methodologies Determination 2012* [2012] NZCC 17 (the **Transpower IM Determination**). This determination was reviewed as part of the 2015-2016 IM review.[5] It sets out methodologies for: cost allocation, asset valuation, treatment of taxation, cost of capital, specification of price, Incremental Rolling Incentive Scheme (**IRIS**), and reconsideration of the price-quality path.

X9.2 *Transpower Capital Expenditure Input Methodology Determination 2012* [2012] NZCC 2 (**capex IM**). The two major functions of the capex IM are to provide for the scrutiny of Transpower's proposed and actual investment, and to incentivise Transpower to deliver those investments efficiently.[6]

X10. It is the capex IM that is the subject of the current review.

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2 The Commerce (Part 4 Regulation – Transpower) Order 2010.

3 Under s 53M(4) of the Act, a regulatory period must be five years, but under s 53M(5) the Commission may set a period of four years if it considers this would better meet the Part 4 purpose.

4 Section 54F of the Act.

5 We published the majority of our decisions on the 2015-2016 IM review in December 2016. Those decisions covered all aspects of the Transpower IM Determination except for decisions on the incremental rolling incentive scheme, which were published on 29 June 2017.

6 An overview of the regulation that applies to Transpower is set out in Attachment A.

Framework for the capex IM review

X11. The capex IM was set in 2012.

X12. The review of the capex IM is being conducted under s 52Y of the Act, which requires us to review the IMs within 7 years of setting them. We are aiming to complete the capex IM review by the end of March 2018 to allow Transpower time to incorporate changes into its preparation for the 2020-2025 regulatory period (**RCP3**).

X13. In reaching our draft decisions on the capex IM review, we have applied the same framework that we used for reaching decisions on the 2015-2016 IM review.[7] That means we have only proposed changes to the IMs where this is likely to:

X13.1 promote the Part 4 purpose in s 52A more effectively;

X13.2 promote the IM purpose in s 52R more effectively (without detrimentally affecting the promotion of the s 52A purpose); or

X13.3 significantly reduce compliance costs, other regulatory costs or complexity (without detrimentally affecting the promotion of the s 52A purpose).

Overview of the incentives that apply to Transpower under price-quality regulation

X14. Under the regulatory regime applied to Transpower, we set specific incentives that are intended to encourage Transpower to invest and operate efficiently. We set an allowance that is fixed at the beginning of a regulatory period with the intention of allowing Transpower to cover its costs (there are minor exceptions to this general principle, eg, for listed projects and major capex). Transpower can earn increased profits by delivering services more efficiently than assumed when the allowance was set.

X15. The fixed allowance feeds into a revenue path. Once a path is set, Transpower has incentives to outperform that path and over time the incentives lead to lower actual costs. The reduced costs are then reflected in future decisions about the opex and capex needs of Transpower and consumers gain from the subsequent lower revenue allowances provided for Transpower (leading to lower prices for consumers).

X16. We use specific adjustment mechanisms (ie, the IRIS applied to opex and the capex incentive adjustment applied to base capex) to ensure that the incentive to make cost efficiency savings is constant over time. The absence of these mechanisms would result in the efficiency incentive varying over time (the natural incentive). Transpower's profitability would then depend on the timing rather than just the absolute level of expenditure, which may not lead to efficient outcomes for consumers.

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[7] Commerce Commission "Input methodologies review decisions – Framework for the IM review" (20 December 2016). Available at: http://www.comcom.govt.nz/dmsdocument/15114.

X17. Although incentive regulation provides Transpower with incentives for cost efficiency once a revenue path (or allowance) is set, it also provides Transpower with incentives to overstate the opex and capex allowance it needs to recover at the time we set the IPP. If Transpower is successful at getting us to accept overstated costs, then Transpower is able to earn additional profits without improving its efficiency.

X18. As a result of the incentives to overstate costs, scrutiny of Transpower's proposed expenditure is likely to provide benefits to consumers on an ongoing basis. Direct scrutiny of Transpower's proposed expenditure is appropriate when we consider the benefits of such scrutiny to consumers outweigh any associated costs.[8]

X19. Our review of the capex IM focusses on the incentives and scrutiny applied to capex. There are currently different rules and incentives that apply to different types of capex. Most capex falls under the category of base capex (including sub-categories of base capex, like listed projects), but there are also specific rules that apply to major capex projects. Major capex projects are enhancement and development projects (**E&D projects**) that have a forecast cost above $20 million.

X20. In reviewing the capex IM, we have considered the interaction of the various incentives on expenditure and forecasting, including the existing opex incentives defined in the separate Transpower IM determination, to develop the overall incentive package.

X21. We consider that our proposals (including specific incentive and procedural mechanisms) result in a package that appropriately balances the various trade-offs, including: promoting Transpower's incentives to improve cost efficiency, limiting Transpower's ability to earn excessive profits, and controlling the administrative and regulatory costs to us and Transpower to an appropriate level.[9]

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[8] These costs can be immediate costs on us or Transpower, or long-term costs (eg, prescriptive requirements that can lower the ability of Transpower to make efficient investment decisions).

[9] We consider that there is a trade-off between limb (b) of 52A(1) of the Act, ie, having incentives to innovate and invest, and limb (d), ie, the ability to extract excessive profits.

Overview of our draft decisions

X22. We are proposing to amend the capex IM to make the following key changes to the incentives regime for Transpower:

X22.1 change the major capex regime to an ex-ante framework by replacing two asymmetric ex-post incentive mechanisms (the major capex efficiency adjustment and the major capex overspend adjustment) with a single ex-ante symmetric mechanism (our proposed major capex expenditure adjustment);

X22.2 define a 15% default incentive rate for major capex projects but to retain the ability to tailor the incentive rate for major capex projects in specific circumstances;

X22.3 apply one of two incentive rates for base capex projects, which would be a standard rate of 33%, and a low rate of 15% for large base capex projects that meet specified criteria;

X22.4 change the basis of the base capex expenditure adjustment incentive from operating on the value of commissioned assets to operating on actual expenditure; and

X22.5 remove the base capex policies and processes adjustment.

X23. We are proposing to amend the capex IM to make the following key changes to the base capex allowance approval process:

X23.1 introduce the option for a demand-based trigger for base capex E&D projects;

X23.2 require Transpower to provide an estimate of the change in transmission charges and an explanation of the system and service benefits delivered by each base capex proposal (Transpower would provide this information as part of its base capex proposal and its listed project applications);

X23.3 update the base capex qualitative information requirements in Schedule F; and

X23.4 clarify that the requirements for assessing listed projects are those set out in Schedule A2.

X24. We are proposing to amend the capex IM to make the following key changes to the major capex approval process:

X24.1 introduce a staged approval process for major capex projects;

X24.2 provide the Commission with the ability to determine the major capex allowance, rather than approving Transpower's proposal on an accept or reject basis;

X24.3 remove the ability to amend the major capex allowance after its initial determination; and

X24.4 in the same way as we are proposing for base capex proposals, require Transpower to provide an estimate of the change in transmission charges and an explanation of the system and service benefits delivered by each proposed major capex investment.

X25. In addition, we are proposing:

X25.1 to pilot a verification process for the RCP3 reset; and

X25.2 to require Transpower to report on its stakeholder engagement processes via changes to the ID requirements.

X26. From having undertaken a full effectiveness review of the capex IM, we are also proposing a number of changes to clarify the existing rules, remove ambiguities, correct errors, or reduce unnecessary complexity and compliance costs, and these are set out in Attachment B.

Proposed timing for when our proposed changes to the capex IM would take effect

X27. Our proposed capex IM amendments would take effect:

X27.1 for base capex and listed projects, from the next regulatory period following the commencement date (ie, from 1 April 2020);[10]

X27.2 for major capex that is approved after the commencement date:

i. for process changes that would not reopen the price path in the current regulatory period, immediately; and

ii. for any changes that would reopen the price path, from the next regulatory period following the commencement date (ie, from 1 April 2020); and

X27.3 for major capex that was approved prior to the commencement date, the existing capex IM would continue to apply even into the next regulatory period.

[10] The commencement date is the date the capex IM amendments will come into force, which will be the day after notice is given in the *New Zealand Gazette*.

Consequential changes to the Transpower Information Disclosure Determination

X28. Some of the amendments we are proposing to make to the capex IM would, if confirmed, also require us to amend the Transpower information disclosure determination. This is because some of the capex IM calculations for the incentive adjustments rely on information disclosed under the ID requirements and elements of the ID requirements draw on the capex IM.

X29. As the changes to the incentive adjustments in the capex IM would apply from RCP3, we would anticipate consulting on amending Transpower's information disclosure determination before 1 April 2020.

Invitation to make submissions

X30. In respect of this draft decision paper, which explains the problems we have identified and our proposed solutions for addressing those problems, we invite:

X30.1 submissions by **5pm on 8 December 2017**; and

X30.2 cross-submissions by **5pm on 21 December 2017**.

X31. In respect of our draft determination, which sets out our draft amendments to the capex IM determination and which we expect to publish by 22 November 2017, we invite submissions by **5pm on 21 December 2017**.[11]

X32. Please address submissions and cross-submissions, using 'Capex IM review' in the subject header, to:

Keston Ruxton
Manager, EAD Regulation Development
Regulation Branch
regulation.branch@comcom.govt.nz

Next steps

X33. At this stage, we expect to reach our final decision on the capex IM review by the end of March 2018.

X34. We will notify stakeholders if this changes, following our review of submissions and cross-submissions.

[11] Rather than providing for cross-submissions on the draft determination, we have instead provided an extended period for primary submissions.

CHAPTER 1: Introduction

Purpose of this paper

1. The purpose of this paper is to:

   1.1 describe the problems we have identified with the Transpower capital expenditure input methodology during our review;

   1.2 set out our proposed solutions and draft decisions in relation to those problems;

   1.3 explain our reasons for our proposed solutions and draft decisions;

   1.4 describe how we have taken stakeholders' submissions into account in considering the above; and

   1.5 seek interested parties' views on our proposed solutions and draft decisions.

Background to the capex IM and this review

Part 4 and the capex IM

2. Regulation under Part 4 (**Part 4**) of the Commerce Act 1986 (the **Act**) seeks to promote the long-term benefit of consumers of regulated services.[12] These are electricity line services (including transmission services provided by Transpower), gas pipelines services, and specified airport services at Auckland, Wellington and Christchurch international airports.

3. Input methodologies (**IM**s) are the upfront rules, processes and requirements of Part 4 regulation. Their purpose is to promote certainty for suppliers and consumers in relation to the rules, requirements and processes applying to regulated services under Part 4. IMs apply to all services regulated under Part 4.[13]

4. We determined the majority of IMs in December 2010. We reviewed those IMs, including subsequent amendments, in 2015-2016 (the **2015-2016 IM review**).[14]

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12 Section 52A of the Act.

13 Section 52R of the Act.

14 Although our final decisions on the majority of IMs within the scope of the IM review were published in December 2016, parts of the 2015-2016 IM review extended beyond December 2016. Our final decision on our review of Transpower IRIS provisions was published on 29 June 2017. Other parts of the 2015-2016 IM review are still ongoing. These are regarding provisions relating to CPP information requirements for gas pipeline businesses and related party transactions.

5. The requirement for us to set a capital expenditure IM for Transpower arose from an amendment to the Act that transferred to us the role of approving Transpower's grid upgrade plan proposals from the Electricity Commission (now disestablished and replaced by the Electricity Authority).[15] We determined the capex IM on 31 January 2012 pursuant to s 54S of the Act.[16]

6. Two major functions of the capex IM are to provide for the scrutiny of Transpower's proposed and actual investment, and to incentivise Transpower to deliver those investments efficiently.[17]

7. As required by s 54S(2) of the Act, the capex IM includes:

   7.1 requirements that must be met by Transpower, including the scope and specificity of information required, the extent of independent verification and audit, and the extent of consultation and agreement with consumers;

   7.2 the criteria the Commission will use to evaluate capital expenditure proposals; and

   7.3 time frames and processes for evaluating capital expenditure proposals, including what happens if the Commission does not comply with those time frames.

Our obligation to review the IMs

8. Section 52Y of the Act requires us to review each IM no later than seven years after its date of publication.

9. As the original capex IM was published in the *New Zealand Gazette* on 9 February 2012, the statutory deadline for completing the capex IM review is 11 February 2019. On 28 April 2017 we issued a notice of intention to commence our review of the capex IM.[18, 19] We are aiming to complete the capex IM review by the end of March 2018 to allow Transpower time to incorporate changes into its preparation for RCP3**.**

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15 Electricity Industry Act 2010, s 155.

16 *Transpower Capital Expenditure Input Methodology 2012* [2012] NZCC 2. Notice of the IM was published in the *New Zealand Gazette* on 9 February 2012.

17 An overview of the regulation that applies to Transpower is set out in Attachment A.

18 Commerce Commission "Notice of Intention – Input Methodology Review: Transpower Capital Expenditure Input Methodology" (28 April 2017).

19 The IM under review is the *Transpower Capital Expenditure Input Methodology Determination 2012* [2012] NZCC 2 (31 January 2012) as amended by all subsequent amendments. The principal determination and a list of all subsequent determination amendments is provided in Table B1 of Attachment B in our focus areas paper. See: Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017).

Framework for the capex IM review

10. In reaching our draft decisions on the capex IM review, we have applied the same framework that we used for reaching decisions on the 2015-2016 IM review. As explained in more detail in our 2016 framework paper for that review, that means we have only proposed changes to the IMs where this is likely to:

    10.1 promote the Part 4 purpose in s 52A more effectively;

    10.2 promote the IM purpose in s 52R more effectively (without detrimentally affecting the promotion of the s 52A purpose); or

    10.3 significantly reduce compliance costs, other regulatory costs or complexity (without detrimentally affecting the promotion of the s 52A purpose).

11. We have also considered, where relevant, whether there are alternative solutions to the identified problems with the capex IM that do not involve changing the capex IM.

12. Please see our 2016 framework paper for more detail on the IM review framework.[20]

Our process for reviewing the capex IM

13. We have reviewed each of the existing capex IM decisions for effectiveness, while drilling down into a number of specific topics identified by us and stakeholders as potentially containing problems that could be addressed by amending the capex IM.

Our effectiveness review of the capex IM

14. In reviewing the capex IM for effectiveness we have considered:

    14.1 stakeholder submissions on the capex IM;

    14.2 relevant reference material, such as the capex IM determination and reasons paper;[21] and

    14.3 our experiences in regulating across Part 4, particularly our experiences with Transpower's IPPs, and customised price-quality paths (**CPP**s) for Orion and Powerco.

15. In undertaking our effectiveness review, we considered whether the policy intent of each decision that underpins the capex IM is still appropriate and is being achieved. More detail on the types of questions we considered in undertaking our effectiveness review are set out in the IM review framework paper.[22]

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20 Commerce Commission "Input methodologies review decisions – Framework for the IM review" (20 December 2016). Available at: http://www.comcom.govt.nz/dmsdocument/15114.

21 *Transpower Capital Expenditure Input Methodology Determination 2012* [2012] NZCC 2 (31 January 2012); Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012).

22 Commerce Commission "Input methodologies review decisions – Framework for the IM review" (20 December 2016), p. 25-29. Available at: http://www.comcom.govt.nz/dmsdocument/15114.

16. Our effectiveness review has led us to propose a number of minor changes to the capex IM. These changes are generally outside the scope of the key topics for the review, and are aimed at clarifying the existing rules, removing ambiguities, or reducing unnecessary complexity and compliance costs, consistent with promoting the s 52R purpose. In addition to these minor changes we have also made drafting changes that provide for the transition to the amended capex IM, that update the capex IM by removing 'historic' clauses that have become redundant, and to promote internal drafting consistency across the capex IM in light of the new clauses implementing the major changes.

17. The findings of our effectiveness review are included in Attachment B, which summarises our draft decisions for the capex IM review, including major changes, minor changes and those areas where our draft decision is not to make a change.

Engagement on the key topics for the review

18. We engaged with stakeholders on what the key focus areas for the review should be. Our engagement process regarding the key focus areas for the capex IM review included:

    18.1 seeking submissions on our proposed focus areas for the review;[23]

    18.2 holding a 'knowledge sharing' workshop to provide an opportunity for stakeholders without a close understanding of the capex IM to better understand what it is, how it works, and how it might be relevant for them;[24] and

    18.3 following receipt of submissions and cross-submissions on our proposed focus areas, undertaking targeted engagement with stakeholders to clarify points they had raised.

19. Following our assessment of submissions and cross-submissions on our proposed focus areas, we identified a number of key topics and issues to be considered as part of the capex IM review.[25] The key topics were incentive mechanisms, process matters, Transpower's engagement with stakeholders and information requirements.

20. We also sought further information from Transpower on potential improvements to the information requirements in the capex IM.[26]

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23 Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017).

24 The agenda and presentations from the Knowledge sharing workshop are available on our website at: http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/transpower-input-methodologies/capex-input-methodology-review/.

25 Commerce Commission "Transpower capex input methodology review – Process update paper" (28 July 2017).

26 Transpower "Transpower additional information Capex IM review" (15 August 2017).

21. We then sought feedback from stakeholders on our emerging views on certain aspects of the incentive mechanisms for Transpower. This allowed us to take stakeholders' views into account and helped us to develop our draft decisions on the capex IM review.[27]

Keeping a record for the review

22. Any material provided to the Commission in the course of the capex IM review will form part of the record for the IM review. This includes any material provided during Commission workshops or other engagements with stakeholders in the course of the capex IM review.

Our draft decision package of papers

23. Our draft decision package comprises:

    23.1 this draft decision paper, which explains the problems we have identified and our proposed solutions for addressing those problems; and

    23.2 the draft amendments to the capex IM determination, which we expect to publish by 22 November 2017.

The structure of this paper

24. Chapters 2 to 4 set out our draft findings for key topics within the capex IM review, as set out in paragraph 19 above. Each of the chapters broadly follows the following structure:

    24.1 description of the problems identified in respect of those key topics;

    24.2 explanation of our proposed solution and our reasons for proposing that solution;[28] and

    24.3 other issues raised by stakeholders on those topics where we are not proposing to change the capex IM.

25. Attachment A sets out the context for the capex IM review by providing an overview of the regulation that applies to Transpower.

26. Attachment B provides a summary of our draft decisions for the capex IM review and explains our reasons for why we have, or have not, proposed a change. It also describes our proposed timing for when the changes to the capex IM would take effect.

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[27] Commerce Commission "Transpower capex input methodology review – Emerging views on incentives" (1 September 2017).

[28] In describing the problems and assessing potential solutions, we explain how we have taken stakeholders' submissions into account and how they have helped to shape our views.

Invitation to make submissions

27. In respect of this draft decision paper, we invite:

    27.1 submissions by **5pm on 8 December 2017**; and

    27.2 cross-submissions by **5pm on 21 December 2017**.

28. In respect of our draft determination, we invite submissions by **5pm on 21 December 2017**.[29]

29. Please address submissions and cross-submissions, using 'Capex IM review' in the subject header, to:

    Keston Ruxton
    Manager, EAD Regulation Development
    Regulation Branch
    regulation.branch@comcom.govt.nz

Next steps

30. At this stage, we expect to reach our final decision on the capex IM review by the end of March 2018, at which time we will publish our final decision paper and final determination.

31. We will notify stakeholders if this changes, following our review of submissions and cross-submissions.

[29] Rather than providing for cross-submissions on the draft determination, we have instead provided an extended period for primary submissions.

CHAPTER 2: Incentive mechanisms

Purpose of this chapter

32. The purpose of this chapter is to provide:

    32.1 an outline of the identified problems related to Transpower's major capex and base capex incentive mechanisms;

    32.2 our proposed solutions to the identified problems; and

    32.3 our response to submissions on the incentive mechanisms.

Structure of this chapter

33. This chapter outlines:

    33.1 an overview of the incentive framework for capital expenditure by Transpower, the overarching intent of the regime and why we are now proposing changes to the incentive regime;

    33.2 identified problems concerning major capex and our proposed solutions;

    33.3 identified problems concerning base capex and our proposed solutions;

    33.4 stakeholders' concerns related to the major capex investment test, together with our reasoning why we are not proposing to make a change; and

    33.5 other issues raised by submissions.

Overview of the incentive framework

34. The capex IM focusses on the incentive mechanisms that apply to capex, but those mechanisms should also be considered as part of an overall incentive framework together with:

    34.1 the incentive mechanism on opex (ie, IRIS)[30] which is defined in the Transpower IM determination[31] and which was reviewed as part of the 2015-2016 IM review;[32] and

    34.2 the application of the incentive mechanisms in setting and during Transpower's individual price-quality path (**IPP**).[33]

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30 The current symmetric Incremental Rolling Incentive Scheme (**IRIS**) that applies to Transpower was introduced in November 2014. See: Commerce Commission "Amendments to input methodologies for electricity distribution services and Transpower New Zealand: Incremental Rolling Incentive Scheme" (27 November 2014).

31 Transpower IM Determination, Part 3 Subpart 6.

32 Commerce Commission "Input methodologies review final decision: Transpower Incremental Rolling Incentive Scheme" (29 June 2017).

Overarching intent of the incentives regime

35. Under the regulatory regime applied to Transpower, we set specific incentives that are intended to encourage Transpower to invest and operate efficiently. We set an allowance that is fixed at the beginning of a regulatory period with the intention of allowing Transpower to cover its costs (there are minor exceptions to this general principle, eg, for listed projects and major capex). Transpower can earn increased profits by delivering services more efficiently than assumed when the allowance was set.

36. The fixed allowance feeds into a revenue path. Once a path is set, Transpower has incentives to outperform that path and over time the incentives lead to lower actual costs. The reduced costs are then reflected in future decisions about the opex and capex needs of Transpower and consumers gain from the subsequent lower revenue allowances provided for Transpower (leading to lower prices for consumers).

37. We can adjust the strength of the incentives for cost efficiency by adjusting the share of the benefits retained by Transpower versus that passed on to consumers (the 'incentive rate').

38. There are separate incentive rates for capex and opex and the difference between these incentive rates can affect the relative incentive for Transpower to favour opex over capex or vice versa, when there is the potential for substitution. We can also ensure the incentives for efficiency are constant throughout the period using mechanisms such as IRIS.[34]

39. Although incentive regulation provides Transpower with incentives for cost efficiency once a revenue path (or allowance) is set, it also provides Transpower with incentives to overstate the opex and capex allowance it needs to recover at the time we set the IPP or a major capex allowance. If we approve overstated costs, then Transpower is able to earn additional profits without improving its efficiency.

40. Over time, if Transpower strives to achieve maximum efficiency, then we will gain information on Transpower's efficient costs. We can then make more informed decisions about its ongoing opex and capex needs. However, given the many different influences on Transpower's performance, our information will always be imperfect which means Transpower is likely to continue to have some scope to propose overstated costs and potentially have these accepted.

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[33] The IPP determines the amount of revenue Transpower is allowed to recover and the quality standards it must meet over the course of a regulatory control period (**RCP**). The current length of Transpower's RCP is 5 years.

[34] Without an IRIS the incentive for Transpower to make opex efficiency savings will vary over the control period.

41. An additional complication arises with incentive regulation when cost estimates are uncertain. When costs are uncertain, incentive arrangements can result in Transpower bearing additional costs (or receiving additional benefits) irrespective of its efficiency performance. Similarly, customers are exposed to risks of paying more (or less) for services as a result of variations in costs unrelated to cost efficiency, rather than as a result of Transpower's performance.

42. The more uncertain costs are, the greater the risks that incentive arrangements result in Transpower and its customers bearing costs (or receiving benefits) that arise from unforeseen variations in costs. Further, these risks can result in behaviour that is not consistent with efficiency (eg, it might encourage Transpower to be unduly cautious in its investments).

43. Our proposed changes to the capex IM recognise these different trade-offs and in particular the trade-off described above between promoting incentives to improve efficiency and limiting Transpower's ability to earn excessive profits.[35]

44. We broadly agree with Transpower's submission that:[36]

> As regulatory arrangements mature, the Commission can increasingly rely on the operation of incentives to drive continuous efficiency gains and reduce the extent to which regulatory scrutiny is expected to be a driver. The incentives are both more effective and require less administrative effort from the Commission.

