

Improving visibility of generation investment: clause 2.16 information notices

Consultation paper

21 August 2024

Executive summary

The purpose of this consultation paper

The Electricity Authority Te Mana Hiko (Authority) is consulting on two proposed information gathering notices under the *Regular and Event-Driven Provision of Information to the Authority* sub-part of the Electricity Industry Participation Code 2010 (Code) (clauses 2.16-2.22). The purpose of these proposed clause 2.16 notices is to collect information on grid-connected load and generation projects, as well as the cost of generation developments on the transmission and distribution networks.

Why we need more frequent, reliable, and greater investment information

New Zealand's electricity system is changing. As New Zealanders increasingly switch to electricity for their energy needs, and digitalisation increases, we need more generation to meet that increasing demand. The Authority has a programme of work underway to support increased investment in generation. Part of that work involves providing better information about the supply and demand outlook to support investment.

The Authority currently publishes a [dashboard](#) of the generation investment pipeline and a list of generation investments that have been publicly announced. These are interim measures to improve the visibility of the generation pipeline. Updating the previous Authority generation investment survey data with new generation public announcements has helped ensure it is as up to date as possible, but some developers do not publicly announce their projects. Key to improving the dashboard is ensuring it is updated regularly, rather than relying on time-consuming surveys that soon become out of date once published.

We also want to make sure that enough generation is being built to meet demand—in terms of energy (having enough 'fuel' over the course of a year or multiple years) and capacity (meeting demand at peak times). Ensuring sufficient generation is being built, and an understanding of any investment constraints, are key outcomes for the Authority. The Authority will be monitoring the level of investment commitments and that they are being delivered in a timely way.

An enhanced dashboard and publication of other investment information aligns with the Authority's statutory objectives and functions to undertake market-facilitation measures and industry and market monitoring. Enabling access to comprehensive, reliable and regular information about the pipeline of generation and load projects supports:

- competition through transparency and a level playing field for access to information that informs investment decisions
- reliable supply by better enabling the assessment of whether new generation in the pipeline is sufficient to meet expected demand and to respond appropriately
- efficient operation by providing better information to investors and participants to help ensure that the right investment happens at the right time and in the right place.

However ultimately, and importantly, this work promotes investment and competition for the long-term benefit of consumers – delivering a more reliable electricity system and more affordable prices for consumers.

We are seeking your views on two clause 2.16 notices to deliver on these outcomes

The two proposed clause 2.16 notices we are consulting on are designed to enhance the information the Authority collects, to enable us to improve our generation investment dashboard.

The first proposed clause 2.16 notice, relating to the **list of developments**, would be to Transpower and covers generation and load developments on transmission networks. Other work is already in progress to review Part 6 of the Code, which covers generation and load projects on distribution networks.

The second proposed clause 2.16 notice relates to the **cost of new generation developments**. In our preliminary view this is important information to improve our monitoring of competition, by using this data to calculate the levelised cost of energy (LCOE). This clause 2.16 notice would be to developers at the point that they connect to the network. Only the anonymised derived LCOEs will be published and used for monitoring purposes—to avoid publishing cost information which is often commercially sensitive.

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1. What you need to know to make a submission

What this consultation is about

- 1.1. The purpose of this paper is to consult with interested parties on the Authority's two proposed information gathering notices under the *Regular and Event-Driven Provision of Information to the Authority* sub-part of the Code (clauses 2.16-2.22) to collect information on grid-connected load and generation projects.
- 1.2. The information sought by the proposed clause 2.16 notices will assist participants in making informed investment decisions, improve the monitoring of long-term security of supply, and promote effective competition in the electricity sector for the long-term benefit of consumers, in line with the Authority's main statutory objective. It also aligns with the Authority's function to undertake industry and market monitoring.
- 1.3. Clause 2.18 of the Code requires the Authority to consult on the proposed notice before publishing. Specifically, the Authority must provide the proposed notice, the Authority's purpose in setting the information requirements, and the Authority's assessment of the likely benefits of the Authority obtaining the information and whether the benefits are expected to outweigh the likely costs. The proposed clause 2.16 notices are set out in Appendices A and B and the Authority's preliminary assessment of costs and benefits is in Part 7.

How to make a submission

- 1.4. The Authority's preference is to receive submissions in electronic format (through the Authority's information provision platform info.ea.govt.nz) using the questions in Appendix C. Submissions in electronic form should be [uploaded](https://info.ea.govt.nz/sl/013b32) to <https://info.ea.govt.nz/sl/013b32>.
- 1.5. If you cannot send your submission electronically or would prefer to send a Microsoft Word submission, please contact the Authority (info@ea.govt.nz or 04 460 8860) to discuss alternative arrangements.
- 1.6. Please note the Authority intends to publish all submissions it receives. If you consider that the Authority should not publish any part of your submission, please:
 - (a) indicate which part should not be published,
 - (i) explain why you consider we should not publish that part, and
 - (b) provide a version of your submission that the Authority can publish (if we agree not to publish your full submission).
- 1.7. If you indicate part of your submission should not be published, the Authority will discuss this with you before deciding whether to not publish that part of your submission.
- 1.8. However, please note that all submissions received by the Authority, including any parts that the Authority does not publish, can be requested under the Official Information Act 1982. This means the Authority would be required to release material not published unless good reason existed under the Official Information Act to withhold it. The Authority would normally consult with you before releasing any material that you said should not be published.

When to make a submission

- 1.9. Please deliver your submission by 5pm on Wednesday 18 September 2024 (four weeks from the date of submissions opening).
- 1.10. Authority staff will acknowledge receipt of all submissions electronically. Please contact the Authority info@ea.govt.nz or 04 460 8860 if you do not receive electronic acknowledgement of your submission within two business days.

2. Objectives and outcomes

- 2.1. The Authority's main statutory objective is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.¹
- 2.2. The Authority's statutory functions include:
 - (a) to undertake market-facilitation measures (for example, providing education, guidelines, information, and model arrangements), and to monitor the operation and effectiveness of market facilitation measures
 - (b) to undertake industry and market monitoring, and carry out and make publicly available reviews, studies, and inquiries into any matter relating to the electricity industry.
- 2.3. Monitoring expectations of supply and demand, and providing information to the industry on the outcomes of that monitoring, falls under these statutory functions and contributes to each of the elements of our main statutory objective. Enabling access to comprehensive, reliable and regular information about the pipeline of generation and load projects supports:
 - (a) competition through transparency and a level playing field for access to information that informs investment decisions
 - (b) reliable supply by better enabling participants, regulators, and policymakers to assess whether new generation in the pipeline is sufficient to meet expected demand and to respond appropriately
 - (c) efficient operation by providing better information to investors and participants to help ensure that the right investment happens at the right time and in the right place.

3. Issues the Authority would like to address

- 3.1. Overall, the Authority is seeking to provide better information about investment in generation.
- 3.2. Until 2022, the Authority published limited information about investment. Since then, the Authority has published two annual generation investment surveys, in 2022 and 2023. However annual surveys are static and quickly become out of date once

¹ Electricity Industry Act 2010 – section 15(1)

published. The data collection method—interviews—is also time consuming. The Authority wants to develop its approach further.

