

# Dispatchable demand

## Summary of submissions

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## 1. Introduction and purpose of this report

This report provides a summary of submissions in response to the Dispatchable demand: options consultation paper released in October 2009.

The consultation paper set out four high level options for dispatchable demand and asked four questions as follows:

1. Which, if any, of the high level options for dispatchable demand warrants further development or consideration? Please provide detailed reasons to support your view.
2. To what extent would you or your organization participate in each of the four different kinds of dispatchable demand regime outlined in this paper?
3. Are there different high level designs for a dispatchable demand regime that have not been considered in this paper?
4. If further work is warranted on at least one of the high level options for a dispatchable demand regime, what priority should the Commission give to this work?

In this paper, the Commission has summarised the submissions as objectively as possible. The Commission has not commented on any of the points raised by submitters.

This summary sets out the responses of submitters to each of those questions in table form. A final table deals with other issues raised by submitters that don't fit within any of the four questions.

## 2. Summary of submissions

<b>Question 1: Which, if any, of the high level options for dispatchable demand warrants further development or consideration? Please provide detailed reasons to support your view.</b>	
<b>Generator-retailers</b>	
Contact	None of the options materially improves over the current bidding approach (won't make demand side any more responsive)
Genesis	Initial preference for option 1 (because it is less complex) although options 1 and 2 warrant further investigation. Investigate technical ability to comply with dispatch, and the practicalities of devising baselines (for option 2). Options 3 and 4 are flawed and do not warrant further investigation. If there is sufficient value to gain from load reduction, then parties should have an incentive to develop bespoke contractual arrangements for accessing that value. A regulated framework would be too inflexible
Meridian	Option 2 is preferred. Side payments would undermine the market design for no appreciable benefit. Nothing to prevent option 4-type contracting occurring outside the market already. Option 2 would be most effective if rules were written to standardize the price for must run bids. This would give the system operator information as to which bids are price responsive, so that the price responsive bids could be used in the schedules (e.g. final pricing). Development of a baseline is not a significant issue. Load should be compared against the load that was being taken immediately prior to the dispatch instruction (e.g. average of the last complete half hour). Other schedules would use the system operator's load forecast (for conforming nodes) or actual bids (for non-conforming nodes).
MRP	Supports policy development to enable load to be dispatched.
<b>Electricity users</b>	
Business NZ	Options 1 and 2 warrant further consideration. An important factor in determining which of those to progress will be the feedback from businesses about their participation. Simplicity and low transaction costs are important. The choice between options 1 and 2 need not be binary. Side payments are undesirable. They are inconsistent with a goal of improving clarity and transparency of price signals. Market mechanisms are to be preferred (option 4 is a regulated solution that is too inflexible).
MEUG	Undertake further work on options 1 and 2. Form a Technical Advisory Group to assist with further development of those options. Side payments would be a significant change to market design.
NST	Give further consideration to options 1 and 2, provided constrained on and off payments are made. A technical working group should be formed.

NZ Steel	NZ Steel submission does not comment on which options warrant further investigation. It focuses on the extent to which NZ Steel could participate. NZ Steel could possibly participate in option 1 although they doubt whether they could participate in option 2 because of the difficulty in determining a baseline for Glenbrook. NZ Steel comments that their participation would depend on what benefits they would get, and the extent of the certainty of any savings to the company.
Pan Pac	Option 3 should be further developed. Options 1 and 2 are unlikely to increase demand-side participation. Option 4 requires more work before Pan Pac can appraise.
<b>Distribution</b>	
ENA	None of the options is appealing.
Orion	No options should be ruled out at this stage, although options 1 and 2 are not the best candidates for further investigation. It is unclear why any participant would participate in option 1. Option 2 would have more complex measurement issues than option 1. In relation to option 3 the key question is why a central solution is required (participants may already contract with each other). Option 4 should not be dismissed on the grounds that it is not a market approach – there will always be both market and administrative elements in the market. Forms of option 4 are likely to develop independently.
Powerco	Options 1, 3 and 4 warrant further development or consideration. Options 3 and 4 are complex and could create high transaction costs and potential for inefficiency, but if these issues could be resolved or mitigated, the benefits could outweigh the pitfalls.
Vector	Vector suspects that the benefits from options 1 and 2 would be too small, and the costs and complexities of options 3 and 4 would be too large. In relation to options 1 and 2, many major users will have binary loads which would not be suitable for offering as dispatchable load. Distributors would be unlikely to offer controllable load for dispatch because of potential conflict with other uses. Option 3 is likely to distort the market and should not be progressed. Option 4 would be highly costly and complex, and the benefits may not be sufficient. Grid Support Contracts seem to be the most appropriate and cost effective way to deal with demand bids that do not suit the established market framework.
WEL Networks	None of the options warrants further development, unless it is to apply only for the larger industrial sites.
<b>Other</b>	
EECA	Investigate options 3 and 4 further as a priority. Side payments should be optimized. Option 4 should be targeted at those who do not face spot prices. International experience suggests that the baseline and transactions cost issues are not insurmountable. Options 3 and 4 could provide a valuable transitional measure until more effective retail products (or relationships with aggregators) develop.
Transpower	No further work is warranted at this stage. Progress DSBF as a priority.

