

Review of arrangements for purchase of power by retailers from small-scale distributed generation

Report by the Retail Advisory Group

29 June 2012

The Retail Advisory Group

The members of the Retail Advisory Group approving this report are:

Peter Allport, Chair

Dene Biddlecombe

Suzanne Chetwin

Sarah Free

Anne Herrington

Nathan Strong

James Munro

1 Introduction

- 1.1.1 The Retail Advisory Group (RAG) provides independent advice to the Electricity Authority (Authority) on the development of the Electricity Industry Participation Code 2010 (Code) and market facilitation measures, focusing on the relationships between retailers, distributors and consumers.
- 1.1.2 The RAG work plan, agreed with the Authority in July 2011, included a project to undertake a review of the arrangements for purchase of power by retailers from small-scale distributed generation (DG).
- 1.1.3 The RAG has completed that review. This paper provides the RAG's findings and advice to the Board, and describes the RAG's approach. The RAG has complied with the requirements of its terms of reference.

2 Findings and advice

- 2.1.1 The RAG has concluded that:
 - a) there are currently no apparent material regulatory (ie related to the Code) barriers to the purchase of power by retailers from small-scale DG or to investment in small-scale DG;
 - b) there may be merit in the Authority producing a fact sheet about the regulatory arrangements for small-scale DG to facilitate informed debate about the future role of small-scale DG, including to outline the rights and responsibilities of investors in small-scale DG under the Code and to outline the reasons for the level of investment in small-scale DG in New Zealand relative to other countries. The RAG considers that economic analysis of the costs and benefits of small-scale DG is better communicated by other entities; and
 - c) the Authority could consider the following issues as part of its operational review of Part 6 (Connection of distributed generation) of the Code:
 - i) Transpower has suggested an amendment to Part 8 of the Code to address possible operational and performance problems from concentrations of small-scale DG on a distribution network;
 - ii) whether it is appropriate that a DG owner could be exposed to unlimited liability if it negotiates a connection agreement with the distributor; and
 - iii) whether the 10 kilowatt (kW) or less threshold for small-scale DG defined in Part 6 of the Code should be increased.

3 Approach to the project

- 3.1.1 The RAG's review of arrangements for purchase of power by retailers from small-scale DG arises from the 2009 Ministerial Review of Electricity Market Performance, which suggested an investigation of the case for developing mandatory terms and conditions for the purchase by retailers of power from small-scale DG to reduce transaction costs for individual investors. The Minister of Energy and Resources requested that the Authority undertake this project in an October 2010 letter of expectations – the Authority assigned the project to the RAG as a part of the work plan agreed in July 2011.

- 3.1.2 The RAG has taken a first principles approach to this project, taking the view that it should consider the nature of the problems facing small-scale DG before considering possible solutions, which include introducing mandatory terms and conditions for purchase of power from small-scale DG.
- 3.1.3 The RAG considered the scope of the project in late 2011 and in December 2011 decided that it should identify the market barriers that increase small-scale DG investors' transaction costs when negotiating with retailers for the sale of excess generation. In particular, the RAG decided to consider ways to reduce or remove transaction costs so that regulatory arrangements do not deter investment or deployment of small-scale DG (including new innovations). The RAG decided that issues associated with connection and operational characteristics of small-scale DG were better dealt with through the separate operational review of Part 6 of the Code being undertaken by the Authority.¹

3.2 Consideration of the issues

- 3.2.1 The RAG prepared a discussion paper, entitled "Investigating barriers facing small-scale distributed generation" to seek feedback from industry participants and consumers about the possible barriers to investment in small-scale DG. The discussion paper sought feedback on barriers to investment in three markets for small-scale DG:
- a) wholesale electricity market on a particular network – the focus of the DG facility is to supply electricity into the network;
 - b) electricity distribution services market – the focus of the DG facility is to provide support to the network; and
 - c) market for delivered electricity at a particular address – the focus of the DG facility is to offset onsite consumption.
- 3.2.2 The RAG noted that the definition of a barrier to small-scale DG investing had implications for the solutions and outcomes identified through the review. The RAG sought feedback on whether there are any significant social benefits (externalities) associated with the entry of small-scale DG to the market that are not being captured.

