

# List of distributed generation eligible to qualify to receive ACOT, lower South Island

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Decision

27 March 2018



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# 1 Decision

- 1.1 The Authority has finalised the list of distributed generation in the lower South Island required by clause 2(a)(i) of Schedule 6.4 of the Code ('the list').<sup>1</sup> Distributed generation on the list is eligible to receive avoided cost of transmission (ACOT) payments from distributors under the regulated terms in Part 6 of the Code.
- 1.2 We have made some changes to the proposed list we consulted on in December 2017. These are primarily in response to submitter information on the nameplate capacity of generation at an ICP at Halfway Bush and at an ICP at Naseby. In so doing we have also clarified how we treat generation plant that forms part of a notionally embedded generation scheme.<sup>2</sup>
- 1.3 In addition, in preparing the final list we checked back with the information in the registry and as a result we have added some ICPs that have small-scale distributed generation that were either added to the registry after the draft list was created, or were omitted from the draft list.
- 1.4 To receive ACOT payments on the regulated terms in Part 6 of the Code, distributed generation on the list must also meet the other requirements in the Code and requirements set by the relevant distributor.
- 1.5 Further, distributed generation that is not on the list is not excluded from receiving ACOT payments – they are simply not eligible to qualify for payment under the default terms in Part 6 of the Code. If they were already covered by arrangements outside the Code (such as a bilateral agreement with a distributor), such arrangements may continue. Parties may also seek to negotiate new agreements directly with Transpower, where distributed generation is providing a transmission alternative.
- 1.6 The final list is published with this Decisions paper.

# 2 Background

- 2.1 Generation that is connected to a local distribution network is called distributed generation. Distributed generation may provide services to a distribution network or the transmission grid – for example, by helping to maintain network or grid reliability.
- 2.2 Distributed generation owners and distributors/Transpower are able to negotiate agreements for network support services, including ACOD<sup>3</sup>/ACOT payment terms. If they do not agree terms, Part 6 of the Code provides for default terms (called regulated

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<sup>1</sup> Electricity Industry Participation Code 2010.

<sup>2</sup> Notionally embedded generation refers to grid-connected plant that is covered by a Prudent Discount Agreement (PDA) under Part 12 of the Code or a Notional Embedding Agreement (the form of agreement that preceded PDAs). The Part 12 provisions aim to deter uneconomic grid bypass projects, ie, projects which reduce a customer's own transmission charges, but increase total costs to the country. In essence, if a transmission customer can demonstrate that a viable grid bypass project exists that would reduce its transmission charges by more than the bypass project's cost, Transpower and the customer can enter into a Prudent Discount Agreement which provides for:

- (a) Transpower to calculate and invoice the customer's transmission charges as if the bypass project had been implemented
- (b) the customer to pay to Transpower an annuity that reflects the assessed cost of building and operating the bypass project.

<sup>3</sup> Avoided cost of distribution.

- terms) to apply. These regulated terms include provisions that define how ACOT/ACOD payments are to be calculated.
- 2.3 In December 2016, the Authority announced amendments to the Code provisions, to promote its statutory objective because the then ACOT arrangements were not in the long-term interests of consumers.
- 2.4 Under the new Code provisions, distributed generation is eligible to receive ACOT payments under the regulated terms only if:
- (a) it was connected to the distribution network as at 6 December 2016 and
  - (b) it is on a regional list published by the Authority.
- 2.5 The new provisions take effect progressively, from:
- (a) 1 April 2018 for the lower South Island transmission region
  - (b) 1 October 2018 for the lower North Island transmission region
  - (c) 1 April 2019 for the upper North Island transmission region
  - (d) 1 October 2019 for the upper South Island transmission region.
- 2.6 Under clause 2A of Schedule 6.4 of the Code, for each of the four transmission regions, Transpower must provide a report to the Authority identifying distributed generation required for Transpower to meet the grid reliability standards in the period 1 April 2017 to 31 March 2020.
- 2.7 Under clause 2C of Schedule 6.4, once the Authority has approved Transpower's report, the Authority is required to publish lists of distributed generation eligible to receive ACOT payments on the regulated terms.
- 2.8 Transpower provided the Authority with its report for the lower South Island on 21 April 2017. The Authority approved the report on 28 June 2017. Based on that report, we prepared a proposed list of eligible distributed generation in the lower South Island. We published a consultation paper "*Consultation on proposed list of distributed generation eligible to qualify to receive ACOT, lower South Island*" on 5 December 2017 ('consultation paper'), seeking submissions on the proposed list.
- 2.9 We will be consulting on and publishing lists for the lower North Island, upper North Island and upper South Island, before the new Code provisions take effect for those regions on the dates set out in Schedule 6.4 of the Code.