- 3.3. In June 2024, the Authority [published a dashboard](#) summarising the data on current generation and expected new generation from the Authority's 2022 and 2023 Generation Investment Surveys. We also [published a list of investment projects](#) which have been publicly announced, with information on each project's status as used in the surveys.
- 3.4. The data included in the dashboard and the list of investment projects utilised data from the Generation Investment Surveys. The survey data for the Generation Investment Surveys was collected mostly by interview, which was time-consuming and costly. Interviews also required manual entry by interviewers of information provided during the interviews on the projects, requiring follow-up checks with developers. Removing these costs and streamlining the information provision process contributes to the relatively low costs of the proposed clause 2.16 notices. The survey was conducted under confidentiality assurances, which limited publication of data to projects that are already in the public domain.
- 3.5. Updating the survey data with new generation public announcements has helped ensure it is as up to date as possible, but some projects do not make public announcements. Additionally, the details of projects often change, especially at early stages of development, making accurate updates difficult from public sources only, as it is not always possible to tell whether a project has already been included in the dataset.
- 3.6. While these changes to the information we currently publish have improved the availability of information, there are several issues with the current approach:
 - (a) information on the pipeline is dispersed and not easy for people to find in a centralised location
 - (b) information on the pipeline is not updated frequently enough to be reliable, and may rely too much on self-assessment
 - (c) not having enough good information limits decision-making and does not provide enough information to support policy development.

Information on the pipeline of new generation is not centralised

- 3.7. Currently, information available about the pipeline of new generation—and about levelised cost of energy (LCOE)²—is dispersed across several Government agencies and other organisations.

Other sources of relevant information

- 3.8. The Authority's Generation Investment Survey, and MBIE's Generation Stack information and Electricity Demand and Generation Scenarios provide information

² The levelised cost of energy compares lifetime costs and generation output across different technologies, like wind, solar, geothermal, hydro and thermal fuel sourced generation, like coal and gas turbines. In general, a lower LCOE is more attractive for developers as, on average, the asset can pay itself back with lower average electricity prices. See <https://www.ea.govt.nz/news/eye-on-electricity/the-levelised-cost-of-electricity/>

on the connection pipeline, with different details provided in each. The proposed clause 2.16 notices are intended to replace the Generation Investment Surveys undertaken by the Authority, which were run in 2022 and 2023 but are not ongoing.

- 3.9. Transpower collects connection enquiry data and publishes an anonymised queue for connection studies, which is discussed further below.
- 3.10. Outside the public sector, [EVA Marketplace](#) and bespoke reports (such as BCG's [The Future is Electric](#)) also provide information on generation projects in the pipeline, drawing on the sources above and from public announcements. As with Transpower's connection enquiry information, these tend to be anonymised or aggregated (ie, they do not provide significant information about individual projects).
- 3.11. Similarly, public information about LCOE is limited to reports such as the Generation Investment Survey, which were indicative only and calculated LCOE using company disclosures and an assessment of other published data, and public disclosures from listed companies

Transpower's connection enquiry data

- 3.12. Transpower's [connection enquiry information](#) is the most complete dataset of new grid-connection generation. However, the data collected is limited, and much of it is not able to be published due to the way Transpower receives the information from developers; through individually agreed information sharing arrangements which involve non-disclosure requirements for certain aspects of the information. The information is also limited in that generators do not need to update Transpower any time there is a change in project status; only when it becomes relevant for Transpower or when the development reaches a certain stage.
- 3.13. In addition, this data does not provide detail for prospective developers and participants to assess the likely impact of projects, if projects are likely to go ahead, and when projects may be likely to be commissioned. Transpower also does not receive timely information on any changes to project statuses. Transpower (as the system operator) uses connection enquiry information to inform their annual security of supply assessments.
- 3.14. Transpower acknowledges that there may be projects in the queue that are not currently being pursued and are either speculative or abandoned, and unless the developer contacts Transpower they will not be removed until Transpower requires payment for the connection study.³ Similarly, there is no confirmation that a project has been committed to go ahead until Transpower starts the delivery process (unless the developer makes a public announcement). Projects that change other information such as size, location, or ownership are also not tracked robustly or in a timely fashion.

³ Noting that the implementation of Transpower's Connections Management Framework seems to have successfully disincentivised speculative enquiries. The Framework is currently being reviewed, see [Consultation document: Reviewing the settings of the Connections Management Framework, Transpower](#)

- 3.15. The connection enquiry dashboard is a relatively recent addition to Transpower's regular data publication, as part of the customer connection process improvement roadmap.⁴
- 3.16. Transpower provided the Authority with a more complete version of the dataset in response to a request made under section 46 of the Electricity Industry Act 2010 (Act) in both 2022 and 2023. This dataset included the name of the developer, project name, location (including GIS information in 2023), generation technology, MW, date of enquiry, project status, sequence number, likelihood of proceeding (as assessed by Transpower), status (as assessed by Transpower ie, active, on hold, etc.), connection type (Transpower or electricity distribution business (EDB) connected) and additional comments.
- 3.17. EDBs also hold information for distributed generation connection enquiries. Transpower says some EDBs provide Transpower with information, but others do not. There is less visibility over new distributed generation than grid-connected generation. There are also greater limitations; the vast number of Distributed Energy Resources means EDBs have greater challenges in establishing new connection information, particularly for generation at smaller scales.⁵
- 3.18. Improvements to the connection process for distributed generation and distributed load are also being considered by the Authority, supported by the Network Connections Technical Group. The Authority intends to consult on changes to Part 6 of the Code in the coming months.

Existing information is not updated frequently

- 3.19. One of the issues with existing information collection is that it is not updated frequently. The Authority's Generation Investment Surveys have been run annually and provide a snapshot, rather than an ongoing assessment of what is in the pipeline.
- 3.20. Information about projects can change quickly, including their size, location, developer, and planned completion dates. Between the 2022 and 2023 Generation Investment Surveys run by the Authority, many projects delayed or otherwise changed their intended commissioning date as projects progressed through the planning stages and gained more information about when they might connect to the transmission network or other information.
- 3.21. An important aspect of improving the monitoring of the pipeline of new generation (and load) is being able to assess what is actually being built compared with what developers had previously promised. More regular and more credible collection of information through this project will improve that monitoring going forward.

A lack of information on the pipeline limits informed decision-making

- 3.22. Potential electricity generation developers rely on accurate information about costs and returns when they make investment decisions. That includes an assessment of

⁴ See [Transpower FY 2023 Integrated Report](#)

⁵ Connection of distributed generation (and load) is being addressed separately through the Part 6 Code review and the Network Connection Technical Group's work

costs; the capital cost of generation which informs LCOE, and expected returns; strong price signals from the futures market and other price forecasts as well as how other developments (both generation and load) might impact those prices.

3.23. The Authority as the regulator, and Transpower as the system operator (as well as other agencies such as MBIE), also rely on good information about the cost of new generation, futures prices and the generation pipeline to inform any regulatory changes that might be required to enable timely investment or to ensure security of supply and good outcomes for consumers.

3.24. Lack of consistently available information about planned investment creates uncertainty for prospective developers, which in turn reduces investment (in the longer term) and increases prices. Since 2021 forward prices have been consistently above LCOE, which more broadly signals a lag in market participants acting on price signals due to impediments to investment, as discussed in the 2022 investment survey. If these impediments are not remedied, consumers will face increased costs.⁶ Electricity Networks Aotearoa (the representative group for EDBs) summarises this well in its 2023 [Briefing to the Incoming Minister for Energy](#):

“Futures of wholesale electricity prices have been elevated and highly volatile over the past five years with prices today close to twice what they were in 2017. A key concern is the disconnect between wholesale price futures and the long run marginal cost (LRMC) of generation. This disconnect indicates a failure of the market to function effectively. If it was working properly the futures prices above LRMC of generation would spur a material increase in generation investment which in turn would lead to a decline in wholesale prices.

