

Scarcity pricing questions and answers

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What is scarcity pricing?

Scarcity pricing refers to arrangements to modify prices in the wholesale electricity market (spot market) when the system operator reduces demand through administrative action.

The scarcity pricing Code amendment gazetted by the Authority provides for the introduction of a \$10,000/MWh price floor and \$20,000/MWh price cap to the spot market when an electricity supply emergency causes forced power cuts (called emergency load shedding) throughout one or both islands.

The scarcity pricing Code amendment, along with the stress testing regime (details of which are provided in an accompanying overview paper), meet the objectives provided for by section 42(2)(b) of the Act.

Subject to certain safeguards, scarcity pricing will modify average wholesale electricity market prices during forced power cuts to ensure they settle between \$10,000/MWh and \$20,000/MWh (prices which better reflects the costs of forced power cuts to consumers).

Why is the price floor set at \$10,000/MWh and cap at \$20,000/MWh?

Having a cap and floor set at different values allows spot prices to better reflect the particular conditions of each specific shortage event. The particular values for the floor and cap prices are consistent with the results of analysis undertaken by the Electricity Authority into the price of last-resort generation and the value of electricity to consumers (respectively) who experience forced power cuts.

Why is scarcity pricing being introduced?

New Zealand uses a central wholesale electricity spot market (spot market) as the primary means of coordinating offers by generators to sell electricity and bids by wholesale purchasers (including retailers and large industrial users) to buy it.

Although spot market prices generally signal the state of demand and supply conditions appropriately, on rare occasions generation can become scarce to an extent that creates a supply emergency and requires forced power cuts.

Normally, when a good or service becomes scarce, demand is rationed by increasing the price.

However, forced power cuts would lower spot prices for electricity, undermining the financial incentive for wholesale parties to make arrangements with consumers to voluntarily conserve power and for generators to maximise available supply. However, there is also a possibility that spot prices during forced power cuts may settle well above the level expected in a workably competitive market.

The floor and cap mechanisms provided by the scarcity pricing changes address these problems. If scarcity pricing is triggered, the average spot price in the island or islands affected will be modified, if necessary, so it lies between \$10,000/MWh and \$20,000/MWh.

When does scarcity pricing come into effect?

The scarcity pricing Code amendments will come into force on 1 June 2013. This delay:

- provides time for participants to adjust their investment decisions; and
- allows for other initiatives that help participants manage spot price risk, such as HVDC pole 3 commissioning, demand-side participation, financial transmission rights, and hedge market development initiatives, to be implemented first.

How often might scarcity pricing be applied?

Fortunately, forced power cuts in an entire island have not been necessary for quite some time. Implementing scarcity pricing is expected to encourage investment in last resort generation and demand response measures which will further reduce the chance of forced power cuts.

Why has the Authority not imposed scarcity pricing for public conservation campaigns?

The Authority has considered implementing scarcity pricing changes for other supply emergencies (public conservation campaigns (PCCs) and rolling outages) but has not been able to develop a suitable model-based solution. This left the Authority with the option of introducing a \$500/MWh price floor for the duration of a PCC or rolling outage, which could last for many weeks.

The Authority has decided not to introduce a price floor for PCCs or rolling outages because:

- a price floor risks creating perverse incentives for thermal generators to withhold supply in the lead up to PCCs and rolling outages to hasten the triggering of the price floor;
- it would be very intrusive to market operations due to the extended periods for which PCCs and rolling outages can occur;
- it is unlikely to provide credible signals for investment in last-resort resources due to concerns about the durability of the price floor – that is, it could easily be removed or reduced in the lead up to, or during, a PCC or rolling outage. The Authority expects price floors for emergency load shedding situations to be more durable as emergency load shedding situations are very rare, occur very rapidly and have very short durations; and
- the concerns associated with PCCs have been addressed to a large degree by other measures, including the customer compensation scheme, and the remaining concerns are better addressed with a stress testing regime.

Will scarcity pricing increase electricity spot prices?

Scarcity pricing is not expected to have any significant effect on average spot prices over time. While it is likely to put further upward pressure on spot prices during periods when supply conditions are tight and prices are high, this increase is expected to be offset by downward pressure at off-peak times.

The overall effect on individual users will vary, depending on their pattern of usage. For consumers with 'peakier' load, scarcity pricing would put upward pressure on costs. However, it could reduce costs for those who can reduce their usage in peak periods. In both cases, the effects are not expected to be large (modelling undertaken by the Electricity Authority suggests an increase between 0-1%), especially as wholesale electricity sellers and buyers have a transition period to adjust to the new arrangements.

Where can I get more information on the scarcity pricing initiative?

Further information is available on the Authority's website at: <http://www.ea.govt.nz/our-work/consultations/priority-projects/scarcity-pricing-proposed-code-amendments/>, or by emailing info@ea.govt.nz for specific queries.