45. The proposed changes outlined in this paper demonstrate development of the regime (eg, movement to an ex-ante framework for major capex). However, given the incentives for Transpower to overstate costs we also consider that, consumers can continue to benefit from appropriate scrutiny of Transpower's operational practices, investment decisions and, in particular, expenditure forecasts when setting allowances under an IPP. Even as the regulatory regime continues to develop, the need for this scrutiny is likely to remain.

46. We will therefore continue to apply direct scrutiny where we consider the benefits of such scrutiny to consumers outweigh the associated costs.[37] This is consistent with the 'proportionate scrutiny principle', which is a balance we have always tried to achieve with our regulation. We consider that it should guide our scrutiny of Transpower's investment proposals as well as the setting of individual price-quality paths more generally.[38]

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35 We consider that there is a trade-off between limb (b) of 52A(1) of the Act, ie, having incentives to innovate and invest, and limb (d), ie, the ability to extract excessive profits.

36 Transpower submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (14 June 2017), p. 4.

37 These costs can be immediate costs on us or Transpower, or long-term costs (eg, prescriptive requirements that can lower the ability of Transpower to make efficient investment decisions).

38 Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017), paras 83-85.

47. We consider the changes we are proposing to the capex IM provide an appropriate balance across both an incentive framework and the ability to apply scrutiny. The proposed changes are also consistent with a regime in which an ex-ante incentive framework plays an increasing role in encouraging Transpower to operate efficiently.

Current capex incentive categories and overall framework

48. Transpower's capital expenditure is currently categorised in the capex IM as either base capex or major capex. Base capex includes asset replacement and refurbishment (all project sizes) and asset enhancements (under a $20 million threshold), while major capex is limited to asset enhancement (over the $20 million threshold).

49. Base capex (including listed projects) is intended to cover all capital expenditure, except those large individual enhancement projects that, given their nature and magnitude (over the threshold), warrant individual scrutiny and public consultation.

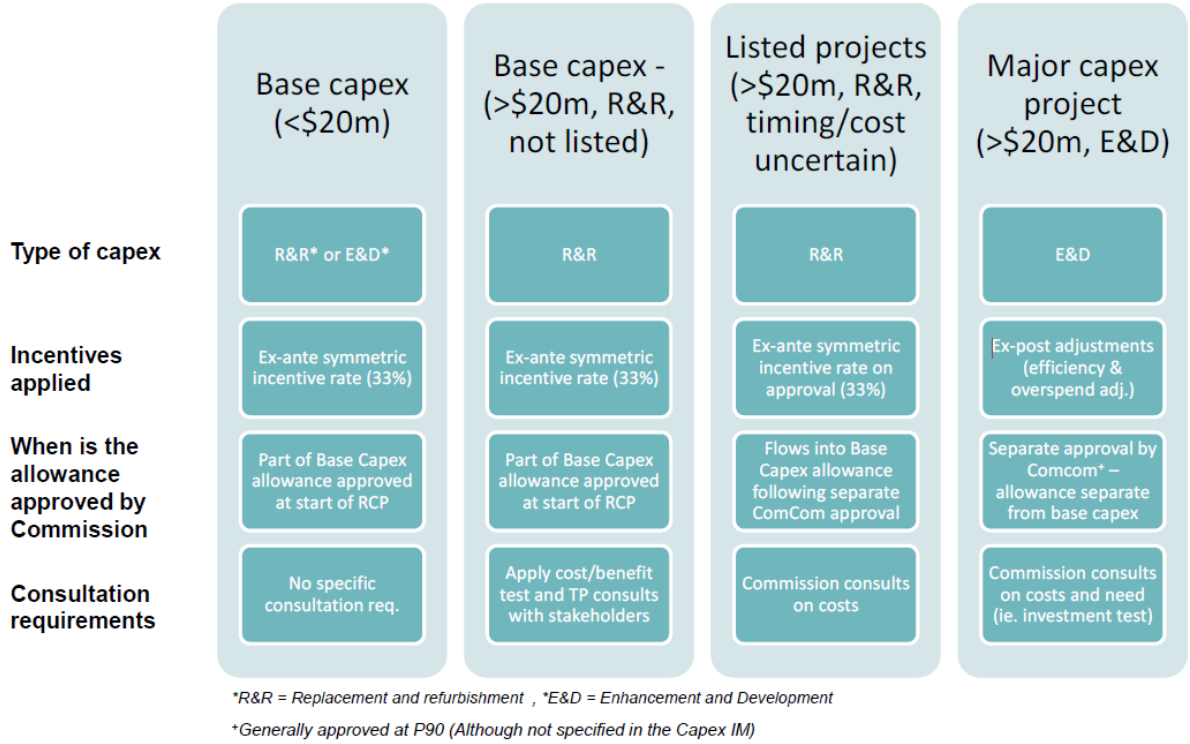
50. The capex IM also outlines additional requirements for base capex projects over $20 million. Projects over this threshold are subject to certain stakeholder consultation obligations and can also form part of the listed project mechanism if identified in the IPP Determination.[39]

51. Listed projects are identified prior to the commencement of an RCP where the project meets the conditions specified in the capex IM.[40] The mechanism allows Transpower more time to do technical studies around the investment need and refine its expenditure forecasts before submitting its proposal for approval and inclusion in the base capex allowance.

[39] *Transpower Individual Price-Quality Path Determination 2015* [2014] NZCC 35, Schedule I.

[40] Capex IM, clause 2.2.3(2).

Figure 1: Overview of incentives and consultation requirements



52. Figure 1 provides an overview of the core incentives and requirements on different capex types and magnitudes.

53. Transpower submitted in response to this diagram in our emerging views paper that the category of non-listed base capex projects over $20 million is not required in practice.[41]

54. We disagree, as one of the requirements for a listed project is that the commissioning date cannot be forecast with certainty.[42] It is not clear that this characteristic would apply to all base capex projects over $20 million and so we continue to consider that a separate category is required for larger base capex projects that are not listed.

[41] Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 8.

[42] Capex IM, clause 2.2.3(2)(c).

55. For context, Table 1 outlines the allowed capex values by category set in the IPP for RCP2 and Transpower's current RCP2 forecast capex from the 2017 Integrated Transmission Plan (**ITP**).

Table 1: Overview of capex values for RCP2

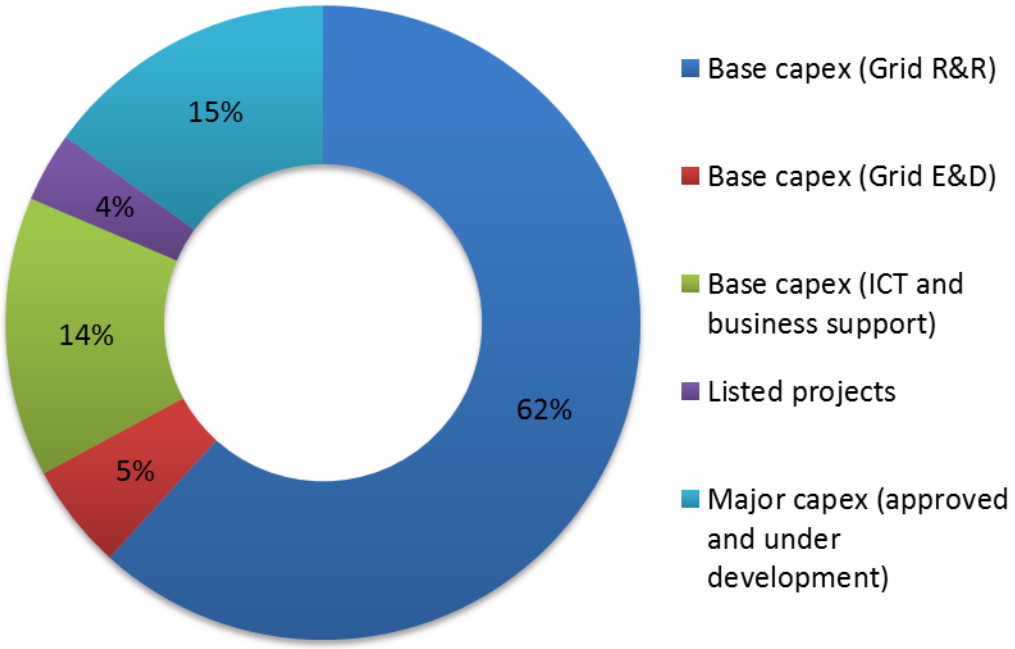
	RCP2 allowance in IPP (Commissioned value 2016/17 prices) (million)($)[43]	Current forecast from 2017 ITP[44] (commissioned value 2016/17 prices) (million)($)
Base capex allowance	1243	1130
• **Grid R&R**	892	858
• **Grid E&D <$20m**	104	75
• **ICT and business support**	246	198
Listed projects	130 (allowance provides up to this level)	49
Major capex	Dependent on major capex proposals during the RCP	184 (approved) 25 (under development)

[43] The values have been taken from the decisions and reasons paper for setting Transpower's RCP2 IPP: *Setting Transpower's individual price-quality path for 2015 – 2020* [2014] NZCC 23 (29 August 2014), Table 5.5, paras 5.113-5.115. The values in the RCP2 IPP decision are in 2012/13 prices, and have been updated to 2016/17 prices by multiplying by 1.098. This value is consistent with the assumptions for forecast CPI and real price effects used in the RCP2 decision.

[44] Transpower "Integrated Transmission Plan Schedules" (September 2017), pages 3-7.

56. Figure 2 displays the categories of capex as a proportion of total capex (based on the forecast 2017 ITP values).

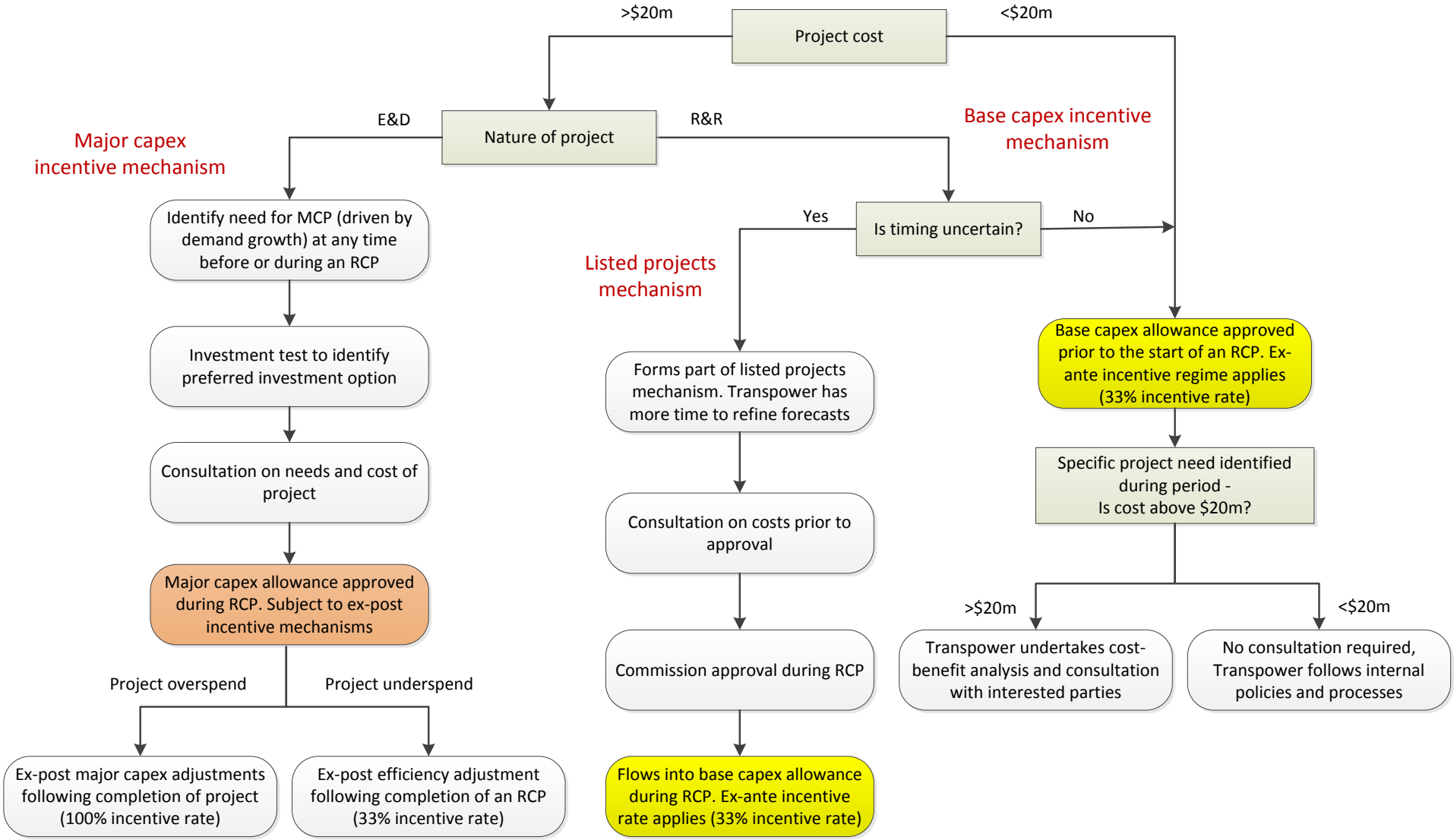
Figure 2: Proportion of total capex (based on 2017 ITP)



57. Figure 3 below provides an overview of the existing approach to determining different types of capex and the incentive mechanisms that apply.[45]

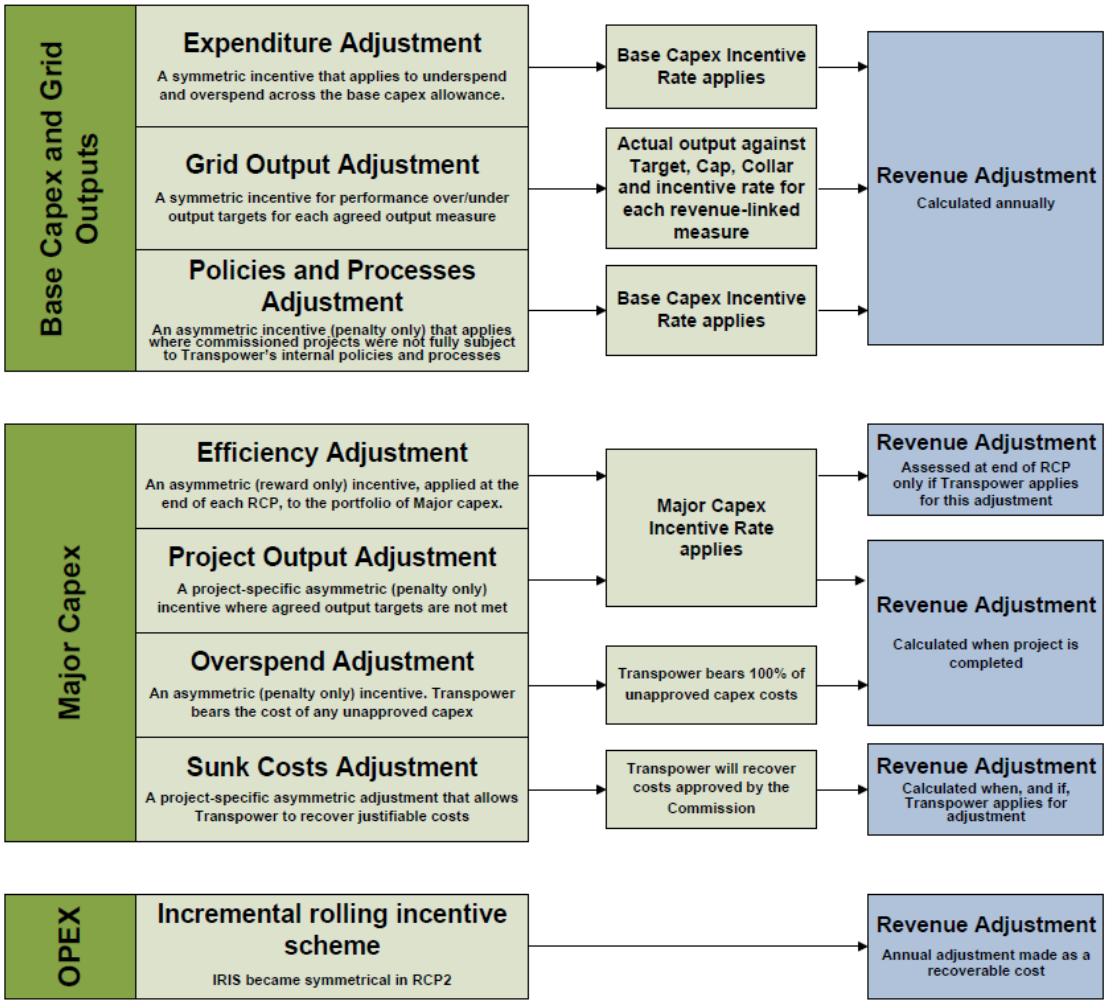
[45] Figure 3 has been updated following publication in the emerging views paper. This is to provide greater clarity around the existing regime and allow for more effective comparison with the proposed draft decision changes outlined in Figure 5. Note that all incentive rates in the existing capex incentive regime are set in the IPP not the capex IM.

Figure 3: Overview of current capex incentives regime



58. As part of the overall incentive package there are a number of specific mechanisms that currently apply to major and base capex contained within the capex IM. The specific incentives applying to RCP2 are outlined in Figure 4. Further details on the current operation of these incentive mechanisms were also provided in the capex IM proposed focus areas paper.[46]

Figure 4: Overview of Transpower capex and opex incentive mechanisms in RCP2



59. The suite of incentive mechanisms that apply to Transpower is intended to incentivise improvements in efficiency, delivery of outputs within approved expenditure, and improving the outputs themselves.[47] The incentives are also intended to be complementary, which means we consider the incentive mechanisms as a package, rather than as isolated mechanisms.

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46 See Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017), Attachment D.

47 Commerce Commission "Transpower capital expenditure input methodology reasons paper" (31 January 2012), para 2.2.6.

Why we are now proposing changes to the incentive regime

60. When we set the capex IM in 2012, we adopted an overall approach which relied on mixture of incentives and scrutiny of performance to encourage efficient expenditure from Transpower and limit excessive profits. For example, in 2012 we outlined how:[48]

> We have developed a regime whereby Transpower is offered incentives to deliver the outcomes valued by consumers. A suite of mechanisms will collectively provide incentives for Transpower to improve efficiency, to deliver outputs within approved expenditure, and to improve the outputs themselves. Exposing Transpower to incentives will put downward pressure on costs, as well as consideration of non-transmission solutions.

and[49]

> The Commission's role is to provide independent scrutiny, and where appropriate, approval of projects and programmes of capital expenditure.

61. We do not consider the overall intent of the regime has changed significantly since 2012, but following our experience in implementing the capex IM we consider that there are some refinements to the package of incentives that will improve its effectiveness.

62. In particular, many of these proposed refinements are influenced by difficulties we have experienced in:

    62.1 separating efficiencies from other cost variations when scrutinising projects on an ex-post basis, which limits the ability to effectively implement ex-post efficiency incentives; and

    62.2 setting appropriate cost forecasts given both the lack of information and certain incentives on Transpower, and in particular how these uncertain forecasts can have a significant impact on the monetary rewards for Transpower on large discrete projects.

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48 Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), para 2.2.6.

49 Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), para 2.2.21.

63. The proposed changes to the capex IM incentive framework generally stem from these two issues and have resulted in changes to individual incentive mechanisms so that the package of incentive measures can operate more effectively. In particular, changes we propose include:

63.1 introducing an ex-ante incentive framework for major capex that will place less reliance on ex-post judgements and sharpen incentives for Transpower to reduce costs. This entails removing:

63.1.1 the major capex efficiency adjustment;

63.1.2 the major capex overspend adjustment; and

63.1.3 the ability to amend the major capex allowance after its initial determination except in specific circumstances – the ability to amend the major capex allowance will only be retained for the circumstance when amendment is made to the major capex project outputs and a consequential amendment to the major capex allowance is required.

63.2 providing the ability to vary the incentive rate applied to specific projects in order to mitigate the potential costs to consumers from overforecasting cost allowances. Specifically we propose to:

63.2.1 set a default incentive rate at 15% for major capex projects – but retain the ability to tailor the incentive rate for individual projects in specific circumstances; and

63.2.2 introduce two separate incentive rates for base capex: a standard rate at 33%; and a lower rate at 15%; and

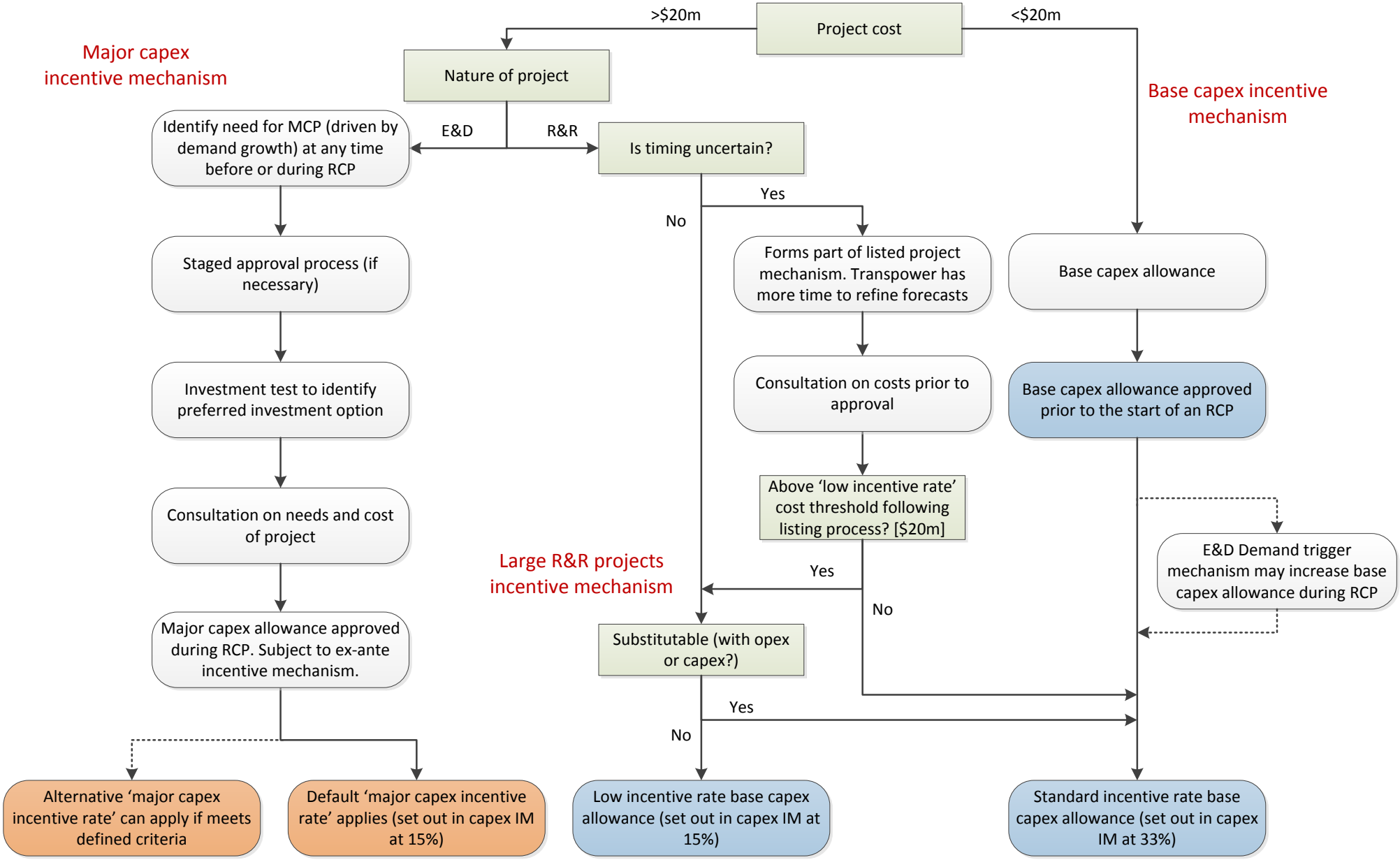
63.3 introducing the option of a demand trigger to reduce the risk of overestimating uncertain E&D base capex.

64. We intend to continue to monitor the effectiveness of the regime and whether it is providing its intended benefits to consumers, both in terms of the incentive structure and the approval process for capex allowances over time. Ongoing monitoring will help inform decisions in future IM or capex IM reviews.