“The consequences of the market failing to deliver additional generation capacity has manifested itself in elevated risk of generation shortfalls at peak times and unduly high prices to industrial, commercial, and residential consumers at time when general inflation is at the highest level for a generation.”

3.25. While information is currently collected by Transpower for system operation purposes, most of the information collected is not available to other participants. This leads to duplicated efforts by other players including the Authority and MBIE and may advantage larger players who have resources to investigate investment levels and therefore make more informed investment decisions. Additionally, as mentioned above, the information collected by Transpower is limited.

4. Support for the Authority’s approach

4.1. The Authority’s assessment is that there is a need for improved information on the pipeline of new generation and load. This is supported by several sources:

- (a) a recommendation from the Authority’s MDAG
- (b) a recommendation in the Authority’s 2023 Generation Investment Survey
- (c) an increase in connection enquiries in recent years.

⁶ Noting that forward prices do not always provide an accurate assessment of the returns new generation will receive due to different GWAP/TWAP ratios for different generation technologies.

- 4.2. In addition to the above, Transpower has previously submitted a Code amendment request⁷ around improving the transparency of generation connection enquiries.
- 4.3. The Authority has previously discussed the importance of providing more information on new projects (demand, supply, and battery storage) in the development pipeline to assist decision-making as part of the 2023 consultation on *Ensuring an Orderly Thermal Transition*.⁸ The Authority's assessment is that progressing this work now will also help with an orderly thermal transition despite not specifically requiring information about planned retirements of thermal generation.

The MDAG report *Price discovery in a renewables-based electricity system* recommended improving information on the development pipeline

- 4.4. In June 2021, the Authority asked the MDAG, an independent advisory group established under section 21 of the Act, to investigate and report on changes needed to New Zealand's wholesale electricity market to facilitate the shift to a renewables-based electricity system.
- 4.5. In December 2022, MDAG published an options paper for consultation. The paper included an option (Option B3) to 'publish aggregated information on pipeline of new developments, energy and capacity adequacy.'⁹ Submissions from industry on the options paper largely supported the proposed option, though some submitters questioned whether existing information is already sufficient.
- 4.6. In MDAG's final report, published in December 2023, this was reflected as Recommendation 17 'Information on development pipeline.'¹⁰
- 4.7. MDAG recommended in their final report that the Authority should 'publish (or require and assist Transpower to publish) aggregated information on the pipeline of new developments, energy and capacity adequacy.'
- 4.8. MDAG commented:

"Transpower's connection enquiry dashboard has significantly improved the visibility of generation and load projects, and as such this recommendation is not so urgent as to be put in Tranche 1. However, there are still some significant information gaps.¹¹ For example, developers do not need to disclose when projects have reached final investment decision and have commenced construction. While some developers (particularly those listed on the NZX) disclose such information, others do not (or at least not in a consistent basis).

⁷ CAR168 – Transparency of generation connection enquiries, received 16 March 2022. See the Code amendment register at <https://www.ea.govt.nz/code-and-compliance/code/amendments/>

⁸ See page 35, *Ensuring an Orderly Thermal Transition* Consultation paper, July 2023, https://www.ea.govt.nz/documents/3148/Ensuring_an_Orderly_Thermal_Transition_6_June_202313971_02.1_1.pdf

⁹ See page 17, *Price discovery in a renewables-based electricity system: Library of options*, <https://www.ea.govt.nz/documents/1247/MDAG-Library-of-options-FINAL-1.pdf>

¹⁰ See page 99, *Price discovery in a renewables-based electricity system: Final recommendations paper*, https://www.ea.govt.nz/documents/4335/Appendix_A2_-_Final_recommendations_report.pdf

¹¹ Especially when compared with, for example, Australia's National Electricity Market Generation information publications – see <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

“In late 2023, there appeared to be around 1,400 GWh of new supply capacity that was committed/under construction that was not necessarily publicly announced. Most that that generation was likely to be operating within 1-2 years, but the existence of the resource was not necessarily in the public domain, making it harder to assess the supply/demand outlook.

“We recommend New Zealand adopt the NEM approach. As a corollary benefit, we expect that enhanced information provision would be pro-competitive. This is because under current arrangements, participants must rely more on their own resources to collect information, and this is generally easier for the larger established parties.”¹²

- 4.9. Since receiving the final report from MDAG in December 2023, the Authority has committed to implementing MDAG’s recommendations into our work programme as a sequenced package and has work underway on 10 recommendations, including this work on recommendation 17.

The Authority’s 2023 Generation Investment Survey recommended changes to improve pipeline information

- 4.10. In 2022¹³ and 2023, the Authority commissioned Concept Consulting to carry out surveys of planned investment in new generation. These surveys aimed to create the most comprehensive view of planned new generation, including committed and actively pursued generation, along with analysis of LCOE compared to forward energy prices, an analysis of energy and capacity adequacy in the coming years, and factors limiting development.
- 4.11. The 2023 survey revealed:¹⁴
- (a) New build costs have risen but are still below futures contract prices, indicating uncertainty or non-price challenges to development.
 - (b) The pipeline is changing quickly and between July 2022 and November 2023 the amount of committed generation almost doubled from 2,600 GWh to 5,000 GWh.
 - (c) In addition to already committed generation, we estimate that 1,700 GWh needs to be built by 2025, increasing to 2,700 GWh by 2027, in order to meet expected demand growth.
 - (d) The pipeline of ‘actively pursued’ generation which could be completed by 2027 increased from 12,700 GWh to 20,800 GWh. Most of this generation is solar or wind.
 - (e) More generation is in the pipeline than public sources suggest, implying that public domain information (including Transpower’s information) is not adequate for a fully informed view of the pipeline.

¹² See page 99, Price discovery in a renewables-based electricity system: Final recommendations paper, https://www.ea.govt.nz/documents/4335/Appendix_A2_-_Final_recommendations_report.pdf

¹³ Generation investment survey 2022, <https://www.ea.govt.nz/documents/2156/Information-paper-Generation-Investment-Survey-2022-Concept-Consulting-.pdf>

¹⁴ Generation investment survey 2023, https://www.ea.govt.nz/documents/4414/Generation_Investment_Survey_-_2023_update.pdf

- 4.12. The 2023 Generation Investment Survey also made recommendations related to the generation pipeline:

“Improve pipeline information: Public information about the pipeline has improved but remains fuzzy in key areas. For example, it appears around 1,400 GWh of new projects are in construction or committed for development, but this status is not necessarily clear in public sources. This difference is material and equates to more than one year of national demand growth. Developers, customers and other stakeholders need clearer, and more timely information on project status to reduce the likelihood of surprises, which could disrupt investment confidence.

“Active monitoring: Forward prices have a declining profile over time but remain above the estimated cost of new supply. There is no evidence from this survey that major participants are impeding the pace of new supply expansion. Indeed, they are all actively pursuing their own projects, and there are also examples where some have supported independent competitor projects, via offtake agreements, firming contracts or joint ventures etc. Nonetheless, it remains critical for the Authority to continue its active monitoring of competition in new investment and offtake agreement areas, since timely new investment is the best solution to address current tight supply conditions. A particular issue the Authority could consider in this context is the cause of the rising premium in forward prices at Otahuhu relative to Benmore.”¹⁵

- 4.13. The 2023 Generation Investment Survey recommendations, in parallel with other recommendations, have informed the work we have undertaken to improve the visibility of the pipeline of new generation.