3.3 Issues identified in the discussion paper

- 3.3.1 The discussion paper sought feedback on the following issues identified by the RAG after extensive discussions of the current and possible factors affecting small-scale DG:
- a) should small-scale DG be able to sell power to a party other than their retailer, eg another retailer or the clearing manager;
 - b) should retailers be required to use more standard or model contracts, to provide more visibility of the contract conditions on offer, and to provide a fixed contract length;
 - c) should the liability under the connection agreements negotiated between the small-scale DG and distributor be capped, as is the case for the regulated connection agreements established through Part 6 of the Code; and
 - d) should the threshold for small-scale DG be increased to more than 10kW.

¹ <http://www.ea.govt.nz/our-work/consultations/retail/pre-consultation-connection-of-distributed-generation/>

- 3.3.2 The amount that retailers are prepared to pay for electricity from small-scale DG was discussed in the discussion paper, and it was noted that it is inefficient for the retailer to pay more than the wholesale price (perhaps unless the retailer identified secondary benefits of offering a higher price).

4 Feedback from industry participants and consumers

- 4.1.1 There were nine submissions on the discussion paper, from Bay of Plenty Regional Council, Genesis Energy, Meridian, Mighty River Power, Orion, PowerCo, Transpower, Vector and Walter Unterberger.
- 4.1.2 Most submitters generally took the view that there are no material, electricity industry related, regulatory barriers to investment in small-scale DG, and that there is no problem warranting regulatory intervention by the Authority.
- 4.1.3 However, two submitters considered that regulatory intervention is required to offset the disadvantages faced by investors in small-scale DG, and advocated a range of initiatives to encourage investment in small-scale DG by offsetting the current price/cost disadvantage relative to grid supply of electricity.
- 4.1.4 Submitters generally agreed that the RAG defined the problem correctly by asking whether investment in small-scale DG is at some disadvantage due to Code-related regulatory barriers. One submitter thought that the RAG should have only asked whether there is merit in introducing mandatory terms and conditions for small-scale DG, and one thought that the RAG should have considered if the problem is that investors are disadvantaged because environmental and social benefits are not properly valued.
- 4.1.5 One submitter indicated that consideration should be given to raising the threshold for small-scale DG above 10kW.
- 4.1.6 Submitters generally agreed with the RAG's description of current solar photovoltaic (PV) system costs, and that these systems provided a reasonable basis for assessing regulatory barriers.
- 4.1.7 Submitters largely agreed that the RAG identified the relevant markets or reasons for investment, and looked in the right places for regulatory barriers to investment. One submitter thought that avoided transmission costs should have been considered. Some suggested that the only relevant reason for investing was to replace grid supply (ie this is the only market).
- 4.1.8 Some submitters suggested that the definition of a barrier to entry used by the RAG may not be the right one, but the comments reflected the point made in the paper that the economic literature provides many possible definitions of a barrier to entry. One submitter suggested the RAG should have used the Commerce Commission definition, in brief, something that imposes a cost or disadvantage on an investor not faced by an incumbent.
- 4.1.9 A number of submitters considered that the outcomes of the RAG's work should feed into the Authority's operational review of Part 6 of the Code (Connection of distributed generation).
- 4.1.10 Most submitters did not think that metering arrangements represent a barrier to investment in small-scale DG, and nor did the requirements for sale of wholesale electricity to the clearing manager (which are not designed to easily or cost effectively accommodate small-scale generators). Some submitters noted that it is feasible to install a second meter so that a household could buy electricity from one retailer and sell electricity to another retailer, but saw

this as a commercial decision for the investor. There are examples of duplication of metering in New Zealand. Some submitters saw the deployment of advanced metering as likely to provide more flexibility in arrangements between retailers and DG investors. One submitter suggested the timeframe (an example of six weeks was given) is a barrier to investment. Another submitter was concerned about potential gaming of metering arrangements.