65. The rest of this chapter explains our proposed changes in more detail.

66. Figure 5 outlines the proposed changes to the capex incentives regime based on the draft decisions outlined in this chapter. This is intended to provide a comparison between the existing regime (outlined in Figure 3) and our proposed draft changes to the incentive regime.

Figure 5: Overview of proposed capex incentive regime



Major capex

67. In short, our proposals related to major capex are:

    67.1 to introduce an ex-ante incentive framework for major capex, and therefore remove the ex-post elements of the current regime, namely:

        67.1.1 the major capex efficiency adjustment;

        67.1.2 the major capex overspend adjustment;

        67.1.3 the ability to amend the major capex allowance after its initial determination except in specific circumstances – the ability to amend the major capex allowance will only be retained for the circumstance when amendment is made to the major capex project outputs and a consequential amendment to the major capex allowance is required;

    67.2 for us to determine the final allowance for major capex projects (ie, projects would no longer be set on an 'approve or reject' basis);

    67.3 to set major capex allowances at the P50 level consistent with providing an expectation of a normal return;[50] and

    67.4 to set a default incentive rate at 15% for major capex projects – but retain the ability to tailor the incentive rate for individual projects in specific circumstances.

Major capex incentive framework – problem definition

68. The emerging views paper outlined that we considered the current package of incentive mechanisms applying to Transpower for major capex is not operating as effectively as it could be. In particular, we have concerns with:[51]

    68.1 the ex-post efficiency adjustment; and

    68.2 the major capex overspend adjustment combined with the ability of Transpower to apply for an amendment to a major capex project expenditure allowance.

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[50] A P50 cost estimate implies that there is 50% chance the project will come in under cost, with the other 50% chance that it comes in above cost, ie, there is an equal chance of over/underspending. However, a P90 estimate for major capex projects means that we would expect only a 10% chance that the actual costs of the project would be above its allowed cost. As such, P90 cost estimates will be above the expected cost of the project.

[51] Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), paras 19-25.

69. The original intention of the ex-post efficiency adjustment was to provide Transpower with an incentive to maintain downward pressure on costs within the portfolio of approved major capex projects.[52] However, we have since identified a number of issues with its current operation:[53]

    69.1 It is difficult in practice to identify whether differences between the forecast and actual expenditure are due to efficiency gains or an initial high forecast of costs. This results in uncertainty about the final monetary reward that will be achieved from efficiency gains during the major capex project, which in turn is likely to reduce Transpower's incentive to achieve efficiency gains.

    69.2 The incentive is not constant over time because the mechanism is asymmetric.[54] Also, because it operates over a portfolio of projects the efficiency will only be effective when Transpower is expecting to spend less than the cumulative allowance.[55]

    69.3 The ex-post nature of the mechanism means it is administratively burdensome to apply, relative to an ex-ante alternative.

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52 Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), para 4.2.13.

53 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), paras 19-25.

54 An asymmetric mechanism does not result in a constant incentive, because the incentive to be efficient is removed as soon as Transpower considers it will overspend its allowance.

55 For example, if one particularly large project is expected to be inefficient, then the incentive to achieve efficiencies in other projects is reduced. This is because any efficiency gains will be offset by the larger inefficiency.

70. In addition, the issues we have identified with the current operation of the major capex overspend adjustment are:[56]

    70.1 The overspend adjustment can result in significant cost risk to Transpower when the project is large and costs are uncertain. To mitigate this cost risk, under the current regime our recent practice has been to approve Transpower's allowances for major capex projects at a P90 level rather than a P50 cost (with P50 being the best estimate of costs). This allows some additional headroom in the revenue allowance compared to expected costs, however, it lowers the efficiency incentive for major capex projects to be delivered at an appropriate cost.

    70.2 Transpower has the ability to apply for an amendment to a major capex project expenditure allowance.[57] This reduces the incentive to deliver the outputs at the approved cost, as there is the opportunity to increase the allowance ex-post in the event that it has overspent the original allowance.

    70.3 Although Transpower has the ability to apply for an amendment, it is not guaranteed and it is only approved ex-post. The ex-post nature of the amendment can result in uncertainty on whether an amendment will be approved. This can potentially affect Transpower's incentive to invest when it expects to be above the initial allowance (because it may have to bear 100% of the additional costs), even if the investment is in the long-term interest of consumers.

71. The combination of these effects means that the current major capex framework might not always result in clear and appropriate incentives for the efficient delivery of major capex projects.

Major capex incentive framework – proposed solution

72. We propose to amend the capex IM to change the major capex regime to an ex-ante framework consistent with the proposals outlined in the emerging views paper. We are proposing to replace two asymmetric ex-post incentive mechanisms (the major capex efficiency adjustment and the major capex overspend adjustment) with a single ex-ante symmetric mechanism.

73. We also propose to amend the capex IM to include a requirement for Transpower to propose an allowance for major capex on a P50 basis together with an indication of cost uncertainty. The current capex IM does not require Transpower to propose a major capex allowance on a P50, basis. However, Transpower is currently required to provide a P50 as an additional information requirement together with its reasons for moving away from a P50 in the proposal.[58]

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56 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 24.

57 Capex IM, clause 3.3.4(1).

58 Capex IM, clauses C1(1) and C3(b).

74. Additionally we would a include a restriction in the capex IM that an amendment to the approved major capex allowance can only take place if there has been an approved change to the major capex project outputs.

75. We consider the combination of these changes would better promote the Part 4 purpose by enhancing Transpower's incentives to improve efficiency in delivering major capex projects.[59]

76. Transpower agreed with our emerging view to move the major capex regime to an ex-ante basis.[60] However, Transpower only agreed with approving major capex projects at a P50 estimated cost under an ex-ante regime (rather than the existing practice of P90 level) if this was in parallel with the introduction of an alternative incentive rate:[61]

> Approving major capex projects at a P50 estimated cost rather than P90 would increase the likelihood that actual costs will be higher than the approved amount. On average, our costs would be higher that the approved amount 50% of the time. Therefore, we only agree with a move to P50 if there is a parallel introduction of a tailored incentive rate. For example, a symmetrical incentive rate of 10% would mean either Transpower funds 10% of costs that exceed P50 or retains 10% of any savings below P50.

77. MEUG also agreed with our emerging view to move to an ex-ante major capex regime consistent with the regime that already applies to base capex and that P50 estimates of costs should be used:[62]

> MEUG agrees with the proposal to move to a "pure" ex-ante regime for major capex consistent with the ex-ante regime that already applies for base capex. Adopting a pure ex-ante regime goes hand-in-hand with using a P50 cost estimate instead of P90 for major capex approved allowances.

78. We remain of the view that a continuous ex-ante symmetric incentive rate that is known before the commencement of a major project will be more effective in incentivising downward pressure on costs than the existing approach.

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59 Commerce Act 1986, s 52A(1)(b).

60 Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 1.

61 Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 2.

62 MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), para 4.

79. An ex-ante regime that eliminates the need for us to undertake ex-post judgements on the level of net efficiency gains or the magnitude of any amendment to the expenditure allowance would provide significant benefits, such as:

    79.1 making it a simpler regime to implement and would eliminate the uncertainty of the ex-post assessment outlined above, which might reduce the incentives to pursue efficiency gains; and

    79.2 reducing the significant regulatory costs on us and Transpower during the application and approval process of the existing ex-post regime.

80. Under an ex-ante regime of the type suggested there would generally be no ex-post amendments to costs. An exception is a scenario when there has been an amendment to the approved major capex project outputs. Instead, we consider the cost uncertainty for major capex projects could be dealt with through:

    80.1 the option of an alternative ex-ante incentive rate (explained later in the chapter); and/or

    80.2 the potential use of a staging process for major capex (described in further detail in Chapter 3), which would reduce cost uncertainty prior to final approval of the major capex allowance.

81. We also agree with MEUG that a P50 estimate of costs is most appropriate for the proposed approach. The ex-ante mechanism would automatically reward or penalise Transpower using a symmetric incentive rate that is constant over the duration of the major capex project. For practical reasons, that minimises annual adjustments to the price path, we consider any penalty or reward incurred through a revised major capex incentive adjustment would take place at the end of each regulatory period for all projects completed in that period.

82. A P50 estimate is appropriate given that there should be an equal chance of over- or under-spending the allowance as the ex-ante incentive rate will apply to any deviation from the forecast allowance. If a P90 estimate was used Transpower would have the expectation of a monetary reward even in the absence of any efficiency gains.

83. We consider the new major capex expenditure adjustment should take place at the end of each RCP for all major projects completed in the previous period. This approach would reduce short-term volatility in the price path and the administrative cost of annual updates. While this could potentially increase volatility between regulatory periods, we consider this is likely to be relatively small in magnitude compared to the setting of new opex and capex allowances, and could be mitigated as part of the price path setting process.

Determination of the major capex allowance – under an ex-ante approach

84. In the current regime, major capex proposals are determined on an 'approve or reject' basis that does not provide us with the direct ability to amend the expenditure allowance. One of our key drivers for this approach was to reinforce that it is Transpower's 'responsibility to determine the needs, deliverables and grid outputs'.[63]

85. We remain of the view that it is Transpower's responsibility to determine the needs, deliverables and grid outputs. However, the ex-ante mechanism requires an unbiased forecast of costs on a P50 basis, and we do not consider the existing approach to determining the major capex allowance would be sufficient to provide this in all circumstances.[64] The ex-ante mechanism would increase the incentive on Transpower to forecast costs at a level higher than an unbiased P50 estimate and therefore we consider that we should have the ability to review those costs and amend if necessary.

86. We note that Transpower's incentive to overforecast costs can depend on the circumstances of a particular project. For example, for an economic project,[65] if the costs and benefits of a specific major capex project are broadly similar, then Transpower may have an incentive to lower the forecast of costs to satisfy the investment test. However, other projects, for which the net benefits are much higher, may not result in Transpower having the same incentives to lower costs and so the incentives to overforecast remain high.

Determination of the major capex allowance – proposed solution

87. Our proposed solution is to amend the capex IM to allow us to determine the major capex allowance, consistent with our approach for base capex and opex, as well as the approach applied to approving opex and capex allowances for electricity distribution businesses (**EDBs**) under a customised price-quality path.[66] We would evaluate the expenditure proposed by Transpower and determine the final allowance to be set. Doing so would reduce the risk of Transpower earning excessive profits due to an overforecast, which would promote s 52A(1)(d).

88. Our determination of the major capex allowance would use the existing criteria for approving or rejecting a major capex allowance.[67] We would amend Transpower's major capex cost proposal when we consider it is likely to result in excessive profits to Transpower. We consider that the major capex regime should be more aligned with the base capex regime.

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63 Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), para 6.7.6.

64 'Unbiased' here is meant in the sense that the forecast is not systematically biased in one direction or the other, without considering the reasons for any potential bias.

65 An economic project is a major capex project that provides a net electricity market benefit, but is not required to meet grid reliability standards.

66 Capex IM, clause 2.2.2(1)(a); Transpower IM Determination, clause 3.6.3(7); *Electricity Distribution Services Input Methodologies Amendments Determination 2016* [2016] NZCC 24, clause 5.3.2(6)(b).

67 Capex IM, schedule C.

89. We recognise that one of the downsides of this approach is that Transpower could potentially choose not to proceed with a major capex project (or proceed conservatively), if it decides the allowed costs are not sufficient to deliver the project. However, we consider this risk is mitigated by other incentives on Transpower to invest in grid infrastructure, including the existence of grid reliability standards that it is required to meet in the Electricity Industry Participation Code 2010 (**Code**).[68]

90. Furthermore, we consider that the risk to consumers from overforecasting could be significant in the absence of our ability to consider Transpower's proposed costs. Cost uncertainty can also be mitigated by varying the incentive rate, as we propose in the next section.

91. Moving away from 'approve or reject' approach is in no way intended to detract from Transpower's responsibility to determine the needs, deliverables and grid outputs.

Incentive rate for major capex – under ex-ante approach

92. Under an ex-ante incentive regime, the level of the incentive rate affects how any differences between forecast and actual costs are shared between Transpower and consumers.[69] Therefore a higher incentive rate increases the efficiency incentive, but also increases the risk customers pay Transpower additional revenue that is due to overforecasting of the original allowance (rather than being due to any true efficiency gains).

93. We consider that the base capex incentive rate set out in the current IPP (33%) could be inappropriate for many major capex projects given their specific characteristics. These characteristics are that they:

    93.1 are E&D projects – which means it is generally more difficult to estimate costs accurately (compared to base capex which mostly covers replacement and refurbishment projects); and

    93.2 are large – which means the impact of unwarranted gains or losses to Transpower associated with a specific project (as described below) can be significant.

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68 Electricity Authority "Electricity Industry Participation Code 2010" (Updated as at 6 November 2017), clauses 12.55-12.58.

69 For an example of how different incentive rates operate, refer to Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 34.

94. Major capex projects with a high incentive rate can expose Transpower or consumers to the risk of significant gains or losses compared to the original estimate.[70] This can be an issue because:

94.1 Transpower can be exposed to significant revenue risk in the event that actual expenditure is higher than forecast expenditure. If Transpower considers the risk is too large, it may not proceed with the project (or propose it in the first place).[71] This would not be in the long-term interests of consumers, though the risk is likely to affect only the very largest major capex projects which have forecast costs significantly above the current $20 million major capex threshold.

94.2 For consumers, the disadvantage of a higher incentive rate is that they would have to pay Transpower more than its actual expenditure costs in the event that Transpower delivers the major capex project under the allowance:

94.2.1 Payment of this 'reward' is beneficial to consumers if the lower cost of the project is due to greater efficiency by Transpower in delivering the project. Consumers gain from the lower overall costs of the project than would otherwise have been the case.

94.2.2 However, if the payment of this 'reward' is due to the original forecast of costs being higher than a true P50 estimate (rather than due to greater efficiency) then it is not beneficial to consumers.[72]

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70 For example, the delivery of one major capex project could have a major impact on the profits of Transpower (including aspects of delivery outside its control). This is generally less of a concern for base capex, where the portfolio effect means that projects that are delivered under or over the forecast of costs will have a tendency to cancel each other out. However, one-off large base capex projects could also have a similar impact.

71 Subject to other requirements or incentives on Transpower to deliver the project (eg, grid reliability standards).

72 There is also a potential feedback loop at work, because the higher the incentive, the greater the incentive for Transpower to increase their forecast costs.

95. This risk of providing significant additional revenue to Transpower, resulting in the potential for excessive profits, seems relatively high for major capex projects compared to most base capex projects due to:

95.1 the higher level of cost uncertainty for E&D projects, in which case it may be more likely that Transpower would provide an upwardly-biased cost estimate, particularly given the known monetary reward from a higher cost allowance under the proposed ex-ante regime;

95.2 the size of major capex projects which means that absolute magnitude of any additional payment could be significant;[73] and

95.3 the historical evidence that cost estimates for major capex projects have tended to be higher than out-turn costs, sometimes by a significant amount.[74]

96. Our proposal to introduce a staging process for major capex projects (see Chapter 3) will help to mitigate the cost uncertainty by delaying the approval of the total cost, but we still consider significant uncertainties could remain due to the specific characteristics mentioned in paragraph 93 above.

Incentive rate for major capex – proposed solution

97. Our proposed solution is to amend the capex IM to define a default incentive rate for major capex of 15% but to retain the ability to tailor the incentive rate for major capex projects in specific circumstances. We consider the issues identified above provide good reasons to set a default incentive rate for major capex projects at a level which is lower than the rate for base capex (currently 33%).

98. Some submissions have raised concerns about the potential for bias towards Transpower spending capex over opex.[75] A low incentive rate for capex may lead to further concerns that Transpower will have an increased incentive to spend on capex rather than opex. However, we consider it is less of an issue for major capex projects. Major capex projects are not fungible in the same way as base capex (ie, the allowance is associated with a specific project) and any potential for capex/opex substitution is already considered as part of the approval process prior to the major capex allowance being finalised.

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[73] For base capex this risk is generally mitigated by the inclusion of a larger number of smaller projects which will offset against each other and reduce the risk of one project having a significant impact on consumer cost. Therefore the risk of a significantly large windfall gain or loss is reduced. However, this does not apply to the larger base capex projects (eg, listed projects), which could have a significant impact on consumer cost.

[74] See Table 2 in Chapter 3 outlining the outturn costs for major capex projects.

[75] See MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), paras 5-6.

99. Our proposal is therefore to set a default base capex incentive rate of 15%. Our reasons for proposing to set the rate at this level are that a 15% incentive rate would strike an appropriate balance by mitigating some of the concerns raised above but still provides a material incentive on Transpower to achieve efficiency gains.

100. We have also considered some of the disadvantages of from setting an incentive rate lower than the proposed 15%. For example, Transpower's submission suggested possibly using a 10% incentive rate.[76] However, the disadvantages associated with a lower incentive rate are that:

100.1 there is a lower incentive on Transpower to undertake efficiency savings in delivering the major capex project; and

100.2 consumers have a higher exposure to costs incurred by Transpower over and above their original forecast costs at the time of the major capex approval.

101. We also consider it is appropriate to retain an option to change the major capex incentive rate under specific circumstances. We would consider moving from the default incentive rate when we consider that:

101.1 the forecast cost of the project is so high such that the potential costs to consumers of overforecasting warrant a lower incentive rate, when considered against the lower incentives for efficiency;

101.2 the cost forecast is so uncertain such that the potential costs to consumers of overforecasting warrant a lower incentive rate, when considered against the lower incentives for efficiency; or

101.3 the potential for efficiency gains during the project is sufficiently high, such that the gains to consumers from a stronger efficiency incentive warrant a higher incentive rate, when considered against any potential costs to consumers from overforecasting the allowance.

102. We envisage that the ability to change the incentive rate for specific projects would only be implemented when there is a substantial reason to change from the major capex default rate of 15%. We do not envisage that minor refinements to the incentive rate would be made to individual major capex projects.

103. In response to our emerging views paper, Transpower supported our view that the final incentive rate should be determined at the same time as a major capex approval.[77]

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[76] Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), pages 2 and 9.

[77] Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), pages 2 and 9.

104. Although we still consider the final decision on the incentive rate applied to a particular project should be approved at the time of the major capex approval, the existence of a default rate of 15% in the capex IM provides greater clarity to Transpower and stakeholders when considering a major capex project. The default rate could then be adjusted in occasional specific circumstances when there are substantial reasons to increase or decrease the rate based on the characteristics of the individual project in meeting the criteria above.

105. MEUG was also open to alternative (or tailored) incentive rates for major capex (and listed projects), but was cautious about agreeing until details of how this will work are developed.[78]

106. If the project proceeds under staged approval, the incentive rate would need to be finalised separately for each stage of the process (ie, we would not set a rate at the start of the project for all stages).

Base capex

107. A summary of our proposals related to base capex are to:

    107.1 introduce two separate incentive rates for base capex:

        107.1.1 a standard rate at 33%; and

        107.1.2 a lower rate at 15%;

    107.2 set the base capex incentive mechanism on an expenditure basis rather than a commissioned asset basis;

    107.3 remove the policies and processes adjustment to base capex incentive; and

    107.4 introduce the option for a demand-based trigger for base capex E&D projects.

Base capex incentive rate – problem definition

108. All base capex projects are currently subject to a symmetric ex-ante incentive mechanism (the base capex expenditure adjustment) that operates in a similar way to our proposed mechanism for major capex projects. The current incentive rate applied to base capex through this mechanism is 33%. This rate is not specified in the capex IM but is currently set in the IPP determination.

[78] MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), para 8.

109. We consider that 33% is an appropriate incentive rate for the majority of base capex because it is approximately consistent with the opex incentive rate applied through the IRIS.[79] A consistent incentive rate between opex and capex means that Transpower has no incentive to favour capex over opex (or vice versa) in order to benefit from a higher incentive rate.

110. Currently all base capex projects (including listed projects) are subject to the same incentive rate; however, Transpower has suggested that the size and cost uncertainty associated with some future listed projects may justify a lower incentive rate:[80]

> For listed projects, and potentially for major capex, a lower incentive rate is more appropriate. Large individual projects have a high degree of uncertainty and are very large compared with approved base capex quantum.

111. We agree that listed projects can also be subject to some of the same characteristics (ie, potential for large gains and losses due to residual uncertainty over cost forecasts) that we considered in paragraph 95 above may justify an alternative lower incentive rate for major capex projects.

112. When a base capex project is large (whether listed or not) a high incentive rate can result in:

112.1 a higher revenue risk for Transpower – which may potentially result in poor outcomes for consumers because Transpower may focus on limiting risk exposure and therefore may undertake a conservative investment approach; and

112.2 consumers potentially paying significantly more than Transpower's incurred costs when it delivers an individual project under its forecast cost.

113. As explained in the major capex section, payment by consumers in excess of actual costs *may* result in excessive profits to Transpower depending on whether the reason for actual costs being lower than the original allowance is due to overforecasting or efficiency gains.[81] In particular, Transpower could have an incentive to provide an upwardly-biased cost estimate given the known monetary reward from a higher incentive rate.[82]

114. Although the risks identified above are likely to be similar for smaller base capex projects and larger base capex projects, we consider the potential for the higher materiality of these issues for individual large projects provides a reason to consider a lower incentive rate.

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79 The exact opex incentive rate is dependent on the WACC that applies during an IPP. The current IPP WACC rate results in an IRIS retention factor of 34%.

80 Transpower submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (14 June 2017), p. 11.

81 See paragraph 94.2.

82 See Table 2 in Chapter 3 outlining the outturn costs for major capex projects.

115. There are also advantages to a higher incentive rate which have to be weighed up against the disadvantages listed above. The main advantages are that:

115.1 Transpower has a higher incentive to invest and operate efficiently; and

115.2 consumers bear a lower proportion of any of cost overruns above the original allowance.

116. The issues identified above mean that we consider an incentive rate that is suitable for the majority of base capex projects may not be appropriate for larger base capex projects.

Base capex incentive rate – proposed solution

117. Our proposed solution is to amend the capex IM to provide for the application of two incentive rates to base capex projects:

117.1 a **standard rate**; and

117.2 a **low incentive rate** applied to a large project which is identified during the setting of the IPP and:

117.2.1 passes a low incentive rate cost threshold; and

117.2.2 is non-substitutable with opex or capex alternatives.[83]

118. We propose to set the standard base capex incentive rate at 33%; as noted in paragraph 109 above, we consider that this remains an appropriate rate for the majority of base capex.

119. We propose to set the low incentive rate at 15% which we consider would strike an appropriate balance by mitigating some of the concerns raised above while still providing a meaningful incentive on Transpower to achieve efficiency gains.[84] As such we consider that, consistent with s 52A of the Act, this approach limits the ability of Transpower to extract excessive profits, while also providing incentives to invest and operate efficiently.

120. We also consider that these rates should be specified in the capex IM to avoid the need for judgement at the time of each reset. Fixed values for the standard and low incentive rates will provide greater certainty to Transpower and other stakeholders consistent with s 52R of the Act. A cost threshold is required so that only projects which have the potential for a significant individual impact on Transpower's revenue are included. A large project cost does not necessarily increase the risk of a poor outcome for consumers, but it does increase the magnitude of any poor outcome.

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[83] Note that listed projects must meet these criteria at the time of setting the IPP and when the listed project is approved.

[84] We note the 15% rate is consistent with the incentive rate set for the capex IRIS applied to EDBs (This was determined from the average of the natural incentive for capex efficiency savings under a 5-year price path).

121. We propose that the cost threshold for applying a lower incentive rate is $20 million, consistent with the existing major capex and listed project thresholds.

122. However, we consider there are also reasons why this threshold could potentially be higher and only be limited to the very large base capex projects. Base capex projects are replacement and refurbishment (**R&R**) projects, which are considered to have more predictable costs; major capex projects, on the other hand, are E&D projects, which are more distinct and have greater uncertainty on future costs.

123. Therefore, 'on average' cost uncertainty (post-listing or staging) would be lower for large base capex than major capex. As a result the expected magnitude of any potential harm (for a given project size) would be lower for large base capex projects than for major projects.