The number of connection enquiries has significantly increased in recent years

- 4.14. Part of the transition to a renewables-based system is an increase in the impact of uncertainty about the development pipeline—and an increase in projects in the pipeline. As explained by MDAG:

“In the past, this uncertainty was less problematic because new developments had long lead times and tended to be highly visible. For example, it took many years to build hydro, geothermal or thermal stations. Demand was also relatively predictable, so the likelihood of major surprises was low.

“Some technologies are now very quick to deploy (such as solar farms and batteries which can be built in less than 12 months). Demand is also less predictable with the potential for significant step changes as some large users retrench and others grow.”¹⁶

- 4.15. Since 2019, Transpower has seen a step change in the number of connection enquiries. In 2018/19, there were five enquiries, all pertaining to generation. In 2022/23 there were 104 enquiries, with 72 pertaining to generation. This appears to

¹⁵ Generation investment survey 2023, https://www.ea.govt.nz/documents/4414/Generation_Investment_Survey_-_2023_update.pdf

¹⁶ MDAG, Price discovery in a renewables-based electricity system: Library of options, December 2022, <https://www.ea.govt.nz/documents/1247/MDAG-Library-of-options-FINAL-1.pdf>

be past the peak of 124 enquiries in 2021/22 (with 107 pertaining to generation), but levels remain elevated.¹⁷

- 4.16. For this reason, Transpower implemented its Connections Management Framework in November 2022, and has recently completed a review of the framework.¹⁸

Overseas regulators and market operators often publish more information

AEMO (Australia)

- 4.17. MDAG recommended using the Australian Energy Market Operator's (AEMO) regime of disclosure of planned generation projects to improve the visibility of generation investment in New Zealand. The Australian Energy Market Commission's (AEMC) National Electricity Rules (NER) set out the information required to be published by the AEMO, which includes all existing and proposed generation plant.
- 4.18. The information required includes the location of the project, the developer, detailed information about fuel type and the number of units (eg, the number of wind turbines), as well as high and low estimates for MW output. Additionally, AEMO requires projections for the next 10 years of output in different seasonal conditions, to cover information about retirement of existing generation, and any differences in output in, for example, peak summer temperatures that may limit output.
- 4.19. AEMO collect this information monthly and track changes in projects over time. It publishes a list of all projects along with most of the information collected, as well as a change log that shows the changes to projects since the last data collection.

National Grid ESO (United Kingdom)

- 4.20. In the United Kingdom, connection data is publicly available from the [Transmission Entry Capacity \(TEC\) Register](#) and is run by National Grid and regulated by Ofgem. Over recent years, the primary focus on the register has related to 'clearing space' for projects entering the connection queue given the high number of speculative or stalled projects.¹⁹ The TEC Register requires a contract with National Grid and can incur fines for termination or not meeting the contracted capacity or timeframe.
- 4.21. The Energy System Operator (soon to become the National Energy System Operator)'s [Connection and Use of System Code \(CUSC\)](#) sets out the requirement for National Grid to publish a TEC Register, which must contain "the name of the

¹⁷ All figures here from Whakamana i Te Mauri Hiko – Monitoring Report October 2023, <https://www.transpower.co.nz/about-us/our-strategy/whakamana-i-te-mauri-hiko-empowering-our-energy-future>

¹⁸ See Transpower's Consultation document: Reviewing the settings of the Connections Management Framework, March 2024, https://static.transpower.co.nz/public/uncontrolled_docs/Review%20of%20the%20Connections%20Management%20Framework%20March%20consultation%20paper%202024.pdf and Decision document: Decision paper on reviewing the settings of the Connection Management Framework, July 2024, <https://static.transpower.co.nz/public/2024-07/Decision%20paper%20Changes%20to%20the%20Connection%20Management%20Framework%201%20July%202024.pdf>

¹⁹ See <https://www.ofgem.gov.uk/publications/cmp376-inclusion-queue-management-process-within-cusc>, <https://www.nationalgrid.com/electricity-transmission/future-of-connections>

user, the connection site (or in the case of an embedded generator site of connection), the transmission entry capacity and the expected year of connection.

Energy Reliability Council of Texas (ERCOT)

- 4.22. In Texas, ERCOT publishes monthly Generation Interconnection Studies, which are based on information that ERCOT's 'Planning Guide' requires (as part of its Market Rules). The information provided is published in significant detail, including information about consents (with dates), among other standard information also published in Australia and the United Kingdom.

5. The Authority's preferred option is increased information disclosure and publication

- 5.1. To better inform investment decisions, support a long-term view of security of supply, and to promote effective competition in the sector, the Authority proposes increasing the information available to the sector and the public on the pipeline of new generation and new demand.
- 5.2. We propose to do this by requiring, through issuing an information request under clause 2.16 of the Code, information to be provided to the Authority for publication. Publication would include listing projects—both generation and load—in the pipeline. Additionally, we propose requesting information from developers on the cost of projects to better inform LCOE, to assess whether investments are being made in a timely manner, to inform whether further work is needed to assess possible impediments to investment.
- 5.3. Additionally, the Authority considers there to be a public benefit in improved information on the cost of new supply. We propose collecting information on the cost of projects from developers once projects are complete.
- 5.4. The Authority proposes that some or all of the information collected may be shared with other Government departments such as MBIE where appropriate.

We propose issuing notices under clause 2.16 of the Code for the information we need

- 5.5. Clause 2.16(1) of the Code enables the Authority to publish a notice specifying information that a participant must, on a regular basis or as a result of an identified event, collect, collate and/or provide to the Authority.
- 5.6. The Authority can use a clause 2.16 notice only for the purposes set out in section 45(a) of the Act, being to carry out the Authority's monitoring functions which are to:
- (a) monitor compliance with the Act, the regulations and the Code under section 16(1)(c) of the Act; or
 - (b) undertake and monitor the operation and effectiveness of market-facilitation measures under section 16(1)(f) of the Act; or
 - (c) undertake industry and market monitoring, and carry out and make publicly available reviews, studies, and inquiries into any matter relating to the electricity industry, under section 16(1)(g) of the Act.

- 5.7. The Authority proposes to issue two notices under clause 2.16 of the Code to request:
- (a) regular information and updates about developments of new generation and load connecting to the transmission network; and
 - (b) information about the cost of new generation connecting to the transmission and distribution networks (at commissioning).
- 5.8. The information sought by the proposed clause 2.16 notices is intended to assist participants in making informed investment decisions and to improve monitoring of long-term security of supply—which will promote effective competition in the electricity sector for the long-term benefit of consumers in line with the Authority’s statutory objectives. It aligns with the Authority’s function to undertake market facilitation measures under s16(1)(f) of the Act and industry and market monitoring under s16(1)(g) of the Act. Therefore, the proposed clause 2.16 notices would be being used for a purpose set out under s45(a) of the Act.
- 5.9. The first proposed clause 2.16 notice is proposed to only cover developments on the transmission network. This reflects that a separate work programme is underway at the Authority to review Part 6 of the Code, which covers distributed generation.