- 4.1.11 Submitters generally thought that contracts between retailers and investors should be on a commercial basis, and that there is no reason to require retailers to use standard or model contracts, to require retailers to make the contract terms available or to mandate fixed contract duration. One submitter noted that having flexibility to negotiate/change contracts encouraged innovation and customer choice. Another submitter noted that small-scale DG involves a significant investment, and the investor should undertake appropriate due diligence, including research of what offers are available. Two submitters considered that pricing arrangements and uncertainty in contract duration are barriers to investment, and that retailers are using a dominant position to require investors to accept prices that do not reflect the true value of small-scale DG (ie excluding environmental and social benefits).
- 4.1.12 Submitters were mostly non-committal about the implications of negotiated connection agreements (under clause 6.5 of the Code) not specifically capping the liability of the investor for costs arising from their facility operating outside the approved technical envelope. Some submitters noted that arrangements should facilitate flexibility for negotiations and appropriate allocation of risk and responsibility (between the investor and distributor). Submitters noted that investors should face unlimited liability where they are negligent of non-compliance (with technical requirements), including failure to disconnect.
- 4.1.13 One submitter suggested that the Authority could provide information about the regulatory framework for small-scale DG to deal with perceptions around uptake/investment in New Zealand. A number of submitters noted that the perceived lack of investment in small-scale DG is due to the current difference in the cost of small-scale DG relative to grid supply, rather than market rules or regulatory framework.
- 4.1.14 Transpower raised a concern that a future concentration of small-scale DG on a distribution network may affect the system operator's ability to meet its principal performance obligations in relation to frequency or voltage excursions. Transpower suggested that it is important that the system operator have the ability to require information where there is a concentration of small-scale DG.
- 4.1.15 Most submitters were non-committal about the value of the Authority undertaking an investigation of barriers to investment in larger-scale DG (where electricity was primarily produced for export into the distribution network).

5 Explanation of how the RAG's findings and advice is consistent with the Authority's statutory objective

- 5.1.1 The RAG does not recommend that the arrangements for purchase of power by retailers from small-scale DG warrant any amendment to the Code, but does recommend that the Authority consider producing a fact sheet to facilitate informed debate about the future role of small-scale DG. This would be a market facilitation measure.

- 5.1.2 The RAG considers that this market facilitation measure would promote the Authority's statutory objective by disseminating information about regulatory arrangements for small-scale DG, particularly about the roles and responsibilities under the Code of DG investors, distributors and retailers. Better information will promote more efficient operation of the electricity industry, particularly by facilitating more informed decision making by investors in small-scale DG.
- 5.1.3 The RAG considers that providing more information about the regulatory arrangements for small-scale DG, for example through a fact sheet, will facilitate more informed debate about the current and future levels of investment in small-scale DG in New Zealand.
- 5.1.4 The RAG noted three particular concerns raised in submissions and, more generally, about the efficacy of the existing regulatory arrangements:
- a) retailers are not required to offer a fixed-term contract for the purchase of power by retailers from small-scale DG;
 - b) retailers are not required to offer a set rate for electricity exported into the distribution network from small-scale DG; and
 - c) retailers are not required to offer to purchase power from small-scale DG, and there are no standard or model terms and conditions for retailers that do so.
- 5.1.5 The RAG considers that contracts between retailers and investors should be on a commercial basis, and that there is no reason to require retailers to use standard or model contracts, to require retailers to contract with small-scale DG or to mandate that retailers offer a set rate or contract duration to small-scale DG. As such, the RAG does not consider the issues noted in paragraph 5.1.4 are barriers to investment in small-scale DG or represent a problem with the regulatory arrangements for small-scale DG.
- 5.1.6 However, the RAG recognises that these issues are regularly raised as problems and considers that there could be some benefit in the Authority producing information that clearly articulates how the existing regulatory arrangements (ie Code related and market facilitation measures) affect investment in, and operation of, small-scale DG.
- 5.1.7 The RAG's other recommendations (set out in paragraph 2.1.1c) above) relate to matters raised through the review that the RAG considers are better addressed through the Authority's operational review of Part 6.



Peter Allport

Chair, Retail Advisory Group