<b>Question 2: To what extent would you or your organization participate in each of the four different kinds of dispatchable demand regime outlined in this paper?</b>	
Meridian	Meridian could undertake "pool service" arrangements, including undertaking bidding and receiving dispatch instructions for parties. Meridian would also consider setting up dispatchable demand to meet its own needs.
MEUG	Responses from individual users are likely to be based on existing plant and therefore represent a lower bound estimate. If a dispatchable demand regime were in place then plant upgrades and new investments would be designed and built taking into account benefits that would arise with greater managed flexibility in demand.
NST	NST would participate in option 1. NST has signalled to the Commission the extent of its likely participation, although the details are confidential.
NZ Steel	NZ Steel could possibly participate in option 1 although more information is needed. NZ Steel can respond to forecast prices by switching a 10MW load on or off. That load could not tolerate a partial dispatch instruction. A separate machine could also reduce load by up to 10MW, and in theory could receive a partial dispatch instruction. NZ Steel doubts whether it could participate in an option 2 type approach because of the difficulty in developing an acceptable baseline for our total operation at Glenbrook.
Pan Pac	Would participate up to full sheddable load of around 50MW, subject to the load not already being offered as FIR/SIR or already being reduced during regional coincident peak demand (RCPD) for the purpose of managing transmission costs. Pan Pac's load consists of a number of process lines that are either on or off. The load would not be able to accept a partial dispatch instruction.
Powerco	Would not participate with its controllable load under option 1 or 2 because it would continue to offer the load as interruptible load. Powerco would consider participating with its controllable load under options 3 and 4, and would also work with large users on its network to identify opportunities to grow the amount of dispatchable demand.
Vector	Would not participate with controllable load under options 1 or 2. It would be possible for retailers to contract with the distributor to drop load on request – such arrangements are already available but in our experience have rarely been utilized. Options 3 and 4 could provide an incentive to participate, but this could lead to inefficiency.

<b>Question 3: Are there different high level designs for a dispatchable demand regime that have not been considered in this paper?</b>	
Orion	Ex ante pricing

<b>Question 4: If further work is warranted on at least one of the high level options for a dispatchable demand regime, what priority should the Commission give to this work?</b>	
<b>Generator-retailers</b>	
Contact	There were no comments directly on this point although Contact considered: <ul style="list-style-type: none"> <li>• None of the options materially improves over the current bidding approach (won't make demand side any more responsive)</li> <li>• An industry working group should be established.</li> </ul>
Genesis	Lower priority than other MDP work. In terms of work to promote demand response, prioritise work on examining the implications that mass-market half-hourly submissions will have on reconciliation systems and considering a range of enhancements to profiling to accommodate tariff innovation. Otherwise priority on dispatchable demand should depend on the level of interest from loads.
Meridian	Medium priority
MRP	Low to medium priority (by implication from their submission)
<b>Electricity users</b>	
MEUG	Highest tier priority (along with "more accurate forecasting of spot prices, closer to real time prices and shortening gate closure)
NST	Highest priority
Pan Pac	Very high priority
<b>Distributors</b>	
ENA	Low priority
Orion	Low to medium priority
Powerco	High priority. The project is important and has the potential to significantly improve system security and market flexibility.
Vector	Low priority
WEL Networks	Low priority
<b>Other</b>	
EECA	High priority
Transpower	No further work is warranted at this stage. Progress DSBF as a priority.

<b>Other issues</b>	
Business NZ	<p>Under options 1 or 2, dispatched demand should receive constrained on and constrained off payments.</p> <p>Broad participation is important. Participation should not be restricted to only the largest electricity users (broad participation will help promote understanding and confidence in the market).</p>
Contact	<p>Should participants receive constrained on/off compensation?</p> <p>How will a dispatchable demand bid interact with an interruptible load bid?</p> <p>How will demand responses be monitored? Will a bid be removed from final pricing if the participant did not follow its dispatch instruction?</p> <p>Does the treatment of dispatchable demand bids become easier with ex ante pricing rather than ex post pricing?</p> <p>An industry working group should be established.</p>
EECA	<p>Undertake a comprehensive review of demand side participation programmes in other jurisdictions</p>
ENA	<p>Wholesale market demand-side participation needs to be coordinated well with distribution networks. There will be difficulties for network operational management if third parties are switching large blocks of load without reference to the distribution company. Interruptible load (especially hot water) already has other uses. There may be synergies with the Commerce Commission's work to promote incentives for distribution businesses to invest in demand side management.</p> <p>Develop a market to use flexibility from electric vehicles.</p>
Genesis	<p>There is a case for constrained on or constrained off payments. This is the <i>quid pro quo</i> for ceding control.</p>
Orion	<p>Customers (even quite large customers with half-hour metering) have a preference for fixed price variable volume contracts. The Commission should find out what these customers plan to do (if anything) when spot prices are high.</p> <p>Implementation issues should be studied carefully. Options 1 and 2 would require substantial, costly changes to SPD and other market systems.</p> <p>The paper gives inadequate consideration to load stability and in particular how the restoration of dispatched demand reductions is to be managed.</p> <p>Orion manages upper South Island load to a target, particularly on winter weekdays. When Orion is controlling load, a change in the dispatch point of an electricity user in the Upper South Island would be offset by a change in water heating demand.</p>

Pan Pac	<p>Problem is that most electricity users are insulated from the wholesale spot market. While a generator that increases supply is paid, an electricity user who reduces demand is not paid. Pan Pac does not accept the argument that when it responds to high prices its benefit is the avoidance of those costs. There is a real cost of lost capacity and idle assets (VOLL). Any price over \$100/MWh is the result of market power and a malfunctioning wholesale market.</p> <p>Some constraint may be needed to ensure that only one out of the demand reduction or FIR/SIR is dispatched. A similar situation may arise for AUFLS.</p> <p>It may be more difficult to predict demand ramp up rates when demand is coming back.</p> <p>The two hour rule is excessive.</p>
WEL Networks	<p>The Commerce Commission's work under section 54Q of Part 4 of the Commerce Act should take precedence. Any work on dispatchable demand should recognize the value that load control has for uses outside the wholesale market (e.g. AUFLS, management of transmission and distribution costs/charges, contingency management)</p>