The first proposed clause 2.16 notice would be to Transpower covering generation and load projects

- 5.10. The Authority proposes issuing a clause 2.16 notice to Transpower (as grid owner) to require information collected and held by Transpower on generation and load projects to be provided to the Authority. The proposed clause 2.16 notice will also require Transpower to strengthen and expand the information they collect; requiring Transpower to collect more detailed information more regularly from developers for provision to the Authority.
- 5.11. As some developers are not registered participants, the Authority cannot compel those developers directly to provide information until they become a participant (typically at or around the time that they commission their generation or direct connect load).
- 5.12. Developers do, however, already need to provide information to Transpower (or distributors, for connections to distribution networks) to inform connection agreements as part of Transpower’s Connections Management Framework. Because of this, Transpower is best placed to collect and pass on information to the Authority relating to these connection enquiries. This also removes the risk of duplicating the information requirements that could happen if both the Authority and Transpower requested information from participants.
- 5.13. At a high level, the information that the Authority proposes to require Transpower to collect and provide pertains to the type, location, size, and stage of development. This is set out in more detail in the proposed clause 2.16 notice at Appendix A.

The Authority’s preferred option is monthly collection and publication

- 5.14. The Authority is proposing monthly collection of this information as it will enable Transpower to provide information from a ‘rolling’ set of information, rather than being required to seek out information from participants on a semi-regular basis

(such as quarterly). However, the Authority's intention is that Transpower will pass on the expectation to developers to update Transpower frequently, within reason, when developments progress or significant aspects of the development change.

- 5.15. Monthly collection of information enables the Authority to more frequently track changes to projects as they progress—including an assessment of which projects are being delivered against what had been indicated by developers. The Authority also plans to publish the collected information and assessment (ie, updating the dashboard) frequently.
- 5.16. Given the large number of projects in the current investment pipeline—representing more than double Aotearoa's existing generation capacity—understanding which projects progress and which do not is an important part of monitoring security of supply and competition in the wholesale market.

Q1. Do you agree with the Authority's proposal to require monthly provision of information to the Authority, to enable a 'rolling' set of information?

Q2. Do you agree with the Authority's initial assessment that developers will be required to regularly update Transpower when significant information changes for their projects, or should Transpower be required to regularly ask for information from developers?

Some of the information is sensitive and would be handled in accordance with clause 2.22 of the Code

- 5.17. The Authority acknowledges that some information in the proposed clause 2.16 notices is currently subject to non-disclosure agreements between Transpower and connecting parties, and some information being requested (particularly related to details of consents, land acquisition, and final investment decision) may be commercially sensitive.
- 5.18. For information about consenting status, land acquisition, final investment decision, and other sensitive information, the Authority proposes to aggregate these factors and publish an overall 'stage' indicator (similar to the current designation of 'committed', 'actively pursued', and 'other') to ensure that developers' commercial incentives are not impacted.
- 5.19. Clause 2.21 of the Code provides that participants may identify confidential information when providing information to the Authority. It is our expectation that developers will be able to identify to Transpower any confidential information. Clause 2.22 of the Code sets out how the Authority will deal with information identified as confidential.

Q3. Do you have any comments on the proposal to require developers (via Transpower) to provide increased information on their generation and load projects?

The second proposed clause 2.16 notice would be to generators requesting cost information

- 5.20. We propose that a separate clause 2.16 notice be issued to generators to request information on the cost of new developments. Our preliminary view is that this would improve the Authority's monitoring of the LCOE for new generation against forward prices, which supports our analysis of competition in the wholesale market.

- 5.21. The proposed clause 2.16 notice requires generators to provide this information at the time they commission the new generation (with some leeway), to ensure that they are registered as a participant, and to enable the best possible estimate of the final construction cost.
- 5.22. The Authority again recognises that cost information may be sensitive. The Authority would handle this information in accordance with clause 2.22 of the Code. For generators who assess information provided as part of this proposed clause 2.16 notice to be sensitive, the Authority’s intent at this stage would be to use the information collected as an input for calculating LCOE. We anticipate aggregating cost information provided to provide an overall assessment of LCOE for new generation (and, where practical, an LCOE for specific fuel types).
- 5.23. This proposed clause 2.16 notice would cover costs for projects on both the transmission network and distribution networks. The Authority’s initial view is that generators will be required to provide cost information to the Authority on projects over 5MW, to align with the threshold for the new Large Connection Contracts (LCC) mechanism in the Commerce Commission’s Input Methodology review.²⁰ This is to reflect that smaller projects may have shorter lead times, have less impact on overall supply and demand adequacy and less information may be available on these projects—and as such there is a lesser need to collect cost information.

Q4. Do you have any comments on the proposal to require generators to provide cost information through a clause 2.16 notice? Do you have any comments on the specific information proposed to be collected in the clause 2.16 notice?

Q5. Do you agree that the appropriate time to collect cost information is when new generation is commissioned, or whether it should be earlier in the development process?

The Authority proposes to aggregate information about consent, construction, land, contracts, and financing when publishing information

- 5.24. Specific information about the stage of projects, in particular relating to the status of consents, planned construction dates, land agreements, contracts for supply, and contracts for financing may be more likely to be sensitive information. As such, the Authority proposes to emulate the approach taken by AEMO, which aggregates information provided into an overall ‘status’ for projects: committed, anticipated, and publicly announced. The Authority intends that these statuses would apply for both generation and load.
- 5.25. In determining the status of projects, the Authority intends to follow the definitions used in the Code for ‘committed projects’, defined as projects where all of the following are satisfied:
- i. “the proponent has obtained all required planning consents, construction approvals, and licences, and fulfilled any other regulatory requirement that must be met before commencing construction:

²⁰ https://comcom.govt.nz/__data/assets/pdf_file/0024/337614/Part-4-IM-Review-2023-Final-decision-CPPs-and-In-period-adjustments-topic-paper-13-December-2023.pdf

- ii. “construction has commenced or a firm commencement date for construction has been set:
- iii. “the proponent has acquired or executed an agreement to acquire land (or commenced legal proceedings to acquire land), or has executed an agreement for the leasing of land, for the purposes of construction:
- iv. “contracts for supply and construction of the major components of the plant and equipment (including any generating units, turbines, boilers, transmission towers, conductors, termination station equipment) have been executed (i.e. all the necessary formal legal requirements have been observed to make the contract valid and complete):
- v. “contracts for the financing of the project, including any debt plans, have been executed (i.e. all the necessary formal legal requirements have been observed to make the contract valid and complete)”²¹

5.26. The Authority proposes to follow the AEMO definitions²² for the remaining statuses:

- (a) **Actively pursued** projects are those that meet at least three of the above criteria (similar to AEMO’s ‘anticipated’ status)
- (b) **Other** projects are those that meet fewer than three of the above criteria (similar to AEMO’s ‘publicly announced’ status).

Q6. Do you agree with the Authority’s proposal to aggregate some information provided by Transpower to assess the status or stage of projects, and do you have any comments on the breakdown of the proposed stages?

6. Requirements could be in place in early 2025 and would align with the Authority’s other work

6.1. Subject to feedback on the proposed clause 2.16 notices, the Authority intends to make a final decision in late 2024. The first information under the new clause 2.16 notices would be due in early 2025, to enable publication shortly afterwards.

Distribution network level projects would be collected through a separate process

6.2. The Authority is currently progressing a review of Part 6 of the Code to increase the efficiency of network connections—to make the process of connecting to networks easier, faster, more consistent and more equitable. This work is being supported by the Network Connections Technical Group.