124. We propose to apply a cost threshold, rather restricting a lower base capex incentive rate to listed projects as suggested in the emerging views paper.[85] This is because we consider that the reasons for applying a lower incentive rate are different to the reasons for listing a project. The main requirement for a project to be listed is that there is timing uncertainty (ie, the commencement date cannot be forecast with certainty) which has been mitigated by the time an allowance is approved.[86]

125. In addition to a cost threshold, we also consider that any project subject to a lower incentive rate needs to be largely non-substitutable with opex or capex.

126. If a large base capex project or listed project is substitutable with alternative opex or capex (that is subject to a 33% incentive rate), the lower incentive rate could potentially distort the incentives for Transpower to choose investments that are in the long-term interests of consumers.

127. Transpower would have an incentive to minimise any costs in the base capex allowance subject to a 33% incentive rate, and maximise those in the base capex allowance subject to a 15% incentive rate. This could potentially lead to Transpower proceeding with a project subject to the lower incentive, even if there are alternative opex or capex solutions that would result in a more efficient outcome.

128. We consider the harm to consumers from these potential distortions outweighs the risks to consumers above from any overforecasting of the allowance. Therefore, we consider that the low incentive rate should only apply to projects which are deemed to not have viable alternative capex or opex options.

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85 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), paras 44-48.

86 Capex IM, clause 2.2.3(2)(c).

129. The requirement that there is no opex substitutability is consistent with concerns raised in some submissions that Transpower currently has an incentive to favour capex over opex.[87] Any potential bias could be accentuated by a lower incentive rate for certain capex projects.

130. We also remain of the view that application of a lower incentive rate would be an exception for base capex projects.[88] It would only apply if a project meets the criteria listed above. In our emerging views paper, we proposed tailoring specific rates for individual base capex projects. Instead, we now consider a simpler approach, which is still sufficient to address the problems identified, is to have two separate incentive rates specified in the capex IM and to allow Transpower to apply a lower rate to certain large base capex projects.

Base capex incentives on commissioning vs expenditure – problem definition

131. The capex IM specifies the base capex expenditure incentive mechanism with reference to the difference between forecast commissioned assets and actual commissioned assets. This is consistent with the approach for recognition of expenditure that enters the Regulatory Asset Base (**RAB**).

132. In its submission on the capex IM focus areas paper, Transpower submitted about the difficulty of forecasting commissioning. It noted that basing forecasts on commissioning resulted in cash-flow volatility. It also noted that the use of a commissioned expenditure-based incentive could deter commissioning of assets. Transpower submitted:[89]

> The difficulties with a commissioned value incentive include:
>
> > commissioning lags spending and is inherently more difficult to forecast because, rather than accumulating through a project, it is highly dependent on specific project events such as engineering acceptance testing and project close documentation
> >
> > we cannot accrue commissioned value (an asset is either commissioned, or not) so annual outturn can be disproportionately impacted by single events (e.g. excessive rain in June can delay commissioning of many millions of dollars' worth of assets)
> >
> > forecasting and reconciling commissioning is an extra task, because forecasting and reconciling spending is required for all financial processes. We would always forecast commissioning for RAB forecasting and price path purposes, but our processes could be less intensive and more fit for purpose if not also used for annual incentive calculations; and
> >
> > at the margin, a commissioning-based incentive deters commissioning (we effectively receive incentive credits for delaying project commissioning).

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87 MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), para 6.

88 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 47.

89 Transpower submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (14 June 2017), p. 15.

133. We agree with Transpower's view that that there are greater difficulties and costs in forecasting the value of commissioned assets due to the impact of specific events that can affect when an asset is commissioned (or enters the RAB). However, we do not consider that this is a significant issue, because any fluctuation would even out over a large number of projects and over a longer period of time. We would expect Transpower to be able to manage risks of this type.

134. The potential for Transpower to have an incentive to delay project commissioning in the instance when Transpower forecasts assets to be commissioned in an RCP, but then defers the commissioning date to the following RCP period, is more significant.

135. Under this scenario it is difficult to exclude specific projects from the next RCP even if an allowance was provided in the previous RCP. The forward-looking nature of the regime and the fungibility of the base capex allowance, means that we do not evaluate whether specific base capex projects have been delivered or not when setting the future price path. This could potentially result in Transpower gaining a monetary reward for delaying the project in the first period (through the base capex incentive mechanism), but then also potentially receiving the full cost of the allowance in the next period.

136. For example, if a project's commissioning date was delayed by one year from Year 5 of RCP2 to Year 1 of RCP3, there is the potential for Transpower to obtain a reward equal to 33% of the total cost of the project if an allowance for the project was included in the base capex allowance of both RCP2 and RCP3.

Base capex incentives on commissioning vs expenditure – proposed solution

137. Our proposed solution is to amend the capex IM to change the basis of the base capex incentive mechanism from the value of commissioned assets to expenditure. We consider that this would better promote the long-term interests of consumers by lowering the potential for excessive profits to Transpower that arise due to the disconnection between setting the base capex allowance in one regulatory period and the next.

138. The change would mean that the actual expenditure that flows through to the incentive would be spread over a number of years rather than based on a single commissioning date. The impact of any deferral (or delay) in commissioning of assets from one regulatory period to another would be less detrimental to consumers (as the increased profits to Transpower would be lower).

139. Even with this change there would continue to be an incentive to defer expenditure (which is an inherent characteristic of an incentive regime). Deferring expenditure can also be an efficient outcome that is in the interests of consumers, when assets are not required. This proposed change does not change that underlying characteristic of the regime, but instead limits the potential for excessive benefits to Transpower in the specific circumstances when the commissioning of certain assets are been deferred from one regulatory period to another.

140. Although the main rationale for a move to using expenditure-based incentive is to reduce the incentive to inappropriately defer commissioning, we note that it will also provide additional benefits as outlined by Transpower. For example, it would reduce the administrative burden on Transpower of forecasting and reconciling commissioned asset values.

141. We do not propose to make the same change for major capex projects because incentives operating on commissioned assets or expenditure will be equal. This is because (unlike in the base capex) major capex projects are kept separate for the purpose of incentives, and are commissioned at the completion of the project.[90] At the conclusion of the project, the commissioned value will be the amount of expenditure spent on the project, and therefore incentive amount will not be affected.

142. The proposal to move the basis for the base capex incentive from commissioned assets to expenditure does not change our view that the value of commissioned assets should be used when assets enter the RAB.[91]

Base capex policies and processes incentive – problem definition

143. The base capex policies and processes adjustment is an asymmetric penalty that makes Transpower bear a portion of the costs, determined by the base capex incentive rate, for those base capex assets that were not fully subjected to Transpower's policies and processes. The adjustment was intended to ensure that a rigorous process was applied when testing the economics and engineering solutions of any base capex project.[92]

144. Both Transpower and MEUG have submitted that the current mechanism is ineffective.[93] Transpower also suggested that the current mechanism is:[94]

> …inconsistent with the broader settings for incentive regulation and is a disincentive to incorporating positive change.

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90 The issue with the base capex regime occurs when projects or programmes continue over multiple periods, as the allowance is reset every RCP but the commissioning date may be deferred.

91 For original reasoning on why commissioned assets should enter Transpower's RAB, refer to: Commerce Commission "Transpower Input Methodologies Reasons Paper" (December 2010), paras 4.4.39 & 4.4.73.

92 Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), para 3.5.6.

93 Refer to: Transpower submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (14 June 2017), p. 11; and MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), para 15.

94 Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 4.

145. We noted in our focus areas paper and our emerging views paper that we had doubts about the effectiveness of the adjustment.[95] The mechanism relies on disclosure by Transpower, and judgement by the Commission on whether the policies and processes have been applied in practice.

146. We consider there is no incentive on Transpower from this mechanism to disclose where it has not followed its policies and processes, as there is no potential reward for doing so (only a penalty). Therefore, we consider the adjustment is ineffective.

147. We additionally consider the complexity in calculating an adjustment (in the case that non-compliance with the policies and processes was disclosed) can lead to debate and issues around what this value should be.

148. These issues have become apparent since the capex IM was set in 2012, and no adjustment has been applied during this time.

Base capex policies and processes incentive – proposed solution

149. Our proposed solution is to amend the capex IM to remove the policies and processes incentive mechanism. We agree with the concerns about its effectiveness and so consider it should be removed from the capex IM. This is consistent with the rationale of reducing the complexity of the capex IM in line with the framework when the complexity does not provide any significant benefit.

150. We consider that greater information disclosure could provide some benefits by providing greater oversight on Transpower's policies and processes. However, we agree that any prescriptive requirements would have to be weighed up against their costs.

151. At this stage, we do not propose to introduce any additional information disclosure requirements on Transpower's processes and policies, as we do not consider the benefits would outweigh the costs of implementation.

152. However, consistent with our approach to understanding more about Transpower's stakeholder engagement (see Chapter 4), we expect Transpower to engage with stakeholders in areas where they have particular interest. For, example, MEUG has suggested a voluntary approach.[96] A greater focus on stakeholder engagement rather than prescriptive rules is consistent with our proposal to require Transpower to disclose how it has engaged with stakeholders on its operation and investment approach.[97]

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95 Refer to Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), paras 83-85; and Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017), para 100.2.

96 MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), paras 15-18.

97 Paragraphs 267 to 280.

Demand-based trigger for E&D base capex – problem definition

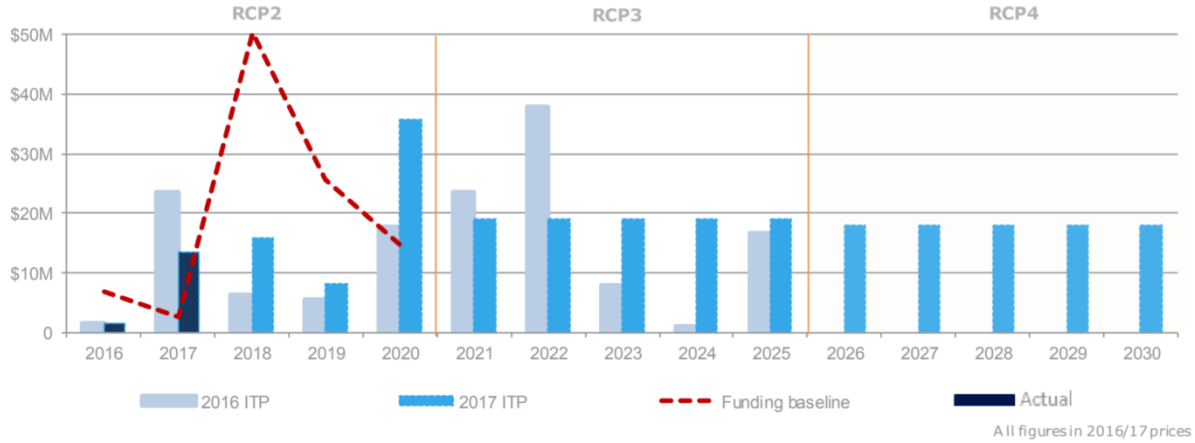
153. Setting the base capex allowance for Transpower in an IPP requires us to determine an allowance for E&D projects. This allowance can be difficult to determine because E&D projects are often dependent on demand growth, which can be difficult to forecast with any certainty.[98]

154. This difficulty in forecasting can be illustrated by considering the allowance we set for E&D base capex for RCP2 and comparing it to Transpower's current forecast of expenditure on these types of projects. Transpower's current forecast for E&D base capex over RCP2 is significantly lower than was originally proposed:

154.1 At the time of setting the RCP we removed 23% of Transpower's proposed E&D project expenditure of $136m from the original proposal,[99] giving a final allowance of $104m, because adequate justification was not provided for all of the projects.[100]

154.2 Figure 6 illustrates that Transpower has a current forecast for E&D base capex in RCP of $75 million (ie, 45% less than the original proposal) and has spent only $15m in the first 2 years of the RCP.[101]

Figure 6: Grid enhancement and development base capex[102]



98 Actual demand to date over RCP2 has been less than was forecast at the time of Transpower's proposal.

99 Based on values in the decisions and reasons paper for setting Transpower's RCP2 IPP: *Setting Transpower's individual price-quality path for 2015 – 2020* [2014] NZCC 23 (29 August 2014), Table 5.5. The values in the IPP decision are stated in 2012/13 constant prices, but have been provided here in 2016/17 prices using am estimate of CPI inflation and real price effects consistent with the assumptions used at the time we set the IPP. We have multiplied the base capex in 2012/13 prices by 1.098 to obtain an estimate of 2016/17 prices so that it can be compared with Transpower's current IPP.

100 *Setting Transpower's individual price-quality path for 2015 – 2020* [2014] NZCC 23 (29 August 2014), paras 5.71-5.75.

101 Transpower "Integrated Transmission Plan Narrative 2017" (September 2017), p. 30.

102 Transpower "Integrated Transmission Plan Narrative 2017" (September 2017), p. 31.

Demand-based trigger for E&D base capex – proposed solution

155. Our proposed solution is to amend the capex IM to introduce the option for a demand-based trigger for base capex E&D projects.[103] The demand-based trigger would be an automatic mechanism that updates the base capex allowance based on actual demand (or forecast demand) values, rather than judgement. A baseline level of E&D expenditure would be specified in the IPP (ie, an allowance which would not be subject to the demand trigger) and any increase in demand that meets a pre-specified level during the RCP would result in an automatic revenue addition to the base capex allowance. The amount of additional revenue would also be specified prior to the commencement of an RCP.

156. Our proposed change to the capex IM is intended to be flexible enough to allow any demand-based adjustment to be set on a project-by-project basis or on an aggregate E&D basis.

157. The exact details of any demand-based trigger would be specified in the IPP based on the consideration of:

    157.1 the cost and timing uncertainties of any individual project; and

    157.2 how any timing uncertainties are linked to a certain level of demand.

158. Transpower's submission on our emerging views paper was strongly against the proposal of a demand trigger:[104]

> We also strongly reject the surprising proposal to create another mechanism for Regulatory Asset Base (RAB) additions within-period, for base capex (enhancement) projects due to the uncertainty of demand growth. This proposal would reduce the fungibility of the base capex design, introduce more complexity into our business and potentially increase the volatility of our price path.

159. We disagree with Transpower that the introduction of a demand-based trigger would reduce the fungibility of the base capex allowance. Instead it would be a mechanism that increased the base capex allowance based on one or more defined 'trigger' points during the RCP period. There would be complete fungibility between the original allowance and any additional amount provided based on the trigger. Given the magnitude of E&D base capex relative to other types of capex, we would also expect limited impact on the volatility of the price path.

160. The introduction of a demand-based trigger may slightly increase complexity, but we consider that this would be limited by setting out the pre-defined mechanism prior to the start of an RCP. Further, the additional complexity should be offset by a reduction in the time spent by us and submitters in scrutinising the demand forecasts underpinning Transpower's proposed E&D projects.

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103 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 79.

104 Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 7.

161. We consider the use of this type of mechanism may help mitigate some of the concerns over project investment decisions without the need to lower the threshold for major capex projects with the associated administrative and regulatory costs.

Investment test applied to major capex

162. We propose to retain the current investment criteria and approach as set out in the capex IM. We did not consider any of the submissions suggested a fundamental character to the investment test, ie, a net market benefits test to all electricity market participants.[105] We explain in this section our reasons *not* to propose any changes to the implementation of the test that have been suggested by stakeholders, including why we do not propose to:

    162.1 expand the criteria applied in the test – competition effects and option value;

    162.2 expand the criteria applied in the test – wider costs and benefits (including amenity value);

    162.3 adapt the investment test process to allow capital contributions to be returned at a later date;

    162.4 change the use of 7% as the default discount rate applied to the investment test; or

    162.5 introduce any requirements for consistency with the transmission pricing methodology (**TPM**) as set by the Electricity Authority.

Investment test – inclusion of competition effects and option value

163. We received a number of submissions on the investment test criteria concerning the application of competition effects and option values in the test:[106]

    163.1 Contact, Trustpower and Mercury submitted that competition (including price separation) effects should be taken into account;[107] and

    163.2 Mercury suggested the use of options value.[108]

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105 We note Contact proposed that the investment test should only consider transmission benefits for any proposed Transpower investment that is 'competitive'. However, we do not consider this is a question about the fundamental character of the investment but instead about what is considered a transmission service. This is issue was previously considered as part of the main IM review. Contact Energy submission on focus areas consultation paper "Transpower Capex IM review" (14 June 2017), p. 3.

106 For a list of the current costs and benefits applied to the investment test, see capex IM, clause D5(1).

107 Refer to Contact Energy submission on focus areas consultation paper "Transpower Capex IM review" (14 June 2017), pages 2-3; Trustpower "Trustpower Submission: Proposed Focus Areas for Capex IM Review" (14 June 2017), para 3.2.4; and Mercury submission on focus areas consultation paper "Consultation Paper – Transpower Capex IM review" (14 June 2017), p. 1.

108 Mercury submission on focus areas consultation paper "Consultation Paper – Transpower Capex IM review" (14 June 2017), p. 2.

164. Our proposal is that no change is required to the investment test because it already provides for the consideration of competition effects and option value.[109] Transpower in its cross-submission to the focus areas paper outlined how the investment test does take into account competition effects.[110]

> The existing Investment Test identifies proposals on the basis of changes in electricity costs. Some submissions expressed concern that the Investment Test did not consider wholesale market competition effects but this is incorrect.

165. We agree with Transpower that both competition effects and option value can already be incorporated within the test. Both can be difficult to quantify, but stakeholders have the opportunity to engage with Transpower on the investment test when it is applied to major capex proposals.

166. Competition effects could include both generation and demand effects (eg, the Electricity Authority's proposal for real-time pricing),[111] however we do not consider it is appropriate to prescribe in more detail in the capex IM how these effects are taken into account within the capex IM. There could be a number of different methodologies and we consider that Transpower (with input from stakeholders) is best placed to consider an approach.

167. Transpower also noted how the investment test considers the overall impact on total welfare for electricity market participants.[112] Pricing effects that result in transfers from one party to another (eg, from one generator to another, or from generators to consumers) are not taken into account.

168. It is unclear to us if submitters are suggesting that these types of effects should be taken into account within the test. However, because the test is designed to cover the net market benefits to all electricity market participants, we do not consider that transfers of this nature should be considered when applying the investment test.

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109 See capex IM, clauses D5(1)(h) and D5(1)(k).

110 Transpower cross-submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (28 June 2017), p. 3.

111 Electricity Authority "Real-time pricing proposal – Consultation paper" (1 August 2017).

112 Transpower cross-submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (28 June 2017), p. 4.

Investment test – wider costs and benefits (including amenity value)

169. Transpower submitted in response to the focus areas paper that that the investment should be widened to incorporate a wider range of costs and benefits.[113]

> We consider the investment test should be a default setting and we recognise the value of certainty that prescription brings. However, in a future context of changing landscapes (our planning trajectory) our investment options analysis could allow for different decision rules.
>
> To justify any departure from the default investment test, possible approaches are to allow judgement on a wider range of costs and benefits (for example, our decision-making in dense urban areas is complex), or considering economic analysis under staged approval.

170. Transpower provided the above example about decision-making in urban areas. One frequent example of urban area decision-making is the undergrounding of lines for amenity reasons.

171. Our proposal is to not specifically include these types of amenity benefits within the scope of the investment test. This is because:

171.1 we consider that amenity benefits could be included within the investment albeit only to the extent that those benefits would be taken into account by consumers in their capacity as an electricity consumer (rather than as a member of the general public); and

171.2 the capex IM already provides that wider costs and benefits can be included in the investment test if they are agreed with us prior to any consultation.[114] We consider this can cover any wider benefits as suggested by Transpower and does not require a change to the capex IM.

172. Amenity benefits can be valued by consumers, but are likely to be considered in a different capacity (eg, due to concerns about visual impact). Amenity benefits are also likely to accrue to a subset of consumers and be valued differently by different consumers.

173. We consider that these types of benefits are mostly appropriately and practically considered outside the investment test process (eg, a third party could pay directly for undergrounding) so that the costs are more directly funded by those consumers who benefit from undergrounding.

174. Transpower also needs to comply with any local planning requirements or safety laws (and incorporate any related costs into project costs).

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113 Transpower submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (14 June 2017), p. 8.

114 Capex IM, clause D5(1)(l).

Return of capital contributions

175. Contact submitted that we should consider introducing an option whereby capital contributions required to bring forward investments could be returned to contributors at a later date:[115]

> Contact would also welcome more flexibility in the capex IM to enable partial funding of major capex projects (if it can be broken down) by participants, so that projects can be brought forward. At present there is no way to recover that funding once the project does pass the GIT and is approved on an economic or reliability basis. Transpower can only recover the total cost less the partial funding amount, as this is the amount that goes into the RAB.

176. The capex IM permits a capital contribution to be paid by a party in order to bring forward a Transpower investment.[116] However, these capital contribution costs cannot be recovered at a later date if the investment subsequently passes the investment test without the need for capital contributions.[117]

177. The interaction of capital contributions with the investment test is complex. Capital contributions are an appropriate way to take into account private benefits not included within in the investment test. However, it is less appropriate when capital contributions are paid by one party to obtain private benefits that have already been considered in the investment test (eg, electricity market benefits).

178. The investment test considers the net benefits to all electricity market participants, which means any capital contribution of this type used to bring forward an investment could be expected to be offset by a negative impact on other market participants.

179. After considering Contact's proposal, we do not propose to introduce a mechanism to return money to private contributors in the event that the investment test is passed at a later date, given:

    179.1 the additional complexity in introducing an 'investment test' to return money to transmission customers and the means by which any money would be returned; and

    179.2 the limited scenarios in which this would apply.

Use of 7% discount rate

180. In the existing determination, the capex IM prescribes a pre-tax real discount rate of 7% to be used in the investment test when undertaking cost-benefit analysis for different investment options.

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115 Contact Energy submission on focus areas consultation paper "Transpower Capex IM review" (14 June 2017), pages 2-3.

116 Capex IM, clause D5(1)(i).

117 Note that capital contributions are also used to pay for private benefits that are not included in the investment test. We consider this is appropriate.

181. In its submission on the capex IM focus areas paper,[118] MEUG suggested that the capex IM be revised to a 6% mid-point rate consistent with the Treasury default rate used for cost-benefit analysis.[119] MEUG stated that:[120]

> Use of the 7% for Transpower capital investments when the public sector in general has a default rate of 6% would, over the long-term, lead to miss-investment between Transpower and all other public infrastructure unless there are good reasons that should be so.

182. We do not consider that linking Transpower's discount rate to the Treasury rate is an appropriate reason to move from the default 7% rate. We note that at the time of the 2012 capex IM determination, the 7% rate was maintained while the Treasury's pre-tax real discount rate was 8%.[121]

183. We consider there are insufficient reasons to support a change from the existing pre-tax real discount rate of 7%, and note that:[122]

183.1 the discount rate is only used when ranking different investment options, (ie, it does not affect major capex revenue);

183.2 given the long-term nature of the investment decisions we consider that there is some benefit keeping a consistent discount rate over time (7% is the current discount rate and was previously used under the Grid Investment Test);

183.3 an alternative discount rate may be applied by Transpower if it considers the default value is not appropriate;[123] and

183.4 the current investment test requires sensitivity analysis using discount rates of 4% and 10% to ensure robustness of the analysis against alternative discount rates.

184. For the avoidance of doubt, this discount rate is only intended to be used in the context of the investment test when undertaking cost-benefit analysis for different investment options.

Consistency with the TPM

185. Some submissions raised the issue of consistency with the TPM.[124]

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118 Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017).

119 MEUG "MEUG submission on Transpower capex input methodology review" (14 June 2017), para 9d.

120 MEUG "MEUG submission on Transpower capex input methodology review" (14 June 2017), para 9d.

121 Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), para 7.4.29.

122 As noted in paragraph 10, we have only proposed changes to the capex IM where the change is likely to promote the purposes in s 52A or s52R more effectively, or significantly reduce complexity or compliance costs.

123 For further reasoning on the discount rate for the 2012 capex IM decision, see: Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), paras 7.4.25-7.4.32.

186. We do not consider that any changes to the investment test are required to ensure consistency with the current or any future TPM. The investment test is a stand-alone test which considers the net benefits of individual investments to electricity market benefits as a whole and does not consider how those costs should be paid for by individual market participants. The TPM determines separately how those costs are allocated to transmission consumers.

187. However, we do encourage stakeholder participation in the investment test process through Transpower's consultation. We also consider that changes to the TPM to provide greater cost reflectivity of new investments would help with this. We are also proposing to introduce a requirement on Transpower to provide greater information on future pricing impacts to help stakeholder engagement (see paragraphs 286 to 292 below).

