

Guidance for intermittent generators: approval process to use an alternative to the centralised forecast

This guidance aims to provide intermittent generators with information on the hybrid forecasting arrangement and approval process to use an alternative to the centralised forecast.

Note: In this guidance, we refer to 'offers' and 'forecasts of generation potential' (FOGP).

An intermittent generator's offer includes:

- a) the volume of electricity and the price it is willing to sell at, and
- b) a FOGP.

In other words, a FOGP forms part of an intermittent generator's offer.

The volume and price components of an intermittent generator's offer are not generally affected by how much wind or solar is forecasted. The Authority has observed that intermittent generators generally offer all available capacity at \$0.01/MWh.

Conversely, the FOGP should reflect how much wind or solar generation is forecast and, in most cases, this is different each trading period.

The hybrid forecasting arrangement

The Electricity Authority is putting in place a hybrid forecasting arrangement from 31 July 2025. This will provide a centrally procured forecast of intermittent generation for each generation site (whose operators are required to submit offers by the system operator).

Intermittent generators will be able to submit generation offers using an alternative forecast, if they have sought and received approval from the Authority to do so. This requires an intermittent generator to show that the alternative forecast is at least as accurate as the forecast performance standards.

Intermittent generators can apply at any time if they would like to use an alternative forecast via [this application form](#).

Intermittent generators that wish to use an alternative forecast are encouraged to apply by 5 June 2025 so an assessment of forecast accuracy can be completed ahead of 31 July 2025 when the hybrid forecasting Code amendments will come into force. If the assessment cannot be completed, they will be required to base offers on the centralised forecast from 31 July 2025.

How the centralised forecast works

The centralised forecaster will provide FOGPs to intermittent generators (a MW value). It will provide forecasts to all intermittent generators (that are required to submit offers by the system operator) regardless of whether an intermittent generator will use the centralised forecast to inform its offers. For example, if an intermittent generator has been approved to base its FOGP on an alternative forecast, it will still receive the centralised forecast.

The centralised forecaster will also provide its forecasts to:

- the system operator – so it can compare forecasts and offers to ensure system security is maintained
- the Electricity Authority – for monitoring and compliance purposes
- Energy Market Services – for publication of aggregated forecast information on [em6](#).

Before submitting offers, intermittent generators must ensure their FOGPs reflect the most recent forecast and, if necessary, adjust it to account for any bona fide physical reason or any planned outage affecting the generating plant and trading period. A FOGP cannot be adjusted for any other reason.

Intermittent generators must seek and receive approval from the Electricity Authority to use an alternative to the centralised forecast

If an intermittent generator wants to base its FOGPs on an alternative forecast, it must:

- [Complete this application form](#)
- The generator (or its forecaster) must use the secure and unique key provided for an Azure Storage account¹ to submit 'test' FOGPs based on the alternative forecast for a minimum of eight weeks
- The generator (or its forecaster) must submit test FOGPs via a CSV file (including the usual information when submitting offers)²
- Allow at least two weeks for the Authority to assess the accuracy of test FOGPs and notify the generator of its decision.

Notes:

- The application form asks submitters to specify the name of the alternative forecaster they would like to use. This is because a forecast provider may have already satisfied the Authority's accuracy test (for example, in the context of another application). If this is the case, a generator will not be required to submit test FOGPs in order to receive approval.
- Test FOGPs will need to be submitted from seven-days ahead for each half-hour trading period over an eight-week period and at the following times before the relevant trading period:³

Time before trading period	Frequency at which forecast must be revised
Within 4 hours	Every 30 minutes
4 to 36 hours	Every 2 hours
36 to 168 hours (1.5 to 7 days)	Every 24 hours

- The Authority may require a longer assessment period to cover a range of weather conditions.
- Intermittent generators should continue to submit real offers to the system operator via the [Wholesale Information and Trading System](#) during the assessment period.

¹ The Electricity Authority will provide these instructions after an intermittent generator has submitted an application form.

² Refer to the 'offer report' section on page 88 of the WITS functional specification:
https://www.ea.govt.nz/documents/3115/WITS_FS_v12.0.pdf

³ These timeframes align with when the system operator produces its short and long schedules.

- If an intermittent generator wishes to change forecast providers, it must seek and obtain approval from the Authority again.