6.3. This review includes addressing non-price barriers to connection. The Authority considers there is currently a lack of visibility of where an application sits in the

²¹ Electricity Industry Participation Code 2010 as at 17 July 2024, definition of ‘committed projects’, https://www.ea.govt.nz/documents/5098/Full_merged_code-17_June_2024.pdf, page 14

²² <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

application process, other applications on the network, and of the application process itself.

- 6.4. More information about the Authority’s intended requirements for these projects will be included in an upcoming consultation paper for the Part 6 Code review.

7. Benefits, costs and alternatives to the proposed clause 2.16 notices

- 7.1. Clause 2.18(1) of the Code sets out that, “before publishing a notice under clause 2.16, the Authority must provide the participant to whom the proposed notice applies
- (a) “the proposed notice; and
 - (b) “the Authority’s purpose in setting the information requirements in the proposed notice; and
 - (c) “the Authority’s assessment of the likely benefits of the Authority obtaining the information required in the proposed notice and whether those benefits are likely to outweigh the likely costs.”
- 7.2. This section covers the requirements set out in clause 2.18(1)(c). Clause 2.19 further clarifies what the Authority must consider before publishing the clause 2.16 notice. The Authority’s preliminary views on the likely benefits and costs is set out below. If we proceed to publish final clause 2.16 notices, the Authority will consider feedback from the affected participants and other submitters in the final assessment of likely benefits and costs.
- 7.3. The drafting of the proposed clause 2.16 notices is set out in Appendices A and B, along with a preliminary assessment of the benefits and costs for each data point requested.

The proposed clause 2.16 notices’ benefits are expected to outweigh the costs

Benefits would be significant for the energy sector

- 7.4. Research from Infometrics and Infrastructure New Zealand suggests there are significant costs to New Zealand for having an uncertain infrastructure pipeline. The report found that “the pipeline is more certain for water, waste, and environment spending, while the pipeline for energy and communications is highly uncertain” and that overall, “greater pipeline certainty can unlock productivity benefits and improvements to enable between \$2.3 to \$4.7 billion more capital investment each year.”²³
- 7.5. The Authority agrees with MDAG’s assessment that the enhanced information provision will be pro-competitive. We also agree with the conclusion from the 2023 Generation Investment Survey that the significant amount of committed or under

²³ Estimating the Costs of an Uncertain Infrastructure Pipeline, Infometrics and Infrastructure New Zealand, September 2023, <https://infrastructure.org.nz/wp-content/uploads/2023/10/Infrastructure-NZ-Estimating-the-Costs-of-an-Uncertain-Infrastructure-Pipeline-Report-SINGLE-PAGES-Media-Release.pdf>, page 4

construction projects that are not disclosed or not clear in public sources creates uncertainty and disrupts investment confidence.

- 7.6. The Authority's preliminary view is that the benefits are straightforward; better decision making by investors and greater security of supply through greater system-wide information about new generation. Individual industry participants considering investment will already undertake assessments about other generation likely to enter the market. This reduces those costs, which provides greater benefits to smaller participants in particular.
- 7.7. There are also benefits for improved monitoring of competition for generation in the wholesale market, better accuracy for the forward price curve, and improved information to support the orderly retirement of thermal generation.

The Authority's preliminary view is that costs are relatively low as most of the information is already available

- 7.8. The Authority's preliminary view is that the costs to industry resulting from the proposed clause 2.16 notices are relatively low; the bulk of the information is already provided to Transpower by generators and developers as a part of business-as-usual connection needs. Further, many participants are already required to disclose some of the information through regular disclosures required for publicly listed companies—and some companies beyond that choose to disclose some information online.
- 7.9. These proposed clause 2.16 notices are intended to bring that information together, rather than using disparate and different sets of information to try to compile a view of the pipeline of new developments. The design of the specific metrics and variables to be collected also minimises the additional burden on Transpower, distributors and generators.
- 7.10. The Authority agrees with Meridian's assessment in their submission on MDAG's options paper where they state that this work is one of the options that have "a low risk of unintended consequences and costs to consumers, but may help to facilitate risk management and investment as well as promote competition."²⁴
- 7.11. There are also further benefits from reduced monitoring costs to the Authority. The proposed clause 2.16 notices would replace the Generation Investment Surveys undertaken by the Authority in 2022 and 2023. This would remove some of the costs the Authority currently faces in monitoring projected supply and allow more frequent collection of data.
- 7.12. The survey data for the Generation Investment Surveys was collected mostly by interview, which was time-consuming and costly. Interviews also required manual entry by interviewers of information provided during the interviews on the projects, requiring follow-up checks with developers. Removing these costs and streamlining the information provision process contributes to the relatively low costs of the proposed clause 2.16 notices.

²⁴ Meridian submission on *Price discovery in a renewables-based electricity system – Options paper*, March 2023, <https://www.ea.govt.nz/documents/2539/Meridian.pdf>

Costs are low for requiring the provision of cost information for generation projects

- 7.13. Information about the cost of projects is routinely provided by those generators and developers listed on NZX. As such, for these participants the costs of the proposed clause 2.16 notices are minimal. For other developers, compiling cost information for internal purposes would be expected; the Authority's preliminary assessment is that this proposed clause 2.16 notice would not place requirements on generators to create new information.
- 7.14. The Authority again recognises that cost information may be sensitive. The Authority would handle this information in accordance with clause 2.22 of the Code. For generators who assess information provided as part of this proposed clause 2.16 notice to be sensitive, the Authority's intent at this stage would be to use the information collected as an input for calculating LCOE. We anticipate aggregating cost information provided to provide an overall assessment of LCOE for new generation (and, where practical, an LCOE for specific fuel types).
- 7.15. This provides wide benefits to the market for monitoring purposes, including monitoring whether forward prices are aligned with LCOE, and if not, assessing whether the right incentives are in place to build new generation. Providing more authoritative information about LCOE to the market would also enable potential developers to better assess their projects—and ultimately to ensure that the right generation is built in the right place at the right time, maximising efficiency and minimising costs for consumers.

Q7. Do you agree the benefits of the proposed clause 2.16 notices outweigh their costs? If not, what area(s) of the Authority's preliminary assessment of benefits and costs do you disagree with?

The proposed clause 2.16 notices are preferred to other options

Amending the Electricity Industry Participation Code

- 7.16. Placing information disclosure requirements directly into the Code (likely in Part 12) would present an alternative option. This would match Transpower's previous Code Amendment Request, and would enable Transpower to be responsible for publication, rather than the Authority, if desired. However, the Code is less easily amended to reflect minor changes in what information may be required. Clause 2.16 was added to replace the need to include these information disclosure requirements in the Code directly.
- 7.17. As set out when the Authority introduced the regular and event-driven provision of information to the Authority section of the Code²⁵, the intent of the 2.16 notice regime is to improve the ability for the Authority to standardise information provision obligations, improve transparency around obligations, and reduce transaction costs for participants in providing information. As such, using the clause 2.16 notice process for developments on the transmission network is preferred.

²⁵ Improving the framework for the Authority's information gathering: Decision paper, July 2022, <https://www.ea.govt.nz/documents/1486/Decision-paper-Improving-the-framework-for-the-Authoritys-information-gathering-v2.pdf>

Issuing a section 46 request under the Act

7.18. The Authority has previously issued requests under section 46 of the Act to collect similar information from Transpower. This is not a preferred option as regular requests would need to be sent, rather than there being an ongoing obligation on participants to provide the information.