Other issues raised in submissions

188. A number of other issues related to the incentive framework were raised in submissions, and for which we propose no change to the capex IM. We explain below our proposal that there should be no change to:

    188.1 requirements relating to contracting with third parties;

    188.2 the threshold for major capex projects; and

    188.3 incentives for Transpower to complete major projects on time.

Contracting with third parties

189. In its submission on the capex IM focus areas paper,[125] Pioneer suggested that there may be a difficulty for third parties to successfully arrange contracts with Transpower for non-transmission solutions (**NTS**s) due to higher levels of risk.[126]

> Transpower is, obviously, going to value the option of investment in transmission infrastructure at its own weighted average cost of capital (WACC) – determined by the Commerce Commission. The level of this return takes into account Transpower is 'guaranteed' its revenue, is a monopoly and has some benefits from being state-owned. A third party trying to contract a transmission alternative solution to Transpower is very likely to have a higher WACC than Transpower. The third party is therefore at a disadvantage to Transpower's own investment – unless the contract with Transpower can provide a level of assurance for the third party that lowers the risk associated with funding that investment.

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124 Such as: Trustpower "Trustpower Submission: Proposed Focus Areas for Capex IM Review" (14 June 2017), paras 3.2.1-3.2.7.

125 Commerce Commission "Transpower capex input methodology review – Proposed focus areas for the capex IM review" (15 May 2017).

126 Pioneer Energy submission on focus areas consultation paper "RE: Transpower capex input methodology review – Proposed focus areas" (14 June 2017), p. 3.

190. IEGA and Contact also supported the suggestion that compensation and contract duration should be consistent with that provided to Transpower.[127] MEUG considered that uncertainty around third party contracts might dampen economically viable NTSs being developed.[128]

191. Orion responded to submissions commenting on the differing cost of capital between a potential transmission and transmission alternative being an impediment to NTSs being implemented. Orion stated:[129]

> The submissions conflict on the proposition of lowering Transpower's WACC, increasing Transpower's WACC or Transpower providing contractual relief from risk for other parties. Contracting for risk sharing is appropriate on a commercial basis although making this a function of regulation may not be. Providing a level playing field should not extend to adjusting Transpower's WACC to align with the differing risk profile of competing options.

192. Transpower also responded to submissions, stating that it does not have a bias towards owning assets over procurement of services.[130]

193. Our proposal is to make no change in regard to the procurement of third party services, as we consider it is Transpower's responsibility to procure services that it considers most appropriate in order to deliver electricity transmission services. The incentive framework encourages Transpower to minimise the costs of delivering such services and we would expect Transpower, as it suggests in its submission, not to have a significant bias against using such services.[131]

194. We do not think there are any specific barriers preventing Transpower from contracting with a third party for a length of time longer than the regulatory period, if it were to result in lower overall costs.

195. Also, providing greater compensation to third parties that have a higher cost of capital would, all other things being equal, lead to higher prices for transmission services. This is not consistent with promoting the long-term interest of consumers, unless the increase is consistent with a corresponding increase in benefits.

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127 Refer to Contact Energy cross-submission on focus areas consultation paper "Transpower Capex IM Review: Cross-submission" (28 June 2017), p1; and IEGA submission on focus areas consultation paper "RE: Commerce Commission review of Transpower Capital Expenditure Input Methodology" (14 June 2017), pages 2-3.

128 MEUG "MEUG submission on Transpower capex input methodology review" (14 June 2017), para 9b.

129 Orion "Transpower Capex IM Review – Cross-submission" (27 June 2017), para 7.

130 Transpower cross-submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (28 June 2017), p. 2.

131 Transpower cross-submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (28 June 2017), p. 2.

Threshold for major projects

196. Submissions from Contact and Trustpower on the focus areas paper suggested that the threshold for major capex projects could be lowered because there is currently insufficient scrutiny on base capex projects under $20 million.[132] Contact also suggested the investment test should be extended to R&R capex. Contact contrasted the investment test in the capex IM with Australia where the AEMC has extended its regulatory investment test to R&R capex[133] and where the threshold for this test to apply is set at $6 million.[134]

197. Our emerging views paper outlined our view that extending the major capex process to a larger number of smaller projects would not be efficient or consistent with the proportionate scrutiny principle. Similarly, a significant proportion of R&R projects are expected to be unsuitable for transmission alternatives, meaning that a blanket rule to extend further scrutiny to all of these types of projects may not result in a cost-effective outcome.[135]

198. Subsequent submissions on the emerging views paper (including from Contact) appeared to agree with this approach and suggested that providing additional scrutiny on the existing base capex projects would not be best served by extending the major capex process.[136]

199. Given the support from submissions, our draft decision is to maintain the current threshold of $20 million for major capex.

Incentives for Transpower to complete major projects on time

200. In its submission on the capex IM focus areas paper, Mercury suggested that there are insufficient incentives in the capex IM for Transpower to complete major capex projects on time.[137] Meridian suggested that is unclear whether Transpower has adequate incentives to deliver capex projects to time in a way that minimises costly periods of constraint for the industry.[138]

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132 Contact Energy submission on focus areas consultation paper "Transpower Capex IM review" (14 June 2017), p. 1, 2; Trustpower "Proposed focus areas for the capex IM review" (14 June 2017), section 2.2.

133 AEMC "Rule determination: National Electricity Amendment (Replacement expenditure planning arrangements) Rule 2017" (18 July 2017), pages 49-50.

134 AER "Cost threshold review for the regulatory investment test, Final determination" (November 2015), section 3.3.

135 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 77.

136 Contact Energy submission "Re: Transpower capex input methodology review: Emerging views on incentive mechanisms" (22 September 2017), p. 2.

137 Mercury submission on focus areas consultation paper "Consultation Paper – Transpower Capex IM review" (14 June 2017), p. 2.

138 Meridian "Areas of focus for the Transpower capex input methodology review – Meridian submission" (14 June 2017), p. 1.

201. Currently Transpower must incur all major capex prior to the project approval expiry date or a penalty is applied. However, the capex IM allows for this date to be extended. We consider this mechanism remains appropriate because Transpower should have the ability to defer projects where it is in the best interests of consumers. We would expect Transpower to give sufficient notice and justification if a project is expected to be deferred.

CHAPTER 3: Process matters

Purpose of this chapter

202. The purpose of this chapter is to:

202.1 explain the problems we have identified in relation to process matters in the capex IM;

202.2 set out our proposed solutions to those problems; and

202.3 explain our reasons for those proposed solutions.

Structure of this chapter

203. This chapter outlines:

203.1 our proposal to introduce staged approvals for major capex proposals; and

203.2 our proposal to introduce verification for Transpower's IPP proposal.

Staged approval for major capex proposals

Current rules relating to major capex projects

204. Major capex projects are stand-alone projects. Each project is approved separately and substitution of costs between major capex projects or major capex and base capex projects is not permitted.[139] Treating major capex projects as stand-alone projects ensures that stakeholders can have an input into the project from an early stage of its lifecycle. In addition, all associated costs are taken into account when choosing between investment options.

205. Transpower must seek our approval to be able to recover the costs of a major capex investment.[140] Until we approve a major capex proposal, Transpower does not have any assurance that it can recover its costs on the project. For this reason, major capex projects are approved early in their lifecycles. Before seeking approval, Transpower limits its expenditure on the project to power system studies, consultation with interested parties, options development, and developing the proposal for our approval.[141]

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139 If a project included in the base capex proposal becomes a major capex project then the allowance allocated for that project is removed from the base capex allowance and included in the major capex allowance.

140 Capex IM Reasons paper 6.6.1 states that 'A major capex must be approved by the Commission before Transpower can recover that capital expenditure under the IPP'.

141 When it develops the proposal, we require Transpower to consult with external stakeholders on its assumptions and the need for the project, and invite submissions for potential solutions. We also require Transpower to consult on its proposed solution and the application of the investment test.

206. The cost estimates prepared at this stage of the project's lifecycle are generally based on desk-top studies and limited site visits. These estimates can have high levels of cost and scope uncertainties. The capex IM rules on major capex recognise this potential for large uncertainties and include and/or allow mechanisms to moderate their effects. As discussed in Chapter 2, we have identified some problems with the practical implementation of these mechanisms and we propose to introduce an ex-ante incentive mechanism to address these problems.

Problem definition

207. While the proposed ex-ante incentive mechanism will remove the need for ex-post amendments of major capex allowances, it will not effectively address the potential for significant gains or losses due to large uncertainties in the estimated cost inherent in new E&D projects like transmission lines and cabling projects. If the approved cost is much higher than actual cost, then Transpower will benefit from the difference between the two costs. On the other hand if the approved cost is much lower than actual costs then consumers will benefit from the difference between approved and actual costs.

208. In a changing environment, there are additional risks with undertaking transmission projects:

    208.1 The uncertainties in the timing of a project can lead to over-investment or under-investment.[142] These uncertainties are due to the volatilities in the long-term forecasts that determine the timing and need of a project. Customers can be disadvantaged by there being insufficient capacity to meet demand, or having to pay for investments commissioned before they deliver their intended benefits. Demand response can be used to manage demand when there is insufficient capacity, but customers can still be disadvantaged.

    208.2 The need for a project that takes a long time to deliver could change during its delivery phase generally due to low growth in actual demand compared to forecast. While the capex IM includes an option for Transpower to cancel a major capex project if it is no longer needed, there are no formal review processes that allow stakeholders to have an input or for the Commission to require Transpower to cancel an approved major capex project.[143]

    208.3 The preferred investment could change over time, particularly in an environment of emerging technology. While the current rules allow Transpower to change the outputs of a project, the scope of allowable changes is limited.[144] Further, once Transpower starts the construction phase of a project, it is not always cost effective to change the preferred investment. Having the option of changing the preferred investment cost effectively would be an advantage.

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142 Over-investment includes commissioning projects before they are needed.

143 Capex IM, clause 3.3.5.

144 Capex IM, clause 3.3.4(1)(d).

Proposed solution

209. Our proposed solution is to amend the capex IM to introduce the option of staged approval for major capex projects with high levels of uncertainties. For the purpose of seeking approval and implementing the project, Transpower could split a major capex project into several stages if it considers that staging would allow Transpower and the Commission to:

209.1 set a more accurate level of funding for the project; and/or

209.2 better manage uncertainties in need and timing of the project.

210. Examples of the types of projects that may be well suited to a staged approach include:

210.1 major capex projects with inherent high-level uncertainties in costs and scope such as transmission lines and cabling projects; and

210.2 major capex projects that have a series of discrete projects delivered in sequence over a few years. For these projects, there may be scope to change the solutions for, or the timing of, subsequent stages. A formalised process to review the timing or investment option before delivery would be beneficial for all stakeholders.

211. In response to our focus paper, Transpower and Trustpower supported staged approval.[145]

212. Submissions on our emerging views paper also supported our proposal to introduce a staged approval process for major capex projects.[146, 147]

Reasons for our proposed solution

213. Staged approval would better promote s 52A(1)(b) by more effectively promoting efficiencies in delivering major capex projects. This would be achieved by:

213.1 the Commission being able to approve a major project allowance with greater confidence in scope and cost estimates;

213.2 reducing uncertainty in timing and need date of a project; and

213.3 retaining option value to be able to respond to changing environment.

214. We provide further details on each of these benefits below.

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145 Transpower "Capex IM review: issue identification via focus area" (14 June 2017), p. 10; Trustpower "Trustpower submission: proposed focus areas for the capex IM review" (14 June 2017), para 2.3.

146 Commerce Commission "Transpower capex input methodology review "Emerging views on incentive mechanisms" (1 September 2017), para 38-43.

147 For example, Pioneer Energy "Transpower capex IM input methodology review – Emerging views on incentive mechanisms" (22 September 2017), p. 2; IEGA "Transpower Capital Expenditure Input Methodology - emerging views on incentive mechanisms" (22 September 2017), p. 2.

Ability to approve a major project allowance with greater confidence in scope and cost estimates

215. Table 2 below shows the P50 estimate of cost, the approved allowance, the actual costs and the difference between the P50 estimate and the approved allowance for some recent major capex projects. This shows that historically there have been large differences between estimated and actual costs. The differences between the P50 estimate and actual cost range from -17% to 227%.[148]

Table 2 – Approved versus forecast or actual cost of recent major capex projects

Major capex project	P50 estimate of cost ($m)	Approved allowance ($m)	Forecast end or actual cost ($m)	Difference between P50 and end cost ($m)[149]	Difference between P50 and end cost (%)
Bunnythorpe Haywards	151	161	125	26	21
Clutha Upper Waitaki line	147	197	45	102	227
Upper North Island Dynamic Reactive support	90	98	51	39	76
Lower South Island Reliability	56	62	32	24	75
Upper South Island grid upgrade	7	8	7	0	0
Wanganui-Stratford Transmission	42	44	26	16	61
NIGU project	764	824	894	-130	-17
North Auckland and Northland grid upgrade	334	419	352	-18	-5
Otahuhu Diversity	94	99	106	-12	-11

216. While some of the differences are due to change in scope of the projects, others are because of the phase of the project lifecycle at which the project was approved. At the time of approval the scope was not well defined and therefore there were large uncertainties in the estimated costs.

148 The negative number means that the actual cost is higher than the P50 estimate.

149 The costs are in nominal prices.

217. The causes of these uncertainties depend on the nature of the project. For transmission lines and power cable projects the main cause is not having definite information about the route the line or cable will traverse. For a transmission cable project, typical uncertainties include:

217.1 easement and other property rights because these depend on negotiations with property owners;

217.2 the length and therefore cost of the cables;

217.3 the ground conditions and consequential design and construction requirements of the cables; and

217.4 access to construction sites and restoring them post installation.

218. Through staged approval, it would be possible to reduce some of these uncertainties at reasonably low costs.

219. Stage one of a staged project would be approved at the same phase of the project lifecycle as per the current practice but would likely cost between 10% and 15% of the cost of the project. Stage two would be approved after the definitive study phase and would include an estimate of scope and cost with reduced uncertainty.

Reducing uncertainty in timing and need date of a project

220. An advantage of staged approval is it would provide the ability to manage the uncertainty as to the timing of a project.

221. The need for enhancement projects is either to meet increasing peak demand or to connect new generation. Since the global financial crisis in 2008, forecasting peak demand has been very difficult. The uncertainty in expected demand is likely to continue as the future landscape changes due to increasing consumer choices and technology. While demand modelling forecasts increases in demand, we have been observing a sustained period of flat demand in most places.

222. Sustained flat demand can lead to over-investment particularly in large transmission projects. Such projects need to start up to seven years before their need date and therefore are based on long-term forecasts of prudent peak demand which is expected to be increasing, because of growth in the number of consumers and the GDP. In an environment where actual demand is significantly different from forecast, the risks of over-investments are high.

223. Staged approval can mitigate the risk of over-investing by reducing the reliance on long-term demand forecasts. Under staged approval, it would be possible to:

223.1 use the long-term prudent peak demand forecasts to start the first stage of a project which includes obtaining options for property rights and consents;[150] and

223.2 use the short-term expected peak demand forecasts to start the construction phase and deliver the project.[151] Transpower would still need to develop stage two 4 years in advance and start construction 3 years in advance of need date. But this should be better than committing to the project eight years in advance.

224. The scope for optimising delivery of such projects to meet expected demand has become possible because of the viability of demand response and expected future viability of new technologies. Demand response and new technologies could be used as interim short-term solutions if unexpected increases in demand require the assets earlier than previously forecasted.

225. An example of a possible application of staged approval would be a cabling project. In stage one of the cabling project Transpower would potentially acquire all the remaining easements and consents, carry out site investigations, prepare detailed design and costing, and prepare procurement specifications. Stage two of the project would be a lot more expensive and would consist of procuring and installing the cables and associated terminal equipment. Through staging, Transpower would be able to defer the approval and delivery of stage two to a lot closer to the need date of the cables. Staging the cabling project would therefore provide the following benefits:

225.1 reducing the uncertainties in the estimate of cost of the more costly phases of procurement and installation; and

225.2 reducing the uncertainties in timing and optimise delivery by being able to shorten the timeframe for delivering stage 2.

226. Transpower submitted that NTSs can also be used to optimise delivery times:[152]

> We consider NTS can also be used to manage operational risk such as constraints or outages while an MCP is under development or being built.

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150 Typically, Transpower would still need to develop large projects 10 years in advance and start obtaining options for property 7-8 years in advance of the forecast need date.

151 Prudent peak demand forecast means that there is a 90% chance that actual peak demand will be below the forecast and expected peak demand means there is a 50% chance that actual peak demand will below the forecast.

152 Transpower "Capex IM review: proposed improvements to major capex approval process" (8 September 2017), p. 3.

Retaining option value and being able to respond to changing environment

227. Staged approval can be used as a mechanism to retain option value and be able to respond more effectively to the changing environment. Staging major projects that have a series of sequential projects would allow Transpower and stakeholders to re-phase large investments, reconsider the investment options, and cancel a project that has become uneconomic without having sunk too much into a project.

228. While the capex IM has provisions for Transpower to respond to the changing environment by amending the outputs of an approved project, the extent of amendment that Transpower can seek is limited.[153] For example, Transpower cannot seek an amendment to the outputs of an approved major capex project to deliver another solution.

229. The ability to reconsider major capex project outputs for future stages of a project, would be useful in being able to respond to need, timing, and scope, as the transmission grid transforms from peak delivery to energy delivery. Consumers would benefit because Transpower could provide the most appropriate solution available at the time of the investment.

Proposed staged approval process

230. Table 3 shows the current process steps for MCPs (these would continue to apply for non-staged MCPs) and the proposed process steps for staged MCPs.

Table 3 – Process steps for current and staged major capex projects

Current process/non-staged MCPs	Proposed process for staged MCPs	Comments
Transpower identifies need for investment – internal studies.	Transpower identifies need for investment – internal studies.	No change to this step of the process.
Transpower notifies the Commission and we agree on a consultation programme and approach to considering NTSs.	Transpower also notifies whether the MCP will be staged, or the Commission can decide.	
Transpower consults on investment need, market development scenario variations, key assumptions, long list of options and requests options for NTSs.	No change to consultation requirements.	This process would be the same for staged and non-staged MCPs because this is when we would determine the potential solutions to meet investment needs (ie, for the whole project including all stages).
Transpower considers NTSs and includes these in long list of options.	No change.	
Transpower develops the MCP.	No change.	

[153] Capex IM, clause 3.3.4(1)(d)). The limitation is an issue of interpretation of when an amendment to the output becomes a 'change in the outputs'.

Current process/non-staged MCPs	Proposed process for staged MCPs	Comments
Transpower consults on market development scenario variations, key assumptions, short list of options and investment tests.	No change.	Consultation on short list of options and investment test would be the same for both staged and non-staged MCPs
Transpower submits the MCP for approval for the total cost of the MCP.	Transpower submits the MCP for approval of stage 1 of the MCP.	For a staged MCP, we would approve the major capex allowance, outputs and all other components for stage 1. For staged MCPs, it is possible that some of works would not be commissioned after stage 1 (eg, detailed design necessary for construction). The estimated amount for these works would be excluded from the major capex expenditure adjustment.
Transpower commissions the project with any necessary amendment to commissioning date and expiry date.	Transpower commissions projects under stage 1.	
Transpower applies for any output amendment and there is a corresponding adjustment to the approved allowance.	No change.	
Commissioned assets enter RAB as per Transpower asset valuation IM.. The proposed incentive adjustments would be applied. This would be a new step.	Commissioned assets enter RAB as per Transpower asset valuation IM. The proposed incentive adjustments would be applied.	
	Transpower identifies need date for stage 2 – internal process.	
	Transpower notifies the Commission and we agree on a consultation programme and approach to considering NTSs.	This is necessary for our work programing and communications with affected parties.

Current process/non-staged MCPs	Proposed process for staged MCPs	Comments
	Transpower consults on investment need, updates to demand and generation scenarios and any variations of them, updates to key assumptions and its short list of options (including any new options), and invites proposals for NTSs. Transpower consults on the methodology of its investment test if this is expected to be different from stage 1. Transpower may also be required to consult on a long list of options, where there is the potential for a significant number of new solutions.	To minimise costs, stage 2 consultation would be an update of the stage 1 proposal as much as possible. Consultation on investment need ensures that those paying for the services can have an informed input on the proposed investment. Because Transpower would not develop another long list of options, we consider that it does not need to consult on these. Transpower would be required to seek proposals on NTSs before finalising the proposed investment for stage 2.
	Transpower considers any NTSs and includes these in the short list of options.	Transpower would need to consider any emerging NTSs.
	Transpower updates the MCP for stage 2 including updating the investment test.	The list of options should include any viable NTSs. Viable NTSs should be assessed with other options in the investment test.
	Transpower submits the MCP for approval of stage 2.	
	Transpower commissions the project with any necessary amendment to commissioning date and expiry date.	
	Transpower applies for any output amendment and there is a corresponding adjustment to the approved allowance.	
	Commissioned assets enter RAB. The proposed incentive adjustments would be applied. This would be a new step.	

Verification for IPP proposals

Existing verification provisions

231. Section 54S of the Commerce Act sets out the requirement for the Commission to prepare the capex IM for Transpower and lists the matters that the capex IM must cover, including the extent of independent verification and audit.[154]

232. In our 2012 reasons paper we explained that we decided not to adopt a verifier for Transpower's IPP proposals because we considered that self-verification in the form of certification would be sufficient.[155]

[154] Commerce Act 1986, s 54S.

Problem definition

233. With the benefit of our experience since 2012, our view is now that there may be an opportunity to deliver a better result for consumers through the introduction of independent verification.

234. Our experience with the RCP2 IPP reset was that a significant amount of work was required (by both us and Transpower) after we received the proposal that may have been able to be avoided if an independent verifier had been involved prior to Transpower submitting its proposal. Our experience with the CPP application process for electricity distributors is that a verifier can front load this work and could significantly improve the efficiency and effectiveness of the reset process, result in a more appropriate level of forecast expenditure, and ultimately deliver a better outcome for consumers.[156]

Proposed solution

235. Our proposed solution is to not formally introduce a verification process for Transpower's IPP proposal via an amendment to the capex IM at this time. Rather, we propose to implement verification as a pilot for RCP3 via agreement with Transpower.[157, 158] We would then evaluate the success of the pilot and would consider setting verification requirements in the capex IM before RCP4. While we are not proposing to include verification in the capex IM at this stage, we consider it useful to explain our reasons for piloting verification below.

Verification of IPP proposals presents an opportunity

236. Verification presents an opportunity to increase the effectiveness and efficiency of the IPP reset process.[159] This would create benefits for consumers, us, and Transpower.

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155 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), paras 9.2.1-9.2.14.

156 Some of our reasons for proposing verification for IPP proposals are the same as our reasons for adopting verification for CPPs, while others are different.

157 Our current view is that verification would apply to both capex and opex.

158 Transpower indicated during initial discussions that it is open to the idea of using a verifier for RCP3.

159 Individual price-quality regulation for Transpower took effect from 1 April 2011. The current IPP for Transpower started on 1 April 2015. Transpower's third IPP will be set for a five-year period from 1 April 2020 to 31 March 2025.

237. We consider the key benefits of verification are that it would:[160]

237.1 improve our decision-making by testing, in advance of us receiving the proposal, the assumptions that underpin Transpower's forecast information on proposed capex projects, operating expenditure, and demand. This would help to ensure Transpower's regulated assets are efficiently planned, built, enhanced and maintained;[161]

237.2 provide useful insights to Transpower in terms of potential operational improvements it could make;[162]

237.3 help to mitigate the risk of any potential incentives on Transpower to provide overly generous estimates;[163] and

237.4 result in better scrutiny of Transpower's investment proposals prior to them being submitted to the Commission, which may result in a more appropriate level of forecast expenditure. For example, as a result of the verification process, Powerco reduced its proposed capex forecast by $51 million (a 5.6% reduction) and opex forecast by $23 million (a 4.8% reduction).[164]

Possible approach to verification for IPPs

238. The purpose of introducing verification for Transpower's IPP proposals would be to increase the effectiveness and efficiency of the IPP reset process.

239. This would be achieved through additional and earlier independent scrutiny of Transpower's IPP proposal, which would likely improve our confidence in the accuracy of, and justifications for, its forecasts, and would likely improve the quality and focus of the scrutiny that we can bring.