### **3 Why the Authority made this decision**

- 3.1 The Authority has made its decision having considered our statutory objective and submissions on our December 2017 consultation paper, and we sought some further factual information from a submitter on the details of its scheme and generating plant. We also took further steps to clarify and better understand the issues around notionally embedded generation, which was a key point raised in the consultation process.
- 3.2 The finalised list has been prepared in compliance with the Code. We set out below our process for generating the list from the registry. In preparing the final list we identified some additional small-scale distributed generation and have included them in the final list.

- 3.3 We acknowledge the comments made by submitters regarding the substantive 2016 Code amendment. However, we note that these issues are beyond the scope of this decision.

## 4 Matters the Authority considered in making this decision

- 4.1 The Authority received submissions from the nine parties listed below. We have not published a separate summary of submissions as the submissions themselves are concise (23 pages in total). All submissions can be found on the Authority's website at: <https://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/acot-code-change-implementation/consultations/#c16927>

- (a) Contact Energy (Contact)
  - (b) Independent Electricity Generators Association (IEGA)
  - (c) Mercury
  - (d) Meridian Energy (Meridian)
  - (e) Major Energy Users' Group (MEUG)
  - (f) NZ Energy
  - (g) Pioneer Energy (Pioneer)
  - (h) Tararua Wind Power (Tararua Wind)
  - (i) Trustpower
- 4.2 During and following the submission period we received information from Trustpower relating to the Waipori scheme. This information is published with the submissions.

### **Treatment of notionally embedded generation schemes**

- 4.3 Trustpower's submission raised an issue regarding the Waipori scheme, part of which is connected to the Aurora network at Halfway Bush, and part of which is grid-connected at Berwick.<sup>4</sup> The portion of the Waipori scheme connected at Berwick is covered by a Prudent Discount Agreement under Part 12 of the Code, and is generally referred to as being notionally embedded.<sup>5</sup>
- 4.4 Trustpower considers that the entire Waipori scheme (ie, including the notionally embedded portion) should be included on the Authority's list. It submits that the nameplate capacity of the Waipori scheme at Halfway Bush be amended from 63,000 kW to 128,020 kW. The Authority sought further information from Trustpower to identify which generating plant within the Waipori scheme is distributed generation under the Code. Based on this information, the Authority has determined that 114,420 kW of plant within the scheme is distributed generation under the Code. This nameplate capacity has been recorded in the final list for the Waipori scheme.
- 4.5 In providing further specific details of the Waipori scheme to the Authority, Trustpower suggested the definition of distributed generation in the Code be amended to include notionally embedded generation. The Authority has considered the issues raised by

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<sup>4</sup> The Waipori scheme refers to the group of generating plants in the Waipori Hydro Scheme, Deep Stream Hydro Scheme, Mahinerangi Wind Farm.

<sup>5</sup> See footnote 2 for a description of notionally embedded generation.

Trustpower, but has decided to not include the notionally embedded portion of Waipori on the list.

