Image Representation

While people’s eyes often glaze over when they hear the words “emissions trading”, we all respond to the price of carbon.

Back in 2010, when the carbon price was around NZ$20 per tonne, forest nurseries in New Zealand boosted production. But when prices plunged thereafter, hundreds of thousands of tree seedlings were destroyed rather than planted, wiping out both upfront investment and new forest growth.

Emission prices have since recovered but no one knows if this will last. With consultation underway on improving the New Zealand Emissions Trading Scheme (NZ ETS), the government should seriously consider a “price floor” to rebuild confidence in low-emission investment.

How a price floor works

If we want to make a smart transition to a low-emission economy, we need to change how we value emissions so people make the investments that deliver on our targets. Implementing a reserve price at auction – or a “price floor” – is a powerful tool for managing the risk that emission prices could fall for the wrong reasons and undermine much needed low-emission investments.

In New Zealand’s ETS, participants are required to give tradable emission units (i.e. permits) to the government to cover the emissions for which they are liable. A limit on unit supply relative to demand reduces total emissions and enables the market to set the unit price.

In the future, the government will be auctioning emission units into the market. A reserve price at auction, which is simple to implement, can help avoid very low prices. If private actors are not willing to pay at least the reserve price, the government would stop selling units and the supply to the market would automatically contract.

The government's current ETS consultation document suggests that no price floor will be needed in the future because a limit on international purchasing will be sufficient to prevent the kind of price collapse we experienced in the past. However, that assessment neglects other drivers of this risk.

When low ETS prices are a pitfall

Ideally, ETS prices would respond to signals of the long-term cost of meeting New Zealand's decarbonisation goals and achieving global climate stabilisation. With today's information, we generally expect ETS prices to rise over time. For example, modelling prepared for the New Zealand Productivity Commission suggests emission prices could rise to at least NZ$75 per tonne, possibly over NZ$200 per tonne, over the next three decades.

However, ETS prices could also fall because of sudden technology breakthroughs or economic downturn. Even though some low-emission investors would lose the returns they had hoped for, this could be an efficient outcome because low ETS prices would reflect true decarbonisation costs. Technological and economic uncertainty imposes a genuine risk on low-emission investments that society cannot avoid.

But there is another scenario in which ETS prices fall while decarbonisation costs remained high. This could arise because of political risk. For example, if a major emissions-intensive industrial producer was to exit the market unexpectedly and it was unclear how the government would respond, or if a political crisis was perceived to threaten the future of the ETS, then emission prices could collapse and efficient low-emission investments could be derailed.

Even when remedies are on the way, it can take time to correct perceptions of weak climate policy intentions. The New Zealand government's slow response to the impact of low-quality international units in the ETS from 2011 to mid-2015 is a vivid example of this.

A simple and effective solution

With a price floor, an ETS auction will respond quickly and predictably to unpredictable events that lower prices. A price floor signals the direction of travel for minimum emission prices and builds confidence for low-emission investors and innovators. It also provides greater assurance to the government about the minimum level of auction revenue to expect.

It is important to note that ETS participants can still trade units amongst each other at prices below the price floor. The price floor simply stops the flow of further auctioned units from the government into the market until demand recovers again and prices rise.

We have three good case studies overseas for the value of a price floor.

1. The European Union ETS did not have a price floor for correcting unexpected oversupply and prices dropped because of the global financial crisis, other energy policies and overly generous free allocation. It now has a complex market stability reserve for this purpose, although that operates with less ease and transparency than a reserve price at auction.
2. To counteract low EU ETS prices, the UK created its own price floor as a "top up" to the EU ETS. Although this did not add to global mitigation beyond the EU ETS cap, it did drive down coal-fired generation in the UK.
3. California's ETS was designed in conjunction with a large suite of emission reduction measures with complex interactions. Its reserve price at auction has ensured that a minimum and rising emission price has been maintained, despite uncertainties about the impact of other measures.

Keeping NZ on track for decarbonisation

In New Zealand, the Productivity Commission supports the concept of an auction reserve price in its final report on a transition to a low-emissions economy.

The only potential downside of a price floor is the political courage needed to set its level. It could be set at the minimum level that any credible global or local modelling suggests is consistent with New Zealand and global goals. The Climate Change Commission could provide independent advice on preferred modelling and an appropriate level. The merits of a price floor warrant cross-party support.

If the market operates in line with expectations, then the price floor has no impact on emission prices. But the price floor usefully guards against price collapse when the market does not go to plan.

The government, ETS participants and investors need to understand that international purchasing is not the only driver of downside price risk in the NZ ETS. A price floor would strengthen the incentives for major long-term investments in low-emission technologies, infrastructure and land uses in the face of uncertainty.

To reach New Zealand's ambitious emission reduction targets for 2030 (a 30% reduction below 2005 levels) and beyond, bargain-basement emission prices need to stay a thing of the past.

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