240. In addition, if we ultimately decide to set the verification requirements in the capex IM, this would promote certainty for Transpower and consumers about the verification process and scope.

241. A verifier would be engaged to provide an independent verification report to accompany Transpower's IPP proposal.

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160 Although these benefits would also occur to some extent under our existing processes for assessing Transpower's IPP proposals, verification would provide an increased likelihood of finding potential reductions in forecast expenditure, and these would be found in advance of us receiving the IPP proposal.

161 This will promote s 52A(b) by improving efficiency.

162 This will promote s 52A(b) by improving efficiency.

163 This will promote s 52A(d) by limiting Transpower's ability to extract excessive profits.

164 This will promote s 52A(b) by improving efficiency and s 52A(d) by limiting Transpower's ability to extract excessive profits.

242. Similar to the CPP verification process, we anticipate that the role of the verifier would be to:[165]

242.1 assess Transpower's IPP proposal in accordance with terms of reference specified in a tripartite deed (see paragraph 246 below);

242.2 ascertain the extent to which Transpower's relevant policies, strategies and procedures have been applied in practice;

242.3 review the IPP proposal to ensure that it is sufficiently complete in content, prior to our review;

242.4 assess the extent to which Transpower would be able to deliver its capex and opex forecasts during the regulatory period;

242.5 report on the extent and effectiveness of Transpower's engagement processes;

242.6 indicate any areas where they were unable to reach a firm or confident conclusion; and

242.7 be available to answer our questions on the report.

243. Transpower would have the opportunity to revise its IPP proposal in light of the verification report before it submits its proposal to us.

244. Unlike the CPP verification process, we would explore tailoring the IPP verification requirements (which we would set out in the terms of reference) to target the areas where we think verification would add the most value. Our approach would likely vary for each expenditure category, depending on the nature of the expenditure.

245. As part of tailoring the verification requirements, we would need to consider the scope and depth of verification for each expenditure category consistent with our 'proportionate scrutiny' principle. This is something we would need to work through with Transpower, taking into account what is workable given the time available between now and Dec 2018 (when Transpower must submit its IPP proposal to us).

246. As in the CPP context, we expect that each verifier would be engaged by way of a tripartite deed between Transpower, us, and the verifier. The tripartite deed would set out the relative accountabilities between the parties.

Our role in relation to the verifier

247. Our assessment of Transpower's IPP proposals and our decision on the amount of revenue and level of quality that would apply to Transpower for each regulatory control period would be informed, in part, by the verifier's (or verifiers') report(s).

[165] The role of the verifier for CPP proposals is set out in schedule G of the capex IM.

248. We need to make an informed and independent decision on every occasion, based on the whole of the evidence at the time, as to what we look at and how much scrutiny we give to different aspects of an IPP proposal. The verifier's report is therefore only a piece of the probative evidence that we would take account of when exercising our decision-making discretion, including on how much scrutiny we give to different aspects of a proposal.

249. We anticipate that the quality of the verifier's report would be a factor determining how much weight we attach to it. For example, where we consider the report is of a high quality we are likely to have greater confidence in the report and attach more weight to it in our decisions. In contrast, if we consider the report to be of lower quality we might attach less weight to it.

How we propose to implement verification for Transpower's RCP3 proposal

250. For the RCP3 proposal we propose to implement verification as a pilot, by agreement with Transpower. In the event that we are unable to agree the verification process and terms with Transpower ahead of RCP3, we would follow our existing process for assessing Transpower's IPP proposal for RCP3 and would consult on possible verification requirements in the IMs before RCP4.

251. We are proposing to not set verification requirements in the capex IM at this stage, as a pilot would allow us to test and improve our process, as well as refine any terms of reference which might eventually be included in the IMs. After the pilot we would evaluate its success and consider setting verification requirements in the IMs before RCP4.

252. We consider that we would be able to implement the verification pilot without making changes to the processes and timeframes currently set in the capex IM.

Next steps

253. For RCP3, we anticipate that a verifier would need to be engaged during Q1 2018. As such, to preserve verification as an option for RCP3, we will continue discussions with Transpower about a verification pilot for RCP3 alongside this consultation on our draft decision. These discussions will help us to develop our views on verification and, in conjunction with formal submissions on our draft decision, will help inform our final decision on whether to formally adopt verification in the capex IM as part of the capex IM review (or whether to proceed with a pilot, or whether to do neither).

CHAPTER 4: Information and engagement

Purpose of this chapter

254. The purpose of this chapter is to:

254.1 explain the problems we have identified in relation to:

254.1.1 the information requirements in the capex IM; and

254.1.2 Transpower's engagement with stakeholders including its incentives to favour capex or opex solutions;

254.2 set out our proposed solutions to those problems; and

254.3 explain our reasons for those proposed solutions.

Structure of this chapter

255. This chapter discusses the key problems within the information and engagement topics that we consider need addressing through changes to the capex IM. The key problems we have identified in these topics relate to:

255.1 Transpower's engagement with stakeholders;

255.2 communication of the impact of a proposed investment on transmission prices; and

255.3 base capex information requirements.

256. For the problems in each of these areas, we set out our proposed solutions and explain our reasons for those proposed solutions.

257. Last, we summarise issues raised by stakeholders about the ITP that we do not consider amount to problems to be addressed by the capex IM review.

Transpower's engagement with stakeholders

Engagement on transmission alternatives – problem definition

258. Many stakeholders are seeking more transparency on Transpower's investment decisions and clearer information about potential opportunities for transmission alternatives. For example:

258.1 MEUG submitted:[166]

> Transpower's engagement with its contractual counterparties, other stakeholders and consumers in general has been continually improving. The following suggestions are therefore about continuing that good work. We think it is useful to remember Transpower is a monopoly and the Commerce Commission, consumers and other parties have and will continue to have an information asymmetry problem across a range of engagements including those relevant to the Capex IM. One part of the solution to the information asymmetry problem is to facilitate transparency of information.

258.2 Genesis submitted:[167]

> …benefits would flow from greater third party engagement because greater engagement means greater transparency. In a number of recent submissions, Genesis has advocated for increased transparency around the investment decisions made by regulated monopolies, particularly electricity distribution businesses (EDBs).

259. Transpower's incentives for different types of investment was a key theme from some stakeholders in response to the focus areas paper. A number of submissions suggested that the capex IM should require Transpower to consider transmission alternatives for both base capex and major capex. For example:

259.1 Pioneer suggested Transpower should be required to consider transmission alternatives for both base capex and major capex;[168] and

259.2 IEGA submitted that consideration of transmission alternatives should have equal weight in both base capex and major capex processes.[169]

260. In our view, the long-term benefits for consumers are best served when Transpower is investing efficiently, whether it is using traditional capex solutions or alternative options. The current level of innovation in the electricity industry and the increasing options for transmission alternatives mean the full benefits of such alternative options are both uncertain and potentially significant.

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166 MEUG "MEUG submission on Transpower capex input methodology review" (14 June 2017), para 20.

167 Genesis Energy submission "Transpower capex input methodology review: Emerging views on incentive mechanisms" (22 September 2017), p. 2.

168 Pioneer Energy submission on focus areas consultation paper "RE: Transpower capex input methodology review – Proposed focus areas" (14 June 2017), p. 1.

169 IEGA submission on focus areas consultation paper "RE: Commerce Commission review of Transpower Capital Expenditure Input Methodology" (14 June 2017), p. 2.

261. We outlined in our emerging views paper that it is appropriate for us to consider both:

261.1 the incentive on Transpower to consider all available options (including any bias towards opex or capex solutions); and

261.2 Transpower's engagement with external parties in both identifying and considering transmission and non-transmission investment options. We considered that third-party scrutiny and engagement in investment decisions would help to enhance investment choices for the long-term benefit of consumers.

262. We also outlined how we considered that the current incentive regime is designed to ensure that Transpower is generally indifferent to providing opex or capex solutions (ie, both opex and capex provide approximately a 33% incentive rate)[170] and therefore that Transpower should be incentivised to deliver the least cost solution, whatever form it might take.[171] We do not consider our proposed change to the base capex incentive rate (ie, providing for a standard incentive rate and a lower incentive rate) will affect Transpower's indifference between opex and capex solutions, because the lower incentive rate is only applied to specific identified projects where we consider there are no workable opex or capex alternatives.

263. However, we also noted there could be wider incentives that could potentially affect Transpower's incentives to invest in capex or opex (ie, the existence of 67th percentile WACC estimate, the ability for capex to enter a regulated asset base, and the scrutiny applied by EDBs to Transpower's investments).[172]

264. We also considered the current investment process for the two types of capex categories:

264.1 For major capex projects, our emerging view was that Transpower's engagement processes appeared to be robust and we proposed no changes to the engagement requirements;[173] and

264.2 For base capex projects, our emerging view was that improvements could be made to the current processes to better ensure the most appropriate investment options are identified on an ongoing basis.[174]

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170 The exception is for major capex projects, which are subject to different incentives and which we are proposing to change.

171 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 52.

172 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 53.

173 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 63.

174 Commerce Commission "Transpower capex input methodology review – Emerging views on incentive mechanisms" (1 September 2017), para 67.

265. We agree with Transpower's view that potential transmission alternative providers should consider joining its demand response program as an efficient way to engage with Transpower.[175] We also agree that Transpower already provides a significant amount of information in its various reports (including in its TPR) and adding mandatory consultation steps is unlikely to increase benefits commensurate with the increase in costs.

266. However, we want to ensure third parties have the opportunity to engage with Transpower about potential transmission investments so that the most appropriate investment options are identified on an ongoing basis. We also want to enable stakeholders (including the Commission) to assess whether Transpower's level of engagement with stakeholders is appropriate.

Engagement on transmission alternatives – proposed solution

267. For major capex we propose to retain the current engagement process specified in the capex IM and rely on the existing process as well as the proposed changes to the major capex incentive mechanism to incentivise Transpower to undertake appropriate major capex investment.

268. This approach is consistent with a number of submissions supporting our view that the major capex process is robust and does not require a change to the process. For example, Contact suggested that:[176]

> The Commission has proposed retaining the current $20m growth capex threshold for major capex projects. In our view Transpower is productively engaging with third parties and considering non-transmission solutions for these projects. We agree that no change to the process is required.

269. We also propose to retain the existing engagement requirements for base capex investment. After considering submissions, we consider that:

    269.1 there is no strong evidence that the investment settings (eg, incentive rates) are causing significant bias towards opex or capex investment by Transpower; and

    269.2 formal requirements to increase engagement and scrutiny for base capex projects would not provide benefits that outweigh the administrative cost of implementing such requirements.

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[175] Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 3.

[176] Contact Energy submission "Re: Transpower capex input methodology review: Emerging views on incentive mechanisms" (22 September 2017), p. 2.

270. Although we propose no change to formal consultation requirements for individual projects we do consider the engagement of Transpower with its stakeholders (both consumers and third party service providers) is an important part of the base capex investment decision-making process. Transpower needs sufficient information to ensure that it is making appropriate investment choices to deliver transmission services at an efficient cost. It is also important that stakeholders (including the Commission) are able to assess whether Transpower has undertaken appropriate engagement in relation to its base capex investment decisions.

271. Therefore, we propose to make a change to Transpower's information disclosure requirements that will require Transpower to report annually in relation to base capex on:

    271.1 whether it has engaged with stakeholders and, if so, how it has engaged with stakeholders;

    271.2 how effective it considers that engagement has been; and

    271.3 how satisfied stakeholders were with the engagement process based on the views expressed by stakeholders.

272. This new information disclosure reporting requirement would enable us and interested parties to monitor stakeholder engagement, including assessing whether it is at an appropriate level to promote the Part 4 purpose, but at the same time provide flexibility to Transpower to ensure any engagement is fit for purpose and communicated effectively.

273. We consider that requiring Transpower to report on its engagement processes in relation to base capex would, over time, promote the Part 4 purpose by leading to increased third-party scrutiny and engagement about potential investments because:

    273.1 stakeholders would be more informed about the extent of consultations and whether the level of engagement was appropriate to promote the Part 4 purpose;

    273.2 stakeholders would gain a better understanding of Transpower's engagement processes and how they can best engage with Transpower; and

    273.3 an increased focus on Transpower's engagement processes will likely encourage Transpower to continue to make improvements in this area.

274. Rather than setting specific consultation requirements, this approach should encourage Transpower to seek feedback from its stakeholders on how its consultation can be improved, allowing flexibility about how Transpower then does that.

275. In our view, a greater focus on effective consultation would allow for a wider variety of investment options, enhance protection for consumers against inefficient investment, and ensure the full benefits of innovation in the electricity industry are realised.[177]

276. We appreciate the submissions on this issue, including one from Contact on how a more formalised process could be implemented for base capex projects including a public request for proposals to solve specific transmission requirements.[178] However, after reviewing the material available, we consider that Transpower provides a significant amount of information about the ongoing needs of the network in its network planning report and integrated transmission plan.[179]

277. We note that there is a trade-off between greater formalised processes for engagement to increase stakeholder involvement, but this comes at the expense of greater administrative costs for Transpower.[180] At this stage we have no significant evidence that more efficient alternative investments are being rejected by Transpower under the current process.

278. In response to our consideration of Transpower's potential bias towards capex or opex MEUG suggested that:[181]

> The paper says "the cumulative impact of all the incentives on Transpower investment decisions is unclear" and cites the example where an opex solution may be preferred because a capex solution might have stranding risk. MEUG suggests an estimate of the direction and the cumulative effects is needed to ensure an appropriate offset is considered for the IM incentives mechanism. It is insufficient for the Commission to list the non-IM factors that influence incentives on Transpower and then assume because no party makes submissions on the materiality of those factors that they need not be considered. Absent quantitative estimates being made a qualitative estimate would be better than none. On that basis MEUG's qualitative view is that overall the non-IM incentives are likely to be biased in favour of capex over opex and for Transpower to select safe rather than innovative options because of weak countervailing power. Hence, there is a case to consider asymmetric incentives.

279. Although we recognised in our emerging views paper the potential for there to be a potential bias towards capex over opex solutions, we do not consider there is currently evidence to suggest that the bias is strong, if it exists at all.

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177 This will promote s 52A(b) by improving the efficiency of Transpower's investment decisions.

178 Contact Energy submission "Re: Transpower capex input methodology review: Emerging views on incentive mechanisms" (22 September 2017), pages 3-4.

179 Relevant material for RCP2 is available at: https://www.transpower.co.nz/industry/regulatory-control-periods/rcp2/updates.

180 Transpower submission on emerging views "Capex IM review: Incentive mechanisms" (22 September 2017), p. 3.

181 MEUG "MEUG submission on Transpower capex input methodology incentive mechanism" (22 September 2017), para 6.

280. Capex investments could remain an efficient option for a number of Transpower's projects and there is a significant risk that changing the incentive settings (eg, raising the capex incentive rate such that it is higher than opex) and/or investment scrutiny could increase the costs of those projects or result in sub-optimal investment choices. Given this risk, we propose to retain the current incentive settings.

Engagement on demand forecasting scenarios – problem definition

281. The capex IM requires Transpower to include in the ITP overviews of assumptions, key uncertainties in assumptions, and scenarios used to determine expenditure forecasts and grid outputs.[182] The capex IM also requires Transpower to include in its planning report demand and generation forecasts for the forthcoming 10 years.[183]

282. Some stakeholders have raised concerns relating to Transpower's demand forecasts. For example:

    282.1 ENA considered demand forecasting scenarios should be aligned across the whole sector, particularly given the role transmission alternatives will likely play;[184]

    282.2 IEGA suggested the demand forecasts should take into account lower distributed generation (**DG**) volumes as a result of the Electricity Authority's Distributed Generation Pricing Principles (**DGPP**) changes;[185] and

    282.3 MEUG considered forecasts should have more quantification and cover an appropriate horizon, and provided detailed analysis on demand forecasting.[186] MEUG also submitted that Transpower should be encouraged to make decisions that reflect consumer preferences for managing grid reliability impacts or a small number of peaks.[187]

283. We agree that better engagement between stakeholders and Transpower about demand forecasts is likely to lead to more robust forecasts and therefore better decisions on investment needs. However, we also consider that adding mandatory consultation steps is unlikely to increase benefits more than the increase in costs.

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182 Capex IM, clauses E2(1)(a)-E2(1)(c).

183 Capex IM, clause E5(2).

184 ENA "Re: Transpower capex IM review – ENA submission Re: Transpower capex IM review – ENA submission" (14 June 2017), p. 2.

185 IEGA submission on focus areas consultation paper "RE: Commerce Commission review of Transpower Capital Expenditure Input Methodology" (14 June 2017), p. 2.

186 MEUG "MEUG submission on Transpower capex input methodology review" (14 June 2017), para 9(c); and Mike Hensen (on behalf on MEUG) submission on focus areas consultation paper "Advice on Transpower Capex Input Methodology" (14 June 2017).

187 MEUG "MEUG cross-submission on Transpower capex input methodology review" (29 June 2017), p. 2.

Engagement on demand forecasting scenarios – proposed solution

284. As part of our proposal for Transpower to disclose the extent of its engagement with stakeholders in relation to base capex, Transpower would also be required to explain whether it has engaged with stakeholders about demand forecasts and, if so, how it has engaged with stakeholders and how effective that engagement has been.[188]

285. For similar reasons as noted in paragraph 273 above, we consider that this is a low-cost approach that should enable stakeholders to assess whether the level of engagement is appropriate to promote the Part 4 purpose, lead to improved engagement about Transpower's demand forecasts, and ultimately to more robust forecasts and therefore improved investment decisions which would better promote the Part 4 purpose.

Impact of a proposed investment on transmission prices and explanation of the benefits delivered by the investment

Problem definition

286. The current information requirements do not require Transpower to provide an estimate of the impact of its capex on consumer charges or explain the benefits that consumers will receive from the investment. Consumers have submitted that this information is important to them; MEUG, in particular, has often asked for the information as part of past consultation processes:

> MEUG suggests a supplier in a competitive market setting would advise customers of such expected future increases in charges and explain the additional benefits that customer will receive. The same commercial approach should apply to Transpower enforced either by a new term in the Transmission Agreement (pursuant to the Code) or a requirement in the Capex IM.[189]

287. Transpower has been providing the impact on charges on request for a number of years. When requested, the information Transpower provides is the increase in cost per kW of demand and per kWh of energy supplied. While the impact on prices in these formats is useful, some consumers find it difficult to engage with the information.[190]

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188 Paragraphs 267 to 272.

189 MEUG "Submission on reconductoring the Central Park Wilton B line" (4 May 2017) para 5. http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-individual-price-quality-regulation/transpowers-price-quality-path-from-2015-to-2020/.

190 NZIER Attachment to MEUG submission on CPK WIL draft decision – 4 May 2017, p. 1. http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-individual-price-quality-regulation/transpowers-price-quality-path-from-2015-to-2020/.

Proposed solution

288. Our proposed solution is to require Transpower to provide an estimate of the future increase in prices and explain the additional service and system benefits consumers will receive due to the proposed RCP expenditure (contained on the base capex proposal) and expenditure on each listed and major capex project.[191]

289. The estimate of future increase in prices would include:

289.1 estimated increase in prices per kW of demand;

289.2 estimated increase in prices per kWh of energy supplied; and

289.3 for each affected EDB and direct connect consumer, an estimate of the change in transmission charges.

290. Transpower would be required to explain the system and service benefits in a manner that will allow consumers to engage with the benefits provided by the investments. Service benefits should include the regions that will benefit from investment. Some examples of service and system benefits include:

290.1 an increase in transmission capacity by *x* MVA into regions *h, j, k*. This increase is expected to be able to supply demand for the next α years;

290.2 a reduction in system losses by *y* MWh per annum (or other time period such as during peak). This is expected to reduce prices by *z%* at the relevant nodes; and

290.3 allowing the connection of *g* MW of additional generation. This is expected to increase competition in the *h, j, k* regions.

291. The information on prices will allow interested parties to assess the impact on their costs by using the pricing structure of their EDBs. It will allow more meaningful participation by parties most affected by the proposed investments in the grid and may allow affected parties to influence the price-quality trade-offs. Ultimately, this should better incentivise Transpower to provide services at a quality that reflects consumer demands.[192]

292. We propose to give effect to our proposed solution via new clauses in Part 7 of the capex IM.

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191 These metrics were suggested by NZIER. See NZIER "Attachment to MEUG submission on CPK WIL draft decision" (4 May 2017), pages 1-2.

192 Commerce Act 1986, s 52A(1)(b).

Base capex information requirements

Problem definition

293. Schedule F sets out the information Transpower is required to provide with its base capex proposals. There are opportunities to refine some of the information requirements for base capex set out in Schedule F to make them clearer, less complex and less prescriptive.[193] Many of these issues were raised by Transpower, who proposed a number of changes to the information requirements.[194]

Proposed solution

294. Our proposed solution is to amend Schedule F to:

294.1 require information that may be valuable to us in assessing the base capex proposal in an environment where we move towards having a greater focus on outputs and incentives, the integrity of data on asset condition and asset criticality, and the expected future role of the grid;

294.2 exclude requirements that we no longer consider to add value to our assessment of the proposal; and

294.3 refine requirements that are either unclear, or unnecessarily complex or prescriptive.

295. Further details on our proposed changes to Schedule F, and the reasons for those proposed changes, are provided in Attachment B. The proposed changes themselves will be shown in the draft determination.[195]

296. In summary, our proposed changes to Schedule F are intended to remove ambiguities, correct errors, or reduce unnecessary complexity and compliance costs, consistent with promoting the s 52R purpose.

Integrated transmission plan

297. The capex IM requires Transpower to publish an ITP in December 16 months before the start of a regulatory period. During the RCP, the capex IM requires Transpower to provide an update of the ITP narrative by the end of September for each disclosure year except the last year of the RCP.[196]

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193 Schedule F of the capex IM sets out the Qualitative information required to support the base capex proposal.

194 Transpower "Transpower additional information Capex IM review – Appendix" (15 August 2017). Available at: http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/transpower-input-methodologies/capex-input-methodology-review/.

195 We expect to publish the draft determination by 22 November 2017.

196 Capex IM, clauses 2.1.1 and 3.1.1.

298. Stakeholders have submitted that Transpower should consider updating the ITP half-yearly or quarterly to reflect changes.[197] This would bring Transpower's reporting into line with that of large listed companies.

299. We have reviewed the purpose of the ITP and consider that more frequent publication of the ITP would be of limited benefit, while the costs to Transpower (and ultimately consumers) could be significant. The purpose of the ITP is to provide an overview of the long-term development of, and activities on, the grid.[198] The pace of change in these areas is normally too slow to warrant more frequent updates.

300. However, we consider that Transpower should reflect and, as part of its yearly updates to the ITP narrative, explain in detail any changes in the future requirements of the grid due to changing circumstances. An example of this would be explaining how the conclusions of Transpower's Transmission Tomorrow are likely to affect future investment needs of the grid.

197 MEUG "MEUG submission on Transpower capex input methodology review" (14 June 2017), para 12a.

198 Commerce Commission "Transpower capital expenditure input methodology: Reasons paper" (31 January 2012), para 2.7.1.

Attachment A: Regulatory context

Purpose of this attachment

A1. The purpose of this attachment is to provide context for the capex IM review by providing an overview of the regulation that applies to Transpower.

Transpower's role

A2. Transpower is a state-owned enterprise that owns and operates New Zealand's high voltage electricity transmission system (ie, 'the national grid'). Transpower transmits electricity from generators to substations at grid exit points where it is supplied to local electricity distribution businesses or large industrial consumers.

A3. Apart from the transmission of electricity throughout the national grid, Transpower also manages the real-time operation of the power system as the system operator. Transpower provides the system operator services under the System operator service provider agreement (**SOSPA**) between Transpower and the Electricity Authority.[199]

How Transpower is regulated

A4. Both we, and the Electricity Authority, have a role in regulating the electricity lines services provided by Transpower.[200]

How we regulate Transpower

A5. We regulate Transpower under Part 4 of the Commerce Act 1986 (the **Act**). 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."[201]

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199 System operator service provider agreement between the Electricity Authority and Transpower New Zealand Limited, February 2016.

200 See our fact sheet about our role in the electricity sector: Commerce Commission "Electricity and the Commerce Commission's role" (November 2012), available at: http://www.comcom.govt.nz/dmsdocument/9673.