4.6 The key reasons for this decision are:

- (a) generation plant that is solely grid-connected does not meet the definition of distributed generation in the Code.<sup>6</sup> It would therefore be ultra vires for the Authority to include generation plant that is solely grid-connected on the list of distributed generation plant eligible to qualify for ACOT payments on regulated terms
- (b) the Authority does not consider that a Code amendment to broaden list eligibility to include notionally embedded generation would be consistent with its statutory objective. It is important to recall that notionally embedded generation is grid-connected. To the extent that ACOT payments have been made in the past to notionally embedded generation, it has been to reduce the incentive on grid-connected generators to make inefficient grid-bypass investments (eg, incurring costs to 'reconnect' to a distribution network). ACOT payments to notionally embedded generators were never intended as a reward for genuinely reducing total transmission costs (unlike the policy intent for distributed generation). If the Code were amended to allow notionally embedded generation to qualify for the regulated ACOT terms, it would effectively treat notionally embedded generation on a preferential basis as compared to other grid-connected generation, and would not promote efficiency or reliability. Finally, the risk of inefficient bypass by grid-connected generation was reduced by the recent Code change, because distributed generation connected after 6 December 2016 cannot qualify for the regulated ACOT terms.

4.7 As an aside, the Authority understands that the Prudent Discount Agreement pertaining to Waipori runs until October 2028. The Authority is not privy to the details of the agreement, and considers the future operation of the agreement to be a matter for the involved parties.

4.8 We note that the situation for each notionally embedded generator can be quite unique and when assessing any notionally embedded generation in the other transmission regions we will assess each generation plant according to its particular circumstances.

### **The Authority's method for creating the list of distributed generation**

4.9 The Authority prepared the list of distributed generation as follows and intends to apply this same general process to the preparation of lists for the other regions.

- (a) First, we queried the registry to determine which ICP identifiers have any type of distributed generation recorded against them,<sup>7</sup> and the:

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<sup>6</sup> Part 1 of the Code defines "distributed generation" as "generating plant that is connected, or that a distributed generator proposes to connect, to a distribution network or to a consumer installation that is connected to a distribution network". Generation plant that is physically connected to the transmission grid does not meet this definition. Furthermore, section 2C(1) of Schedule 6.4 of the Code requires the Authority to compile and publish a list of eligible **distributed generation** (emphasis added).

<sup>7</sup> The Code requires distributors, asset owners and the grid owner to maintain a table of NSPs. The NSP table is maintained by the reconciliation manager and is the industry master set of reconciliation points of connection. It contains parent-child relationships of interconnection points. The NSP obtained from the

- (i) network participant identifier that the ICP is connected to
  - (ii) network supply point (NSP)<sup>8</sup> that the network is connected to
  - (iii) nameplate generation capacity.
- (b) We filtered our list of ICPs with generation to identify the distributed generation associated with the GXP name identified by Transpower in its lower South Island report. The distributed generation may be nested or embedded below the distribution network linked to these root points of connection (POCs).
- (c) We filtered out distributed generation first connected after 6 December 2016.
- (d) We filtered to select these columns, which becomes the finished list:
- (i) GXP (point of connection: root)
  - (ii) ICP
  - (iii) date connected
  - (iv) generation capacity (kW).
- 4.10 The process for creating the draft list and the final list remains unaltered and has been tested and found fit for purpose through the consultation process. The Code does not require the Authority to use ICPs when identifying distributed generation. However, it is a useful guide to identify distributed generation from notionally embedded generation. The changes made as a result of submissions are where the nameplate capacities listed on the registry have been found to not be accurate.