Q8. Do you agree the proposed clause 2.16 notices are preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of Act.

Q9. Should the Authority consider further work to monitor and assess the pipeline of new generation and demand?

Appendix A Proposed notice: Investment pipeline

This investment pipeline notice is published under clause 2.16 of the Electricity Industry Participation Code 2010 (Code). This notice applies from 1 February 2025.

Overview

Clause 2.16(1) of the Code enables the Electricity Authority Te Mana Hiko (Authority) to publish a notice specifying information that a participant must, on a regular basis or as a result of an identified event, collect, collate and/or provide to the Authority.

The provision of the required information to the Authority as specified in this notice is for a purpose set out in section 45(a) of the Electricity Industry Act 2010 (the Act), specifically to undertake market-facilitation measures under section 16(1)(f) and to undertake industry and market monitoring under section 16(1)(g) of the Act.

To whom the notice applies

The notice applies to Transpower as defined in section 5 of the Act.

When the information needs to be provided

All information is to be provided to the Authority monthly with the deadline for provision being the last business day of the month. If Transpower is unable to meet that deadline, it must let the Authority know five business days in advance, providing a reason for non-compliance.

The manner in which Transpower must provide the information

Transpower is required to comply with this notice and must provide the information to the Authority in a csv format, with data set out with one row per project and columns for each data variable.

Information that must be collected and provided

The information that Transpower is required to collect and provide to the Authority under this notice is specified below.

For the variables land, contracts, planning, finance, construction, only the current stage and milestones reached after the issuance of this notice will be required to be provided.

Milestones (for example stages of the consenting process) reached prior to the issuance of this notice are not required to be provided.

Developers, when providing information to Transpower, should note for each field whether they feel information provided is commercially sensitive. The Authority will handle this information in accordance with clause 2.22 of the Code.

| Variable | Definition | Purpose |
|------------------------------|--|---|
| Connecting party / proponent | The entity developing the project. If a joint venture, any entities participating in the joint venture should be listed. | Including information about the connecting party—and in particular, about any additional parties involved—is necessary to match public information about projects to information provided under the notice. It also improves monitoring |

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| | | by providing information to assess the breakdown of developers investing in generation in New Zealand. |
| Operator (<i>generation only</i>) | If the planned operator of the plant is different to the connecting party / proponent, then provide the name of the operator (ie, the entity that will be submitting offers for the generating station) | This is helpful for the purposes of matching offers to the generation fleet. The operator of a plant may impact offers. |
| Date | The date of the initial inquiry to Transpower | Information on the time since the initial enquiry will help the Authority monitor how long developments take to progress through the connection process, as well as monitoring trends in which projects are delivered |
| Update date | The date of the most recent update for the information in the submission | This information will improve the Authority's ability to process the data |
| Project name | The intended generating station name. If no formal name has been selected, a name can be a working name or linked to the location of the proposed generating station | Name information will help the Authority assess projects against any public or news information where necessary |
| Connection location | GIP/GXP, or transmission circuit if requiring a new GIP/GXP | Providing information to the market on the location of projects supports better assessments by market participants of where there is capacity on the transmission network to aid in planning for developments |
| Co-ordinates | Latitude and longitude (5 decimal places) | As above. Also enables the Authority to publish visual information about projects to provide better information on the regional breakdown of developments |
| Capacity (<i>generation only</i>) | The planned capacity of the generating station provided in MW. If different, please provide both MWp and MWac | Capacity information for projects is necessary to assess capacity adequacy. This will also help the Authority assess how developments |

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| | | may change during the planning process |
| Projected demand (<i>load only</i>) | The expected peak demand of the load, provided in MW. For battery energy storage systems, provide the charge rate. For pumped hydro, provide the maximum load. | As above |
| Additional MW | For projects to expand or repower existing generating stations—or for load—the additional MW value expected | As above |
| Capacity factor (<i>generation only</i>) | A best estimate of the expected capacity factor (as a percentage) | The Authority may be able to assess capacity factors using generalised capacity factors for different fuel types. For some fuel types, information provided by developers will provide a better assessment of capacity factor. This is particularly the case for wind developments, where projects are based on site monitoring for expected wind resource. This information may be more likely to be considered sensitive by participants and would be treated accordingly by the Authority. |
| Connection voltage | The connection voltage to the transmission network (in kV) | This information improves the Authority's monitoring and helps with assessments of capacity on the transmission network. |
| Technology type (<i>generation only</i>) | Selected from: <ul style="list-style-type: none"> • Onshore wind • Offshore wind • Photovoltaic panels • Hydro • Pumped hydro • Geothermal • Open cycle gas turbine • Closed cycle gas turbine | The fuel type options match the fuel type options currently used by the Authority in publishing information on existing generation and represent the main fuel types expected for new developments. 'Other' fuel types may include for example various types of thermal solar. |

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| | <ul style="list-style-type: none"> • Co-generation • Pulverised coal • Chemical battery energy storage • Waste to energy • Other (please specify) | |
| Fuel type <i>(thermal generation only)</i> | <p>Selected from:</p> <ul style="list-style-type: none"> • Gas • Coal • Diesel • Biomass • A combination of the above fuel types | This information enables better assessment of security of supply, capacity factor, and likely offer structure. |
| Asynchronous or synchronous <i>(generation only)</i> | Whether the generating station is synchronous or an inverter-based resource (asynchronous) | This information will help the Authority assess the need for further policy work on frequency management, voltage and harmonics ²⁶ |
| Planned outage rates <i>(generation only)</i> | If contracts for supply and installation of generating equipment prescribe expected outage rates, provide that information (in trading periods per year or similar) | This information helps the Authority to monitor security of supply in summer and shoulder periods and helps improve information about capacity factor. |
| Battery | Does the generating station or load have an associated battery energy storage system as part of the project; response should be yes or no | <p>This information improves clarity around the generation profile of new generation.</p> <p>For some projects, battery and energy projects may be included separately.</p> |
| Storage capacity <i>(generation only)</i> | To be provided in MWh (for chemical battery energy storage and hydro only) | This will help the Authority assess capacity adequacy to manage peak demand |

²⁶ See Review of the Common Quality Requirements in the Code consultation papers, June 2024, <https://www.ea.govt.nz/projects/all/future-security-and-resilience/consultation/review-of-common-quality-requirements-in-the-code/>

| | | |
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| Application number/project ID | Identifier (intended to be a consistent number to help the Authority to avoid duplicate projects) | Generation developments may change owner, developer, location, and size. As such, the Authority considers maintaining a consistent identifier to track when projects change and avoid publishing duplicated information is necessary |
| Land | <p>As per the definition for 'committed projects' in the Code: "The proponent has acquired or executed an agreement to acquire land (or commenced legal proceedings to acquire land), or has executed an agreement for the leasing of land, for the purposes of construction."</p> <p>Select from:</p> <ul style="list-style-type: none"> • The proponent has commenced negotiations to acquire or lease land for the purposes of construction • The proponent has commenced legal proceedings to acquire or lease land for the purposes of construction • The proponent has completed legal proceedings to acquire or lease land for the purposes of construction | This information will inform the 'project stage' information for publication. Our intent at this stage is that this information would not be published individually, unless already public through other sources. Developers would be requested to indicate when submitting information whether it is already in the public domain. |
| Contracts | As per the definition for 'committed projects' in the Code: "contracts for supply and construction of the major components of the plant and equipment (including any generating units, turbines, boilers, transmission towers, conductors, termination station equipment) have been executed (i.e. all the necessary formal legal requirements have been | This information will inform the 'project stage' information for publication. Our intent at this stage is that this information would not be published individually, unless already public through other sources. Developers would be requested to indicate when submitting information whether it is already in the public domain. |