201 Section 52 of the Act.

A6. The purpose of Part 4 is:[202]

> … 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.

A7. Section 54Q of the Act is also relevant to the capex IM. Section 54Q requires us to promote incentives, and avoid imposing disincentives, for suppliers of electricity lines services to invest in energy efficiency and demand-side management and to reduce energy losses. Demand-side management and reduction of energy losses are of particular relevance to the capex IM. The capex IM provides for such matters to be taken into account in the assessment of Transpower's capital expenditure proposals. For example:[203]

A7.1 loss reductions are included as a market benefit under our quantitative investment test for major capex.[204] This is intended to promote investment options that result in lower transmission losses over those that do not (other factors being equal);

A7.2 we require close attention be given to the process for identification and consideration of transmission alternatives.[205] This is intended to result in greater consideration being given to investment options that improve network utilisation: for example, load shifting or peak shaving, demand-inter-trip schemes and operation of local generation.

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202 Section 52A of the Act.

203 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para 1.3.11-1.3.12.

204 The investment test is an assessment of the costs and benefits of potential investments using discounting of relevant costs and benefits in the electricity market over a defined calculation period to identify a preferred investment option (set out in schedule D of the capex IM).

205 Transmission alternatives are alternatives to investment in the grid. Where use of a transmission alternative avoids a transmission investment that would otherwise be major capex, the transmission alternative is classified as a 'non-transmission solution' (see the definition of 'non-transmission solution' in the capex IM).

A8. Under Part 4, Transpower is subject to two types of regulation:

A8.1 IPP regulation:[206] This determines the maximum revenues that Transpower can recover from consumers, as well as the quality standards it must meet, for each year of each five-year regulatory period.[207] The IPP for the current 2015-2020 regulatory period (**RCP2**) is set out in the *Transpower Individual Price-Quality Path Determination 2015* [2014] NZCC 35 (the **Transpower IPP Determination**).

A8.2 Information disclosure regulation (**ID**):[208] This sets requirements on Transpower to publicly disclose certain information to allow interested persons to assess whether the Part 4 purpose is being met. The ID requirements for Transpower are set out in the *Transpower Information Disclosure Determination 2014* [2014] NZCC 5 (the **Transpower ID Determination**).

A9. These regulatory mechanisms are supported by input methodologies, which set out the underlying rules, requirements, and processes. There are two input methodologies determinations that apply to Transpower:

A9.1 *Transpower Input Methodologies Determination 2012* [2012] NZCC 17 (the **Transpower IM Determination**). This determination was reviewed as part of the 2015-2016 input methodologies review.[209] It sets out methodologies for:

A9.1.1 Cost allocation;

A9.1.2 Asset valuation;

A9.1.3 Treatment of taxation;

A9.1.4 Cost of capital;

A9.1.5 Specification of price;

A9.1.6 IRIS; and

A9.1.7 Reconsideration of the price-quality path.

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206 The Commerce (Part 4 Regulation – Transpower) Order 2010.

207 Under s 53M(4) of the Act, a regulatory period must be five years, but under s 53M(5) the Commission may set a period of four years if it considers this would better meet the Part 4 purpose.

208 Section 54F of the Act.

209 We published the majority of our decisions on the 2015-2016 IM review in December 2016. Those decisions covered all aspects of the Transpower IM Determination except for decisions on the incremental rolling incentive scheme, which were published on 29 June 2017.

A9.2 *Transpower Capital Expenditure Input Methodology Determination 2012* [2012] NZCC 2 (**capex IM**). This determination sets out the capex IM and is the subject of the current review. Broadly, the Transpower capex IM currently does five things:

A9.2.1 Sets out the process for submitting, assessing, and approving Transpower's base capex proposals;

A9.2.2 Sets out the process for submitting, assessing, and approving Transpower's major capex proposals;

A9.2.3 Sets out a number of capex-related incentives, which are applied through the IPP;

A9.2.4 Sets out the requirements for Transpower to propose grid output measures, which are then set as quality measures in the IPP; and

A9.2.5 Sets out the requirements for Transpower to provide an Integrated Transmission Plan (**ITP**). The purpose of the integrated transmission plan is to explain Transpower's view of the long-term operation and development of the grid.

A10. Part 4 applies to both the transmission services and system operator services supplied by Transpower.[210] However, we have not included the revenues and costs associated with Transpower's system operator services in the IPP. This is because we consider the existence of a separate arm's-length contract (the SOSPA referred to above) between Transpower and the Electricity Authority for these services should result in outcomes consistent with the Part 4 purpose for those services. As such, the capex IM does not currently apply to capital expenditure relating to the SOSPA.[211]

The Electricity Authority's role in regulating Transpower

A11. The Electricity Authority's statutory objective is to promote competition in, reliable supply by, and the efficient operation of, the New Zealand electricity industry for the long-term benefit of consumers.[212] The Authority develops, administers and enforces market rules, contracts with service providers to operate the electricity market and system, and analyses and monitors performance of the electricity market and industry.

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210 Section 150(1) of the Electricity Industry Act 2010 clarifies that system operator services are included as part of the conveyance of electricity by line and hence are regulated services under Part 4.

211 For similar reasons, the capex IM will not usually apply to capital expenditure relating to contracts for transmission services between Transpower and another party where the party that is contracting with Transpower agrees in writing that the terms and conditions are reasonable or reflect workable or effective competition for the provision of the goods and services. These are referred to as 'new investment contracts'. See: Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para 2.4.14.

212 See: http://www.ea.govt.nz/.

A12. The Electricity Authority's functions with respect to Transpower include:

A12.1 Setting grid reliability standards (**GRS**).[213] The GRS are a set of standards against which the reliability performance of the existing grid (or future developments to it) can be assessed.

A12.2 Setting the guidelines that Transpower must follow when developing the transmission pricing methodology (**TPM**). The TPM sets out how Transpower's total transmission revenue (as approved by the Commission) is allocated between transmission customers that are required to pay the charges calculated under the TPM. The Electricity Authority is currently reviewing the TPM guidelines.

A12.3 Setting requirements regarding the use, and contents, of transmission agreements, including setting a default transmission agreement. Transmission agreements are the contracts Transpower has with distribution companies, major users that are directly connected to the grid, and generators that are directly connected to the grid.

A12.4 Establishing requirements regarding interconnection asset services – for example, providing information on capacity, reliability, and availability of those assets.[214]

A12.5 Contracting Transpower to provide system operator services. The system operator is responsible for the real-time operation of the power system, including scheduling and dispatching electricity, in a manner that avoids undue fluctuations in frequency and voltage on the transmission grid.

A12.6 Contracting Energy Market Services, a division of Transpower, to act as financial transmission rights (**FTR**) manager. The FTR manager is responsible for the creation and allocation of FTRs.

Linkages between our regulation of Transpower and that of the Electricity Authority

A13. Section 54V of the Act sets a number of requirements for us and the Electricity Authority to interact on certain matters relating to our respective roles in regulating the electricity industry, including Transpower. We also have a memorandum of understanding with the Electricity Authority with respect to our respective roles in the electricity industry.[215]

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213 The GRS are set out in Schedule 12.2 of the Electricity Industry Participation Code 2010 (the **Code**).

214 Subpart 6 of Part 12 of the Code.

215 Memorandum of Understanding between the Electricity Authority and the Commerce Commission, (December 2010), available at: http://www.comcom.govt.nz/dmsdocument/9414.

A14. Some aspects of the Electricity Authority's role with respect to Transpower are particularly relevant to the capex IM review:

A14.1 The GRS that the Electricity Authority has set in the Code are incorporated by reference into our definition of major capex as well as the investment test we apply when assessing major capex proposals.[216]

A14.2 The Electricity Authority's concept of 'good electricity industry practice' is incorporated by reference into the capex IM as follows:[217]

A14.2.1 as a factor we may consider when evaluating a major capex proposal;[218]

A14.2.2 Transpower must demonstrate how a proposed major capex investment reflects good electricity industry practice;[219] and

A14.2.3 under the investment test for major capex, Transpower must quantify its project costs using good electricity industry practice.[220]

A15. The Electricity Authority is currently reviewing the TPM guidelines and considering new TPM guidelines that would lead to a change in the way transmission charges are shared among transmission customers.[221] Relevantly, the Electricity Authority's proposal would involve changes that are more service-based and cost-reflective. If the proposed changes are adopted, we expect this would heighten the interests of parties that would benefit from (and pay for) specific transmission investments in our processes for assessing Transpower's capex proposals.

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216 Capex IM, clause 1.1.5 & Schedule D.

217 'Good electricity industry practice' is defined in Part 1 of the Code as: **good electricity industry practice** in relation to transmission, means the exercise of that degree of skill, diligence, prudence, foresight and economic management, as determined by reference to good international practice, which would reasonably be expected from a skilled and experienced **asset** owner engaged in the management of a transmission network under conditions comparable to those applicable to the **grid** consistent with applicable law, safety and environmental protection. The determination is to take into account factors such as the relative size, duty, age and technological status of the relevant transmission network and the applicable law [bold terms in original].

218 Capex IM, clause C2(a)(i).

219 Capex IM, clause G5(12).

220 Capex IM, clause D7(6).

221 See: http://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/transmission-pricing-review/.

Attachment B: Summary of capex IM review draft decisions

Introduction

Purpose of this attachment

B1. The purpose of this attachment is to provide a summary of our draft decisions for the capex IM review and explain our reasons for why we have, or have not, proposed a change.

B2. This attachment records our draft decisions on whether to change the capex IM as a result of the capex IM review to date. For those aspects of the capex IM we are proposing to change, it explains how and why. It also explains our reasons for the aspects we propose not to change as part of the capex IM review.

B3. The main body of this paper explains our proposed solutions to the problems identified within each key topic. Most of those proposed solutions involve changes to the capex IM, but some involve proposed changes to other aspects of the Part 4 regime. For example, we are proposing to amend the information disclosure requirements for Transpower to introduce requirements for Transpower to report on its engagement with stakeholders. As explained in paragraphs B147 to B149 below, we are proposing to consult on consequential ID changes, which we anticipate would take effect from the start of RCP3.

B4. This attachment records our draft decisions on how we propose to change the capex IM to give effect to those proposed solutions. For those draft decisions (ie, that are driven by a proposed solution to a problem discussed in the main body of this paper), we generally refer back to the reasoning in the relevant chapter rather than repeating the reasoning in this attachment.

B5. This attachment also presents a number of proposed changes to the capex IM that were driven from our effectiveness review, rather than as solutions to problems identified within the key topics. The bulk of these changes are aimed at clarifying the rules, removing ambiguities, correcting errors, or reducing unnecessary complexity and compliance costs. We consider that, collectively, these should better promote s 52R by increasing certainty about what the rules are, as well as reducing complexity and compliance costs.

B6. This attachment is framed in terms of the existing capex IM decisions (as set out in the 2012 capex IM reasons paper[222] and 2014 listed projects reasons paper[223]) and whether we are proposing to change them.[224]

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222 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012).

223 Commerce Commission "Amendments to input methodologies for Transpower to provide a listed project mechanism: Reasons paper (27 November 2014).

224 The existing capex IM decisions were also set out (along with the relevant determination clauses and chapter references) in Table B2 in our focus areas paper.

B7. The way we propose to give effect to the draft decisions described in this attachment is presented in the draft amended capex IM determination, which we expect to publish by 22 November 2017.

Structure of this attachment

B8. Following this introductory section, this attachment is divided into three parts:

B8.1 Part 1 lists those aspects of the capex IM where our draft decision is to make a change;

B8.2 Part 2 lists those aspects of the capex IM where our draft decision is to make no changes; and

B8.3 Part 3 summarises the timing and transition provisions in the draft capex IM Determination.

PART 1: Capex IM draft decisions where a change is proposed

Introduction to Part 1

B9. This Part lists those aspects of the capex IM where our draft decision is to make a change. In each section:

B9.1 we state the relevant existing capex IM decision;

B9.2 we explain our draft decision to make a change; and

B9.3 we explain the reasons for our draft decision.

Capex IM framework

Capex IM – Core framework[225]

B10. Our decision in 2012 was to classify capital expenditure either as base capex or major capex for the purpose of regulatory approval. Major capex projects are undertaken to enhance the service potential for the national grid and where the investment value is expected to exceed $20 million. Transpower is required to seek approval of a major capex project on a project-by-project basis. In practice, approval had to be sought early in the projects lifecycle so Transpower can recover all its costs.

B11. As discussed in paragraphs 204 to 206 above, approval at an early stage of some project incurs large amounts of uncertainties that complicate the major capex mechanisms. The proposed changes to the major capex incentive mechanisms, discussed in Chapter 2, would mitigate some of these complications but some projects could still have large cost uncertainties that could potentially undermine the proposed incentive regime.

[225] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 2.4.

B12. Our draft decision is introduce the option of staged approval to allow us to approve agreed stages of an MCP to reduce uncertainties in costs. In addition, staging would enable options to better manage uncertainties in need and timing of the project, as discussed in paragraphs 209 to 229 above.

B13. As part of our staged approval proposal, our draft decision is to make the following consequential changes to the capex IM:

B13.1 introduce a new definition for 'major capex project (staged)' and include 'major capex project (staged)' along with 'major capex project' throughout the determination;

B13.2 amend definitions to allow for staged major capex projects such as 'investment options', 'proposed investment' and 'major capex project outputs';

B13.3 update the rules for submitting a major capex proposal;

B13.4 update the rules for approving or rejecting a major capex proposal;

B13.5 update the information requirements for major capex proposals in Schedule G; and

B13.6 update the major capex consultation requirements in Schedule I.

B14. Our decision in 2012 was that base capex would be subject to ex-ante approval (prior to the regulatory period) of a base capex allowance for each year of the regulatory period.

B15. As discussed in paragraphs 153 to 154 above, our experience to date has been that this allowance can be difficult to determine because E&D projects are dependent on demand growth, which can be difficult to forecast with any certainty.

B16. Our draft decision is to amend the capex IM to introduce the option of a demand-based trigger for base capex E&D projects.

B17. Details of our draft decision and our reasons are set out in paragraphs 155 to 161 above.

Base capex incentive and output framework

Base capex expenditure adjustment[226]

B18. Our decision in 2012 was to set a symmetric incentive for base capex to be given effect through a revenue adjustment calculated on an annual basis. We required the base capex expenditure incentive mechanism to be applied with reference to the difference between forecast commissioned assets and actual commissioned assets.

[226] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 3.3.

B19. As explained in paragraphs 131 to 136 above, we now consider a commissioned-based incentive potentially deters the commissioning of assets, and may create forecasting issues and cash-flow volatility.

B20. Our draft decision is to amend the capex IM to move to an expenditure-based incentive mechanism for base capex.

B21. Details of our draft decision and our reasons are set out in paragraphs 137 to 142 above.

B22. We have also considered whether a restriction should be placed on the ability to remove base capex expenditure from the base capex expenditure adjustment. This ability is provided for in the calculation of the base capex expenditure adjustment specified in Schedule B1 of the capex IM.

B23. We do not consider that the Commission should have broad discretion to determine ex-post whether certain types of base capex should be excluded from the expenditure incentive because it may distort the incentive effect of the ex-ante mechanism. We consider the ability to amend the allowance is inappropriate because:

B23.1 it undermines the incentive for Transpower to undertake efficiency improvements because it may fear any gains achieved could be removed ex-post by excluding certain types of expenditure;

B23.2 if Transpower has overspent the base capex allowance it may assert that certain types of expenditure should be excluded from the adjustment mechanism to avoid any penalties under the ex-ante regime.

B24. Our draft decision is to amend the capex IM to restrict our ability to exclude certain types of expenditure from the base capex expenditure incentive to the specific scenarios when base capex projects expand in scope and become a major capex project.

B25. We have also considered whether we should retain the requirement for incentives to be calculated on an annual basis. Our experience with the annual maximum allowable revenue (**MAR**) update process during RCP2 is that the annual update process can create administrative costs for both us and Transpower for minimal benefit and can cause year-to-year volatility in the price-quality path. As part of our planning for the RCP3 reset, we are considering options for reducing these costs and volatility, including the possibility of changing the timing and frequency with which the MAR update process is carried out. The MAR update process is described in the RCP2 IPP determination. As such, changing the approach to the MAR update is a matter for the RCP3 reset consultation. Depending on the nature of any changes to the approach to updating the MAR for RCP3, it is possible that annual calculation of incentive amounts, as currently required by the capex IM, may become unnecessary.

B26. Our draft decision is not to amend the capex IM to remove the requirement for annual incentive calculations. We do not consider that changes to the capex IM should be made at this time, given the interaction of the adjustment process with the incentive mechanism calculations, and because we are yet to fully consider our approach to updating MAR for RCP3. We intend to explore alternative approaches to updating the MAR as part of the RCP3 reset consultation, and will more fully consider the interaction of the MAR update with the incentive calculations at that time. As indicated above, it is possible that amendments to the capex IM (including the requirement to calculate incentives annually) and Transpower IM determination may be required or beneficial as part of that process.

Grid output adjustment[227]

B27. Our decision in 2012 was for us to determine and for Transpower to propose a suite of grid output measures to apply to each RCP. Transpower could propose which output measures would be linked to revenue. The grid output adjustment is given effect through a revenue adjustment.

B28. The output measures that we may include, but only at Transpower's request, are related to asset capability, asset health, or any other grid output measure.

B29. We consider asset health to be a particularly important output measure for quantifying the output of replacement capex. Asset health measures establish a direct link between replacement capex and the change in the condition of the asset fleet. We understand that over the course of RCP2, Transpower has been increasingly using an asset health framework to inform its asset replacement decisions. As such, we propose to change the IMs to give the Commission the ability to determine asset health output measures and link them to revenue. We note that, through the current IPP determination, we are piloting asset health reporting measures, which should help to inform better asset health measures for RCP3.

B30. Our draft decision is to amend the capex IM to:

B30.1 require Transpower to propose performance-based measures and asset health measures; and

B30.2 allow us to determine asset health grid output measures and link them to revenue.

B31. As explained in paragraph B25 above, we have also considered whether we should retain the requirement for the incentives to be calculated on an annual basis. Our draft decision is not to amend the capex IM to remove the requirement for annual incentive calculations. Our reasons for our draft decision are set out in paragraph B26 above.

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[227] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 3.4.

Base capex policies and processes adjustment[228]

B32. Our decision in 2012 was to set an asymmetric incentive (penalty only) that required Transpower bear a portion of the costs, determined by the base capex incentive rate, for those base capex assets that were not fully subjected to Transpower's policies and processes or, in all material respects, met the requirement to undertake a cost-benefit analysis and consultation consistent with major capex.

B33. As explained in paragraphs 143 to 148 above we now consider this mechanism is ineffective.

B34. Our draft decision is to amend the capex IM to remove the base capex policies and processes adjustment.

B35. Details of our draft decision and our reasons are set out in paragraphs 149 to 152 above.

Base capex incentive rates[229]

B36. Our decision in 2012 was to set the base capex incentive rates in the IPP determination prior to the start of each RCP, which would apply for the length of the RCP.

B37. As explained in paragraphs 108 to 116 above, we now consider an incentive rate that is suitable for the majority of base capex projects may not necessarily be appropriate for larger base capex projects.

B38. Our draft decision is to amend the capex IM to apply one of two incentive rates to base capex projects, which would be a standard rate of 33% and a low rate of 15% for large base capex projects that meet specified criteria. Our draft decision is that these rates would be set in the capex IM, and would require consequential changes to the definition of 'Identified programmes' in Schedule F.

B39. Details of our draft decision and our reasons are set out in paragraphs 117 to 130 above.

Major capex incentive and output framework

Major capex efficiency adjustment[230]

B40. Our decision in 2012 was to make a capital expenditure revenue adjustment available to Transpower if it can demonstrate to the Commission's satisfaction that it has achieved positive net efficiencies across the portfolio of major capex projects during a given RCP.

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228 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 3.5.

229 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 3.6.

230 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 4.2.

B41. As explained in paragraphs 68 to 71 above, we now consider the current major capex incentive mechanisms are not operating effectively as a package to provide appropriate incentives on Transpower to act efficiently.

B42. Our draft decision is to amend the capex IM to change the major capex incentive regime to an ex-ante framework. We are proposing to replace two asymmetric ex-post incentive mechanisms (the major capex efficiency adjustment and the major capex overspend adjustment) with a single ex-ante symmetric mechanism (our proposed major capex expenditure adjustment).

B43. Details of our draft decision and our reasons are set out in paragraphs 72 to 82 above.

Major capex project output adjustment[231]

B44. Our decision in 2012 was to set an asymmetric incentive (penalty only) to incentivise Transpower to deliver outputs for each major capex project that were specified by Transpower (at the time of proposing the major capex project) and approved by us. The major capex project output adjustment is given effect through an adjustment to the economic value (**EV**) account calculated on an annual basis.

B45. The penalty is currently applied to capex incurred as part of a major capex project but which does not deliver the major capex project outputs. Currently the major capex incentive rate is applied to determine the penalty. However we consider that if the major capex incentive rate is set at 15%, it would not be appropriate to set the penalty.

B46. Our draft decision is to set the incentive rate applied to the major capex project output adjustment at 33%, consistent with base capex, because otherwise there may be an incentive to classify as much capex as possible as part of a major capex project, even when it does not deliver major capex project outputs.

B47. As explained in paragraph B25 above, we have also considered whether we should retain the requirement for the incentives to be calculated on an annual basis. Our draft decision is not to amend the capex IM to remove the requirement for annual incentive calculations. Our reasons for our draft decision are set out in paragraph B26 above.

Major capex overspend adjustment[232]

B48. Our decision in 2012 was to set a project specific adjustment as a potential penalty where costs on a given project exceed the level appropriate for that project. The major capex overspend adjustment is given effect through an adjustment to the EV account, calculated on an annual basis.

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231 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 4.3.

232 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 4.4.

B49. As explained in paragraphs 68 to 71 above, we now consider the current major capex incentive mechanisms are not operating effectively as a package to provide appropriate incentives on Transpower to act efficiently.

B50. Our draft decision is to amend the capex IM to change the major capex incentive regime to an ex-ante framework. We are proposing to replace two asymmetric ex-post incentive mechanisms (the major capex efficiency adjustment and the major capex overspend adjustment) with a single ex-ante symmetric mechanism.

B51. Details of our draft decision and our reasons are set out in paragraphs 72 to 82 above.

B52. We also considered whether we should change how CPI and FX adjustments impact the major capex overspend adjustment. CPI and FX adjustments are made to the base capex allowance and major capex allowance for any difference between the forecast values for CPI and FX assumed by Transpower and the actual CPI and FX rates.[233]

B53. Currently the major capex adjustment is made through the major capex overspend adjustment. It is an asymmetric approach which means that adjustments are only made if Transpower overspends its allowance. This can expose Transpower to potential gains if favourable inflationary or foreign exchange conditions lead to Transpower underspending its allowance, as there is no adjustment to correct for the actual values.

B54. Our draft decision to move to an ex-ante incentive regime will resolve the asymmetry issue because CPI and FX adjustments will be applied regardless of an over- or under-spend (ie, symmetric), consistent with the approach taken in the base capex regime.

Major capex incentive rate[234]

B55. Our decision in 2012 was to set the incentive rates for major capex projects at the start of each RCP, which would apply for the length of the RCP.

B56. As explained in paragraphs 92 to 95 above, we have considered whether allowing for an alternative incentive rate for major capex would be appropriate.

B57. Our draft decision is to amend the capex IM to define a 15% default incentive rate for major capex and but also to allow the ability to vary the incentive rate for major capex projects under specific circumstances.

B58. Details of our draft decision and our reasons are set out in paragraphs 97 to 106 above.

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233 The forecast FX rates for each foreign currency are the forward rates assumed by Transpower, and the forecast CPI rates are the Reserve Bank of New Zealand forecasts of CPI.

234 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 4.6.

Base capex allowance – approval process

Timing and content requirements for each base capex proposal[235]

B59. Our decision in 2012 specified the information to be included in each base capex proposal. This was set out in Part 7 of the capex IM determination.

B60. As discussed in paragraphs 286 to 287 above, stakeholders have been seeking additional information on the impacts of potential investments.