### **Application of minimum thresholds and eligibility timeframes for ACOT payments**

- 4.11 Meridian Energy suggested that distributed generation with a capacity less than or equal to 10 kW should be excluded from the list. The reason was that individual generators of low capacity do not realistically affect Transpower's decisions to defer or reduce investment in transmission.
- 4.12 We have not adopted this proposal. This is because there is no clear basis to remove such generation, given that collectively it may defer or reduce grid investment.
- 4.13 We note that eligibility to receive ACOT payments on regulated terms does not mean a distributed generator will necessarily receive them – as was also the case prior to the 2016 Code amendment. To receive ACOT payments, distributed generation must meet the requirements set by the relevant distributor, as usually described in distributors' pricing methodologies. For example, some distributors apply an administration fee or set a minimum capacity for ACOT eligibility, to reflect administration and data management costs. We consider that distributors are best placed to continue making these sorts of assessments.

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registry is cross-matched with this table to find the parent GXP, or root POC(s) that relate to the GXP name that Transpower provides in its report.

<sup>8</sup> The Code requires distributors, asset owners and the grid owner to maintain a table of NSPs. The NSP table is maintained by the reconciliation manager and is the industry master set of reconciliation points of connection. It contains parent-child relationships of interconnection points. The NSP obtained from the registry is cross-matched with this table to find the parent GXP, or root POC, matching the name that Transpower provides us in its report.

- 4.14 The submitter also suggested that eligibility for ACOT payments should be confined to the time periods in which Transpower assessed each distributed generator as being required to meet the grid reliability standards. For example, if Transpower identified a distributed generator as being required from winter 2019, eligibility would be confined to that period.
- 4.15 The Authority has not adopted this proposed approach because it would not be consistent with the Code. Further, as we stated in December 2016, the current arrangements are intended to be transitional, and we expect to refine them further so that ACOT payments do not exceed the transmission benefits being provided by distributed generation.

## 5 Other matters raised by submitters

- 5.1 Some submitters commented on issues other than the content of the proposed list of eligible distributed generation, such as the Authority's 2016 decision to amend the Code. Although the comments are not about the content of the list, we briefly respond to key issues below.

### **Methodology used to inform Transpower's report**

- 5.2 Most submitters supported the general methodology employed by Transpower's consultant, Mitton ElectroNet, to identify distributed generation necessary to meet the grid reliability standards.
- 5.3 Two submitters suggested tweaks or extensions of the approach that Mitton ElectroNet used. The IEGA sought clarity as to whether the approach would be consistent for the remaining three transmission regions.
- 5.4 We note that it is up to Transpower to prepare reports that comply with the Code, and hence appropriately apply the grid reliability standards test. The Authority understands that Transpower intends to undertake a fundamentally similar approach for its other reports, and the Authority will give due consideration to Transpower's reports. We also reiterate that we will consult stakeholders on a proposed list for each transmission region.

### **Other benefits from distributed generation**

- 5.5 Contact, NZ Energy, Pioneer, Tararua Wind and Trustpower submitted that the methodology should account for other benefits, such as increased renewable energy or deferred distribution investment.
- 5.6 The Authority acknowledges that distributed generation can have wider benefits than avoided transmission costs. For example, we recognise that distributed generation can reduce greenhouse gas emissions. However, this quality is not unique to distributed generation, as most of New Zealand's grid-connected generation is also renewable. Indeed, some distributed generation, such as the diesel-fired units at Bream Bay in Northland produce relatively high emissions per unit of output.
- 5.7 Table 3 in our 2016 Decision Paper summarised the range of non-transmission related services that distributed generation can provide, and how those can be rewarded, including via contracting between distributed generators and Transpower.
- 5.8 On this specific issue, NZ Energy submitted that Transpower is yet to finalise a mechanism to contract with distributed generation. We note that in response to an Official Information Act request MEUG made to Transpower, which MEUG provided

alongside its submission on the consultation paper, Transpower indicated that it does not currently have a standard contract for distributed generation as a transmission alternative, but will develop one if it becomes necessary. We intend to write to Transpower to encourage it to expeditiously develop a transparent and appropriate contracting approach new distributed generation plant.