The Authority will assess the accuracy of alternative forecasters' test FOGPs

The Authority will assess whether the test FOGPs meet the forecast performance standards the centralised forecaster is required to meet. The Authority will provide approval if it determines that test FOGPs (ie, those based on the alternative forecaster's forecast) meet the forecast performance standards over the eight-week period.

Intermittent generators must agree to four conditions

An intermittent generator wishing to base its offers on an alternative forecast must agree to the following four conditions. (These conditions are the same for the centralised forecaster.)

- 1) The provider of the intermittent generator's forecasts must provide **seven-day ahead** forecasts.
- 2) The provider of the intermittent generator's forecasts must provide revised forecasts at the following times:

Time before trading period	Frequency at which forecast must be revised
Within 4 hours	Every 30 minutes
4 to 36 hours	Every 2 hours
36 to 168 hours (1.5 to 7 days)	Every 24 hours

- 3) The provider of the intermittent generator's forecasts must meet the forecast performance standards that will apply to the centralised forecaster. This will ensure an intermittent generator's own forecast is consistently at least as accurate as the centralised forecast. These standards are:

Table 1 – Wind forecast average performance standards

Hours ahead	RMSE (aggregated)	nRMSE (per farm)	MBE (aggregated)	nMBE (per farm)
0.5	At or below 10.0MW	+/-11.0%	Within +/-0.5MW	+/-1.5%
2	At or below 12.0MW	+/-15.0%	Within +/-1.0MW	+/-2.5%
4	At or below 13.0MW	+/-17.0%	Within +/-1.5MW	+/-3.5%
6	At or below 13.0MW	+/-17.0%	Within +/-1.5MW	+/-3.5%
12	At or below 14.0MW	+/-19.0%	Within +/-1.5MW	+/-3.5%
Between 12 and 72	At or below 15.0MW	+/-25.0%	Within +/-1.5MW	+/-3.5%

Table 2 – Solar forecast performance standards

Hours ahead	RMSE (aggregated)	nRMSE (per farm)	MBE (aggregated)	nMBE (per farm)
0.5	At or below 4.0MW	+/-12.0%	Within +/-0.5MW	+/-1.5%
2	At or below 5.0MW	+/-14.0%	Within +/-1.5MW	+/-2.5%
4	At or below 8.0MW	+/-16.0%	Within +/-2.0MW	+/-3.5%
6	At or below 8.0MW	+/-18.0%	Within +/-3.0MW	+/-3.5%

12	At or below 8.0MW	+/-20.0%	Within +/-3.0MW	+/-3.5%
Between 12 and 72	At or below 10.0MW	+/-25.0%	Within +/-4.0MW	+/-3.5%

Table 3 – performance standards based on the difference from last submitted FOGP or 10MW (whichever is greater)

Hours ahead	Below 20% from FOGP or 10 MW
0.5	95% of the time over 3 months
2	90% of the time over 3 months
4	87% of the time over 3 months
6	85% of the time over 3 months
12	85% of the time over 3 months
Between 12 and 72	80% of the time over 3 months

- 4) An intermittent generator (or its forecaster) must send to the system operator and the Authority each FOGP that the forecaster provides to the intermittent generator. This will ensure the:
- system operator can undertake system security assessments
 - Authority can monitor intermittent generators' compliance with Code requirements and forecast performance standards.

If the above conditions are not met, the intermittent generators approval to use an alternative forecast will be revoked, and it will be required to base its offers on the centralised forecast.

Some Code requirements apply to intermittent generators basing their offers on an alternative forecast

Intermittent generators basing their offers on an alternative forecast are required to comply with the requirements in Part 13 of the Electricity Industry Participation Code. This includes:

- submitting an initial offer within 25 minutes of receiving the first forecast
- submitting a revised offer within 25 minutes of receiving a revised forecast
- if necessary, adjusting a FOGP to account for any bona fide physical reason or any planned outage affecting the generating plant and trading period.

FOGPs should be aligned with forecast generation to represent potential generation, regardless of changes in actual generation output due to dispatch instructions. This means forecasts that are adjusted based on constrained generation output may be non-compliant with the definition of FOGP in the Code.

The Authority will regularly monitor intermittent generators' compliance with the Code. If an intermittent generator fails to comply with the Code, the Authority may take action for a breach of the Code in accordance with its [Compliance Strategy](#).

Contact us with any questions

If you have any questions, please contact forecasting@ea.govt.nz