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| | <p>observed to make the contract valid and complete)”</p> <p>Select yes or no</p> | |
| Planning | <p>As per the definition for ‘committed projects’ in the Code: “the proponent has obtained all required planning consents, construction approvals, and licences, and fulfilled any other regulatory requirement that must be met before commencing construction”</p> <p>Select milestones:</p> <p>Under Fast-track Approvals Bill consenting process:</p> <ul style="list-style-type: none"> • Not yet applied • Application submitted • Consent granted • Consent declined • Appealed • Appeal decided – consent approved • Appeal decided – consent declined <p>Under interim NBA fast-track consenting process:</p> <ul style="list-style-type: none"> • Not yet applied • Application submitted • Consent granted • Consent declined • Appealed | <p>This information will inform the ‘project stage’ information for publication. Our intent at this stage is that this information would not be published individually, unless already public through other sources. Developers would be requested to indicate when submitting information whether it is already in the public domain.²⁷</p> |

²⁷ The Authority notes that the Government is currently progressing changes to resource management law, including a new consenting regime. The final clause 2.16 notice will take into account any changes to the resource management process, including the passage of the Fast Track Approvals Bill, any progress on a consenting regime for offshore wind projects, and any National Policy Statements (for transmission, distribution, or renewable electricity generation), at the time of publication of any final clause 2.16 notice. Any subsequent changes to planning rules may result in future amendments to that notice, with consultation if required.

| | | |
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| | <ul style="list-style-type: none"> • Appeal decided – consent approved • Appeal decided – consent declined <p>Under Resource Management Act 1991 consenting process:</p> <ul style="list-style-type: none"> • Not yet applied • Application submitted • Consent granted • Consent declined • Appealed • Appeal decided – consent approved • Appeal decided – consent declined <p>For each stage, provide the date at which the project proponent reached the relevant stage.</p> <p>If the consent has been granted (and is not subject to any appeals), provide the expiry date of the consent.</p> | |
| Finance | <p>As per the definition for ‘committed projects’ in the Code: “contracts for the financing of the project, including any debt plans, have been executed (i.e. all the necessary formal legal requirements have been observed to make the contract valid and complete)”</p> <p>Select yes or no</p> | <p>This information will inform the ‘project stage’ information for publication. Our intent at this stage is that this information would not be published individually, unless already public through other sources. Developers would be requested to indicate when submitting information whether it is already in the public domain.</p> |
| Construction | <p>As per the definition for ‘committed projects’ in the Code: “construction has commenced or a firm commencement date for construction has been set”.</p> <p>Select from:</p> <ul style="list-style-type: none"> • A firm commencement date for construction has | <p>This information will inform the ‘project stage’ information for publication. Our intent at this stage is that this information would not be published individually, unless already public through other sources. Developers would be requested to indicate when submitting information whether it is already in the public domain.</p> |

| | | |
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| | <p>been set (or a range of dates, if applicable)</p> <ul style="list-style-type: none"> • Construction has commenced • Commercial use date for full operation has been set <p>If any of these milestones have been reached, also provide the relevant date(s)</p> | |
| Final investment decision | If this milestone has been reached, also provide the relevant date | Final investment decision may be separate to the finance indicator where contracts include preconditions relating to final investment decision. Collecting information about final investment decision improves the Authority's monitoring about the stage of projects. |

Appendix B Proposed notice: Cost of investment

This investment pipeline notice is published under clause 2.16 of the Electricity Industry Participation Code 2010 (Code). This notice applies from 1 February 2025.

Overview

Clause 2.16(1) of the Code enables the Electricity Authority Te Mana Hiko (Authority) to publish a notice specifying information that a participant must, on a regular basis or as a result of an identified event, collect, collate and/or provide to the Authority.

The provision of the required information to the Authority as specified in this notice is for a purpose set out in section 45(a) of the Electricity Industry Act 2010 (the Act), specifically to undertake market-facilitation measures under section 16(1)(f) and to undertake industry and market monitoring under section 16(1)(g) of the Act.

To whom the notice applies

The notice applies to generators as defined in section 5 of the Act.

When the information needs to be provided

Information is to be submitted by generators within one month of commissioning any new generating station on the transmission network, and any new generating station on the distribution network with a capacity larger than 5MW. For the purposes of this notice, commissioning and commissioned have the same definition as used in the Electricity Industry Participation Code (Code).

The manner in which generators must provide the information

Generators required to comply with this notice must upload the required information to the Authority's Information Provision Platform at <https://info.ea.govt.nz/>.

Information that must be provided

The information that generators are required to provide to the Authority under this notice is specified below.

| Variable | Definition | Purpose |
|--------------------|---|--|
| Project name | The intended power station name | To be used as an identifier for projects. |
| Commissioning date | The date that the generating station was commissioned. Commissioned has the same definition as used in the Code | This information will help match projects to other information already provided about existing generation. |
| Construction cost | A best estimate of the capital cost of construction of the generating station. This should include the cost of land and development, any costs of connection to the transmission or | Construction cost is the main input for LCOE. The benefits of better monitoring by the Authority of LCOE are set out in previous sections of the consultation paper. |

| | | |
|-----------------|---|---|
| | distribution network, the cost of equipment and installation | |
| Operating costs | A best estimate of the non-fuel operating costs; including any fixed operating costs and an assessment of the variable non-fuel costs. For the avoidance of doubt, this excludes the potential cost of thermal fuels such as coal, gas, or biomass, and includes but is not limited to staff operating costs and expected maintenance costs averaged over time. | Information about operating costs, even without including variable fuel costs, will improve the Authority's assessments of short-run marginal costs as well as better informing LCOE. |
| Capacity factor | A best estimate of the expected capacity factor of the generating station | |

Appendix C Format for submissions

Submitter

Questions

Q1. Do you agree with the Authority's proposal to require monthly provision of information to the Authority, to enable a 'rolling' set of information?

Q2. Do you agree with the Authority's initial assessment that developers will be required to regularly update Transpower when significant information changes for their projects, or should Transpower be required to regularly ask for information from developers?

Q3. Do you have any comments on the proposal to require developers (via Transpower) to provide increased information on their generation and load projects?

Q4. Do you have any comments on the proposal to require generators to provide cost information through a clause 2.16 notice? Do you have any comments on the specific information proposed to be collected in the clause 2.16 notices?

Q5. Do you agree that the appropriate time to collect cost information is when new generation is commissioned, or whether it should be earlier in the development process?

Q6. Do you agree with the Authority's proposal to aggregate some information provided by Transpower to assess the status or stage of projects, and do you have any comments on the breakdown of the proposed stages?

Q7. Do you agree the benefits of the proposed clause 2.16 notices outweigh their costs? If not, what area(s) of the Authority's preliminary assessment of benefits and costs do you disagree with?

Q8. Do you agree the proposed clause 2.16 notices are preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of Act.

Q9. Should the Authority consider further work to monitor and assess the pipeline of new generation and demand?