### **Interactions with the Transmission Pricing Methodology**

- 5.9 Meridian and NZ Energy submitters made suggestions relating to possible interactions with the transmission pricing methodology (TPM).
- 5.10 We note that it is yet to be determined what, if any, changes will be made to the TPM guidelines.
- 5.11 We further reiterate our commitment to refining the arrangements over time, to ensure that pricing arrangements provide ongoing incentives for efficient investment and operation of distributed generation. This will either be done through:
  - (a) if the TPM guidelines change, then in parallel with submitting a new TPM to the Authority for approval, Transpower should also recommend to the Authority further adjustments to the distributed generation pricing principles; or
  - (b) if no changes are made to the TPM guidelines, a review of ACOT arrangements for each region, no later than five years after the new arrangements have commenced for each region.

### **The 2016 Code amendment process: consultation**

- 5.12 The IEGA, NZ Energy, Pioneer and Trustpower submitters made comments about the process we followed in making changes to Part 6 of the Code in 2016. These comments generally suggested that the process had been rushed, had not considered the implementation details, and did not allow for adequate consultation.
- 5.13 The Authority considers these submissions are not relevant to its decision on the list of distributed generation eligible to qualify for ACOT payments in the lower South Island region, but notes that:
  - (a) The changes to ACOT payments that were gazetted in December 2016 were made after more than four years of consultation and analysis.
  - (b) The Authority complied with the consultation procedures set out in section 39 of the Electricity Industry Act, and its consultation charter.
  - (c) The Authority has committed to consulting with interested parties before it makes final decisions on which distributed generation is eligible to qualify for ACOT payments on the regulated terms. The most recent consultation on the list for the lower South Island has informed our final decision for that transmission region.

### **The 2016 Code amendment process: cost benefit analysis**

- 5.14 The IEGA, Pioneer and Trustpower submitted that the Authority should revisit the cost benefit analysis (CBA) that supported the 2016 Code amendment.
- 5.15 The Authority considers this submission is not relevant to its decision on the list of distributed generation eligible to qualify for ACOT payments in the lower South Island region.

- 5.16 However, the Authority would like to reiterate that the position remains fundamentally the same as in 2016. We still expect net benefits to arise from the Code amendment. We note that the primary benefit in that analysis resulted from removing the automatic eligibility for ACOT payments for future new distributed generation, and that more modest benefits were expected in relation to existing distributed generation.
- 5.17 We estimated the net economic benefit to New Zealand of tightening eligibility for ACOT payments to be around \$33 million in present value terms, calculated over a 15-year period. The benefits are mostly forward-looking, with benefits from:
- (a) reducing inefficient investment in new distributed generation of \$23 million
  - (b) reducing inefficient reinvestment in some existing distributed generation of \$5.5 million
  - (c) reducing inefficient operation of existing distributed generation of \$4.4 million.
- 5.18 We think the expected benefits are being realised. We have heard anecdotally the new ACOT arrangements changed the incentives to invest in new distributed generation, and now promote more efficient investment with some new investments not going ahead.
- 5.19 The Authority did highlight the potential for the changes to save consumers \$25–\$35 million a year by reducing ACOT payments relative to previous years. However, any change to the amount of ACOT payments made to existing distributed generators involves wealth transfers between distributed generators, distributors and consumers. The CBA did not take into account the possible wealth transfer from distributed generators and distributors to consumers.
- 5.20 We also recognised when introducing the new ACOT arrangements that treatment of existing distributed generation was transitional. We said the ACOT arrangements will be revisited, either as part of introducing a new transmission pricing methodology, or after five years.
- 5.21 A further benefit of the approach taken is it clearly signals the Authority does not support ‘grandfathering’ of inefficient arrangements or payments. The proposed list excludes some distributed generation which had previously received ACOT payments. That said, Transpower applied a conservative approach to identifying distributed generation which is required to meet the Grid Reliability Standards. A less conservative approach would further reduce the number of distributed generators on the list.