B61. Our draft decision is to amend the capex IM to require Transpower to provide, for each affected EDB and direct connect consumer, an estimate of the change in transmission charges and an explanation of the system and service benefits delivered by the base capex proposal. Details of our draft decision and our reasons are set out in paragraphs 288 to 292 above.

B62. Our decision in 2012 also specified the qualitative information for Transpower to provide when submitting a base capex proposal. This was set out in Schedule F of the capex IM determination.

B63. As discussed in paragraph 293 above, Transpower submitted changes to Schedule F to reduce the cost and complexity of the requirements.[236]

B64. We agree with Transpower that some of the information requirements for base capex set out in Schedule F are either unclear or can be simplified.

B65. Our draft decision is to amend the capex IM to make changes to Schedule F to remove ambiguities, correct errors, or reduce unnecessary complexity and compliance costs, consistent with promoting the s 52R purpose.

B66. We have also considered whether Schedule F should be updated to incorporate our proposed changes to the incentives regime. Our draft decision is to amend clause F2 to require Transpower to provide a list of listed projects, and projects to which the lower incentive rate will apply, and explain how these projects meet the criteria in the capex IM. Our reason for this proposed change is set out in paragraph B38 above.

B67. Table 4 below summarises our draft decision and reasons in response to Transpower's proposed changes to Schedule F, and our draft decision to amend clause F2 as a consequence of our proposed changes to the incentives regime.

B68. For our proposed drafting changes, see Schedule F in the draft capex IM determination.[237]

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235 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 5.3.

236 Transpower "Transpower additional information Capex IM review Transpower additional information Capex IM review" (19 September 2017); and Transpower "Transpower additional information Capex IM review Transpower additional information Capex IM review – Appendix" (19 September 2017).

237 We expect to publish the draft determination by 22 November 2017.

Table 4 – Draft decisions and reasons relating to Schedule F of the capex IM

Clause	Transpower's proposed changes	Draft decisions and reasons
F2 – List of identified programmes, listed projects and projects subject to low incentive rates	Remove 'base capex projects' and reduce the level of prescription.	Our draft decision is to retain base capex projects in this clause. We expect there will still be base capex projects that need to be identified, such as E&D projects and outdoor to indoor conversions. When assessing listed projects, we propose to treat them as identified projects rather than programmes. We propose to reduce the level of prescription in some of the subclauses to increase flexibility and reduce complexity, and to clarify that this clause requires a list. Our draft decision is also to require Transpower to provide a list of listed projects, and projects to which the lower incentive rate will apply, and explain how these projects meet the criteria in the capex IM. Our reason for this proposed change is set out in paragraph B38 above.
F3 – Overview	Amend wording so it is clear we require an overview rather than details.	Our draft decision is to amend some subclauses to better reflect that the intent of this clause is to provide an overview rather than detailed commentaries (better promotes s 52R).
F4 – Governance, policies, process and consultant reports	Change policies and processes to governance and remove the requirement to describe material changes to policies and processes since the last IPP determination.	Our draft decision is to change 'policies and processes' to 'governance' and define governance as including policies, processes, strategies and risk assessment. The proposed change is to clarify the intent of this clause (better promotes s 52A). Our draft decision is to change clause F4(2) to require description of changes that affect the expenditure forecasts or performance measures. For example, in RCP2, Transpower has changed its policies, lifecycle strategies and risk appetite for power transformers and this has reduced the value of power transformer replacement capex and could potentially influence opex/capex trade-offs (reduces cost and complexity).

F5 – Cost and efficiency	Remove this requirement.	Our draft decision is to retain clause F5 because this requirement is included so that the Commission can assess the extent that the efficiency gains made in the current regulatory period are reflected in the proposal for the next regulatory period (better promotes s 52A).
F6 – Information and programmes and identified programmes	Remove the requirements to describe: • delivery; • changes from historical costs and contingencies; • the link of the programme with long-term grid development; • departures from policies; and • approach to prioritising system growth projects.	The requirements set out in this clause are necessary to assess identified programmes. Our draft decision is to retain the current requirements and, where necessary, amend or move subclauses that need to be clarified. For example, since the current subclause F7(2) relates to identified programmes, our draft decision is to move this subclause to clause F6(5) for clarity.
F7 - Procurement	Remove this requirement.	Our draft decision is to include a description of the procurement process for the base capex in this clause and move the details on procurement of identified programmes for clause F6. These details are useful in identifying any deliverability issues, potential areas of high cost, and the appropriateness of Transpower's outsourcing. The proposed changes will promote s 52A.
F8 – Resourcing and delivery	Remove the details on resourcing and delivery. Transpower suggested removing most of these requirements because they are covered in F3.	Our draft decision is to make no change. F3 provides an overview while F8 provides the details necessary to evaluate delivery of the planned expenditure.
F9 – Other capex	Increase the threshold for categorising minor capex to $5 million from $1 million.	Our draft decision is to lift the need to describe the rationale for any forecast base capex to $5 million. The proposed change will reduce cost and complexity.
F10 – Escalation factors and foreign exchange	No change.	Our draft decision is to make no change.

F11 – Information on proposed grid output measures	Remove the level of details on categories of grid output measures and remove the need to describe the relationship between the grid output measures with the risks associated with the grid, the performance of the grid and the key purposes of investments. Transpower queried the need to specify grid output measures by types defined in the capex IM.	Our draft decision is to change clause F11 to clarify the requirements. We consider that defining the measures by types assures stakeholders that the range of grid output measures applying to Transpower covers both its network performance and expenditure objectives.
F12 – Revenue linked grid output measures	Remove description to policies and key assumptions.	Our draft decision is to make no change.
F13 – Grid output measures not linked to revenue	Remove the requirements in this clause since they are included in F11.	Our draft decision is to remove clause F13 and include any necessary requirements under clause F11. The proposed change will reduce cost and complexity.

Major capex – approval process

Approach to considering non-transmission solutions[238]

B69. Our decision in 2012 was to require Transpower to consider NTSs prior to submitting a major capex proposal for approval.

B70. As discussed in paragraphs B10 to B13 above, our draft decision is to amend the capex IM as part of our staged approval proposal to amend the definition of 'non-transmission solution' to include grid-scale storage and provide the ability for Transpower to use NTSs to manage operation risks and optimise the timing of major capex projects during construction.

B71. Details of our draft decision and our reasons are set out in paragraphs 209 to 229 above.

Transpower's consultation requirements[239]

B72. Our decision in 2012 was to require Transpower to consult with interested parties on proposed transmission investments and NTSs prior to submitting a major capex proposal for approval.

B73. We consider that the current wording of the capex IM could be clearer about the timing of Transpower's consultations on the investment need and a long list of options, and invitations to interested parties to provide information on potential NTSs. These need not be sequential processes. The better practice would be to consult on investment needs, demand and generation scenario variation, key assumptions, and a long list of assumptions, and invite proposals on NTSs at the same time. This approach would reduce the number of consultations and costs. We are proposing amendments to reflect more clearly that these processes need not be sequential.

B74. Our draft decision is to amend the capex IM to clarify that Transpower can invite interested parties to provide information on potential NTSs when it consults on the investment need and a long list of options to meet the investment need.

B75. As discussed in paragraphs B10 to B13 above, our draft decision is also to amend the capex IM to update the major capex consultation requirements, as part of our staged approval proposal. We consider that the consultation requirements for subsequent stages of a staged major capex proposal do not need to be as comprehensive as those for the first stage. We propose that consultation for subsequent stages would be limited to updates on the matters that affect the need and timing of that stage, the proposed solutions, and the investment test.

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238 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 6.3.

239 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 6.4.

B76. Our draft decision is to amend the scope of consultation requirements for subsequent stages of a staged major capex project. The consultation requirements for stage one of a staged major capex project remain the same as those for an un-staged major capex project. For subsequent stages of a staged major capex project Transpower would be required to consult on the updates to investment need, demand and generation scenarios, key assumptions and investment test. The extent of such consultations would be commensurate with the materiality of the changes in these matters compared with the most recent consultation.

B77. Details of our draft decision and our reasons are set out in paragraphs 209 to 230 above.

Rules for submitting a major capex proposal[240]

B78. Our decision in 2012 set out requirements for Transpower to submit a major capex proposal to the Commission for approval. The rules allow Transpower to submit a major capex proposal at any time during a regulatory period.

B79. In practice, Transpower often changes its date of submission many times often at short notice. This makes medium-term planning difficult and we have considered options for improving certainty around the date of application of major capex proposals for our approval.

B80. Our draft decision is to amend the capex IM to include the application date in the list of items we and Transpower must regularly review. This would ensure we and stakeholders are kept informed of any potential changes in the application date for major capex proposals.

B81. As discussed in paragraphs B10 to B13 above, our draft decision is also to amend the capex IM as part of our staged approval proposal to update the rules for submitting a major capex proposal.

B82. Details of our draft decision and our reasons are set out in paragraphs 209 to 229 above.

Rules for approving or rejecting a major capex proposal[241]

B83. Our decision in 2012 was that the Commission would either approve or reject a major capex proposal as a whole.

B84. As explained in paragraphs 84 to 85 above, the requirement under our proposed ex-ante incentive mechanism for an unbiased forecast of costs on a P50 basis means that we no longer consider the existing approach to determining the major capex allowance is appropriate.

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240 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 6.6.

241 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 6.7.

B85. Our draft decision is to amend the capex IM to allow us to determine the major capex allowance, consistent with our approach for base capex.

B86. Details of our draft decision and our reasons are set out in paragraphs 87 to 91 above.

B87. As discussed in paragraphs B10 to B13 above, our draft decision is also to amend the capex IM as part of our staged approval proposal to update the rules for approving or rejecting a major capex proposal.

B88. Details of our draft decision and our reasons are set out in paragraphs 209 to 229 above.

Content requirements for a major capex proposal[242]

B89. Our decision in 2012 set out information requirements for major capex proposals. These were specified in Schedule G of the capex IM determination.

B90. As discussed in paragraphs 286 to 287 above, some stakeholders have been seeking additional information on the impacts of potential investments.

B91. Our draft decision is to amend the capex IM to require Transpower to provide, for each affected EDB and direct connect consumer, an estimate of the change in transmission charges and an explanation of the system and service benefits delivered by each proposed capex investment.

B92. Details of our draft decision and our reasons are set out in paragraphs 288 to 292 above.

B93. As discussed in paragraphs B10 to B13 above, our draft decision is also to amend the capex IM as part of our staged approval proposal to update the information requirements for major capex proposals in Schedule G.

B94. Transpower submitted that Schedule G should be reviewed to reduce complexity and compliance costs, but did not provide further details.[243]

B95. In the absence of specific proposed changes, our draft decision is to not amend the information requirements for major capex proposals, other than as proposed in paragraphs B91 and B93 above.

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[242] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 6.8.

[243] Transpower submission on focus areas consultation paper "Capex IM review: Issue identification via focus areas" (14 June 2017), p. 9.

Amendments to major capex approvals

Process requirements for amendment applications[244]

B96. Our decision in 2012 was to allow Transpower to apply for a range of amendments to previously approved major capex projects.

B97. As discussed in paragraphs 68 to 71 above, we consider it is no longer appropriate to maintain the ability for Transpower to apply for an amendment to a major capex allowance, given the change to an ex-ante incentive mechanism. An exception is following an amendment to the approved major capex project outputs where the Commission may amend the major capex allowance.

B98. Our draft decision is to amend the capex IM to remove the current ability to amend the major capex allowance after its initial determination, but to continue to allow Transpower to apply to amend the other components of the major capex projects.

B99. Details of our draft decision and our reasons are set out in paragraphs 72 to 89 above.

Certification requirements

Certification requirements for proposals and amendment applications[245]

B100. Our decision in 2012 was to require self-verification in the form of certification in respect of Transpower's directors and Chief Executive Officer.

B101. As discussed in paragraphs 233 to 234 above, we now consider there would be benefits in introducing a verification process for IPP proposals.

B102. Our draft decision is to not amend the capex IM to introduce a verification process for IPP proposals. Rather, we propose to implement verification as a pilot for RCP3 via agreement with Transpower. We would then evaluate the success of the pilot and would consider setting verification requirements in the IMs before RCP4.

B103. Details of our draft decision and our reasons are set out in paragraphs 235 to 253 above.

Reporting requirements

Base capex annual reporting requirements[246]

B104. Our decision in 2012 was to require Transpower to report on an annual basis its actual performance and delivery of outputs, against forecasts used when the Commission set the base capex allowance.

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244 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 8.2.

245 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 9.2.

246 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 10.2.

B105. As discussed in paragraphs 258 to 259 above, stakeholders are seeking more transparency on Transpower's investment decisions, clearer information about potential opportunities for transmission alternatives, and additional engagement requirements for base capex projects.

B106. Our draft decision is to also require Transpower to report annually in relation to base capex on:

B106.1 whether it has engaged with stakeholders and, if so, how it has engaged with stakeholders;

B106.2 how effective it considers that engagement has been; and

B106.3 how satisfied stakeholders were with the engagement process based on the views expressed by stakeholders.

B107. This decision would be implemented by amending the information disclosure requirements for Transpower, which we would consult on separately at a later date.

B108. Details of our draft decision and our reasons are set out in paragraphs 267 to 285 above.

Listed projects

Criteria we will use to evaluate applications for approval of base capex in respect of listed projects[247]

B109. Our decision in 2014 was that our assessment of a listed project application would be based on the evaluation criteria in the capex IM that apply to base capex. These criteria are set out in Part 6 and Schedule A of the capex IM determination.

B110. When we evaluated the Central Park Wilton project (listed project), we recognised that the capex IM could imply that a listed project should be assessed as a base capex proposal. This was not the intent of the IM because a listed project is akin to an identified project of the base capex proposal rather than the base capex proposal itself. We therefore assessed this application as if the listed project was an identified project and used the criteria set out in clauses 6.1.1(1) and 6.1.1(2), and in Schedule A2.[248]

B111. Our draft decision is to amend the capex IM to clarify that the requirements for assessing listed projects are those set out in clauses 6.1.1(1) and 6.1.1(2), and in Schedule A2.

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247 Commerce Commission "Amendments to input methodologies for Transpower to provide a listed projects mechanism – Reasons paper" (27 November 2014), para 130. Available on our website at: http://www.comcom.govt.nz/dmsdocument/12721.

248 Commerce Commission "Final decision on Transpower's Central Park Wilton B line listed project [2017] NZCC 16" (28 June 2017), para B10-B11. Available on our website at: http://www.comcom.govt.nz/dmsdocument/15557.

B112. Our reasons for our draft decision are to improve clarity for suppliers and consumers about how we will evaluate listed projects.

PART 2: Capex IM draft decisions where a change is not proposed

Introduction to Part 2

B113. This Part lists those aspects of the capex IM where our draft decision is to make no changes. For the majority of the sections:

B113.1 we state the relevant existing capex IM decision; and

B113.2 we explain why we have decided not to change it as part of the capex IM review.

B114. In the last section we list those aspects of the capex IM that:

B114.1 in light of our framework, submissions on the capex IM review so far, and all other relevant information before us, we found no reasons to consider changing at this stage;[249] and

B114.2 we therefore do not propose changing (either at a policy level, or in terms of the implementation of the policy decision) at this stage.

B115. We remain open, however, to receiving submissions on all aspects of the capex IM, including those listed in all sections of this Part.

Capex IM framework

Categories and definitions for capital expenditure[250]

B116. Our decision in 2012 set out the criteria for categorising capital expenditure as either major capex or base capex. These criteria classified base capex as replacement and refurbishment projects (and major capex projects below $20 million) and major capex as E&D projects above $20 million.

B117. Our draft decision is to retain the current criteria for categorising capital expenditure as either major capex or base capex.

B118. Details of our draft decision and our reasons are set out in paragraphs 196 to 199 above.

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[249] That is not to say there have never been any issues raised in respect of the aspects of the capex IM listed in this section. Minor issues have been raised in the past that are relevant to some of these aspects of the capex IM; but none that we considered were sufficiently material to lead us to consider changing the capex IM.

[250] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 2.5.

Integrated transmission plan[251]

B119. Our decision in 2012 was to require Transpower to submit an ITP with its RCP proposal and then annual updates of the plan in the first four disclosure years of the RCP.

B120. We explored whether Transpower should submit updates more regularly.

B121. Our draft decision is to maintain the current requirement for Transpower to submit an ITP annually to the Commission.

B122. Details of our draft decision and our reasons are set out in paragraphs 297 to 300 above.

Transmission alternatives[252]

B123. Our decision in 2012 was to require Transpower to consider transmission alternatives as part of the investment test, which applies only to major capex projects.[253]

B124. Our draft decision is to maintain the current requirements for consideration of transmission alternatives.

B125. Details of our draft decision and our reasons are set out in paragraphs 267 to 269 above.

Major capex incentive and output framework

Incentives that apply to major capex[254]

B126. Our decision in 2012 was to set four incentive mechanisms applying to all major capex commissioned after the date of the capex IM determination. These were the major capex efficiency adjustment, the major capex project output adjustment, the major capex overspend adjustment and the major capex sunk costs adjustment.

B127. As discussed in paragraphs 200 to 201 above, some submitters suggested that there are insufficient incentives in the capex IM for Transpower to complete major capex projects on time.

B128. Our draft decision is to make no changes to the capex IM to place further incentives on Transpower to complete major capex projects on time.

B129. Details of our draft decision and our reasons are set out in paragraph 201 above.

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251 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 2.7.

252 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 2.8.

253 We also require transmission alternatives to be considered as part of any listed project application.

254 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 4.1.

Major capex – investment test

Form and scope of the investment test[255]

B130. Our decision in 2012 was to require Transpower to apply the investment test to identify a preferred investment option from a number of investment options for major capex. We required that the costs and benefits to be included in the investment test were to be those accruing to participants in the electricity market.

B131. As discussed in paragraphs 163 to 170 above, we received a number of submissions on the investment test criteria wishing to expand the costs and benefits that should be taken into account within the investment test.

B132. Our draft decision is to retain the current form and scope of the investment test.

B133. Details of our draft decision and our reasons are set out in paragraphs 171 to 174 above.

Implementation of the investment test[256]

B134. Our draft decision in 2012 set out the key inputs and calculations that are used in the investment test.

B135. As discussed in paragraphs 175 to 183 above, we considered whether we should make changes to the inputs and calculations used in the investment test.

B136. Our draft decision is to retain our current approach to the key inputs and calculations that are used in the investment test.

B137. Details of our draft decision and our reasons are set out in paragraphs 175 to 184 above.

Other aspects of the capex IM where our draft decision is to make no changes

B138. Table 5 lists those aspects of the capex IM that:

B138.1 in light of our framework, submissions on the capex IM review so far, and all other relevant information before us, we found no reasons to consider changing at this stage;[257] and

B138.2 we therefore do not propose changing (either at a policy level, or in terms of the implementation of the policy decision) at this stage.

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[255] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 7.2.

[256] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), section 7.4.

[257] That is not to say there have never been any issues raised in respect of the aspects of the capex IM listed in this section. Minor issues have been raised in the past that are relevant to some of these aspects of the capex IM; but none that we considered were sufficiently material to lead us to consider changing the capex IM.

B139. We remain open, however, to receiving submissions on all aspects of the capex IM, including those listed in Table 5.

Table 5 – Other aspects of the capex IM where our draft decision is to make no changes

		Reference in capex IM reasons paper[258] and in listed projects (LP) reasons paper[259]
Capex IM framework		
	Interaction with the IPP determination	Chapter 2 Section 2.3
	Situations in which capital expenditure may be recategorised	Chapter 2 Section 2.6
Major capex incentive and output framework		
	Sunk costs adjustment	Chapter 4 Section 4.5
Base capex allowance – approval process		
	Process for agreeing the quantitative information requirements	Chapter 5 Section 5.2
	Base capex – Qualitative information requirements	Chapter 5 Section 5.4
	Commission's base capex determination and process requirements	Chapter 5 Section 5.5
	Commission's consultation obligations	Chapter 5 Section 5.6
	Criteria for evaluating and approving base capex	Chapter 5 Section 5.7
Major capex – approval process		
	Major capex pre-proposal process requirements	Chapter 6 Section 6.2
	Commission's consultation obligations	Chapter 6 Section 6.5
	Project approval expiry date	Chapter 6 Section 6.9
	Criteria for evaluating major capex proposals	Chapter 6 Section 6.10
Major capex – investment test		
	Application of the investment test	Chapter 7 Section 7.3

[258] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012).

[259] Commerce Commission "Amendments to input methodologies for Transpower to provide a listed projects mechanism – Reasons paper" (27 November 2014).

		Reference in capex IM reasons paper[258] and in listed projects (LP) reasons paper[259]
Amendments to major capex approvals		
	Information requirements for amendment applications	Chapter 8 Section 8.3
	Criteria for evaluating major capex amendment applications	Chapter 8 Section 8.4
	Consultation requirements for amendments application	Chapter 8 Section 8.5
Certification requirements		
	Certification of annual information	Chapter 9 Section 9.3
Annual reporting requirements		
	Major capex annual reporting requirements	Chapter 10 Section 10.3
	Formatting for reporting, proposal and applications	Chapter 10 Section 10.4
Processes, requirements and evaluation criteria for listed projects		
	Base capex projects or programmes that can be listed	Chapter 3 Paragraphs 109 to 111
	Timeframes and processes for evaluating applications for approval of base capex in respect of listed projects	Chapter 3 Paragraphs 112 to 118
	Requirements that must be met by Transpower	Chapter 3 Paragraphs 119 to 129
	How base capex in respect of listed projects will feed into the base capex incentive framework	Chapter 3 Paragraphs 131 to 140

PART 3: Timing and transition provisions in the draft capex IM determination

Introduction to Part 3

B140. This Part explains the timing and transition provisions we have included in the draft capex IM amendment determination. The timing and transition provisions relate to when and how determination amendments made as a result of the capex IM review come into effect. The draft decisions described in this paper, and reflected in the draft amended capex IM determination, will not have any effect unless confirmed as our final decisions.

B141. In this Part we explain:

B141.1 our approach and what we have tried to achieve with our proposed timing and transition provisions; and

B141.2 our proposed timing and transitions provisions set out in the draft capex IM determination.

Our approach to timing and transition provisions

B142. As a result of the capex IM review, we will publish:

B142.1 a capex IM amendments determination (**amendments determination**), where we have marked our amendments to the capex IM determination (**principal determination**) as tracked changes, so that users of the capex IM determination can identify all proposed amendments to the principal determination; and

B142.2 a consolidated capex IM determination for reference convenience that consolidates the principal determination and all amendments as at the date of publication.

B143. The amendments determination will come into force on the day after notice is given in the *New Zealand Gazette*, which will be the 'commencement date'.

B144. However, s 53ZB does not allow price-quality paths to be reopened during a regulatory period on the grounds of an IM amendment. Therefore, although the amendments determination will come into force immediately, not all amendments will apply immediately to Transpower.

B145. Key areas where the amendments will not apply are in relation to major capex projects approved prior to the commencement date and the base capex processes during the regulatory period that will continue to apply in relation to RCP2.

Our proposed timing and transition provisions

B146. Our proposed timing and transition provisions have therefore been drafted to allow our proposed capex IM amendments to take effect:

B146.1 for base capex and listed projects, from the next regulatory period following the commencement date (ie, from 1 April 2020);[260]

B146.2 for major capex that is approved after the commencement date:

B146.2.1 for process changes that would not reopen the price path in the current regulatory period, immediately; and

B146.2.2 for any changes that would reopen the price path, from the next regulatory period following the commencement date (ie, from 1 April 2020); and

B146.3 for major capex that was approved prior to the commencement date, the existing capex IM would continue to apply even into the next regulatory period.

Consequential changes to the Transpower Information Disclosure Determination

B147. Some of the amendments we are proposing to make to the capex IM would, if confirmed, also require us to amend the Transpower information disclosure determination. This is because some of the capex IM calculations rely on information disclosed under the ID requirements and elements of the ID requirements draw on the capex IM.

B148. At this stage, we also anticipate requiring Transpower to disclose its calculations for the new adjustments in its information disclosures. If this is the case, we would also consider amending Transpower's current information disclosure requirements to incorporate disclosures for the new adjustments.

B149. As the changes to the incentive adjustments in the capex IM would apply from RCP3, we would anticipate consulting on amending Transpower's information disclosure determination before 1 April 2020.

[260] This aligns with Transpower's pricing year which will commence on 1 April 2020.