



# Draft prices consultation document – supporting consumer impact analysis

For year starting 1 April 2020



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# 1 Introduction

Wellington Electricity Lines Limited (**WELL**) is consulting on introducing a Time of Use (**ToU**) pricing structure for residential distribution tariffs. WELL has provided retailers with the consultation document titled '*Draft prices consultation document for the year starting 1 April 2020*' which provides an overview of the proposed tariff structure to allow retailers to provide feedback.

This document provides the supporting consumer impact analysis which estimates the impact the proposed distribution prices will have on retailers' consumers. Note, the analysis only considers the impact of the distribution component of a consumers bill.

## 2 Indicative pricing levels

We have prepared prices based on our current understanding of the target revenue for next year. Pricing for the year starting April 2020 is an ideal year to introduce change because our target revenue will be reducing as networks move to a new five year regulatory period. This provides a unique opportunity to adjust to a ToU price structure while not increases the distribution component of a consumers bill.

Our indicative price calculation suggests-prices for the Wellington network will decrease by approximately 9% overall as our target revenue reduces and networks move to a new regulatory period with lower financing costs.

**Note, the proposed prices are indicative only. The final revenue path and overall price change will be adjusted in December when the Commission finalise next year's regulatory allowance and Transpower confirm their finalised Transmission pass through costs.**

## 3 Price Impact Analysis

The following section shows how we have tested the impact each option would have on individual consumers. The proposed prices have been applied to a sample data set of 30 minute consumer consumption data representing over 10% of WELL's residential consumers. Household deprivation data has also been combined with the consumer consumption data to analyse the impact the proposed price changes would have on affordability. WELL is particularly cognisant of the potential impact ToU prices might have on those in energy hardship.

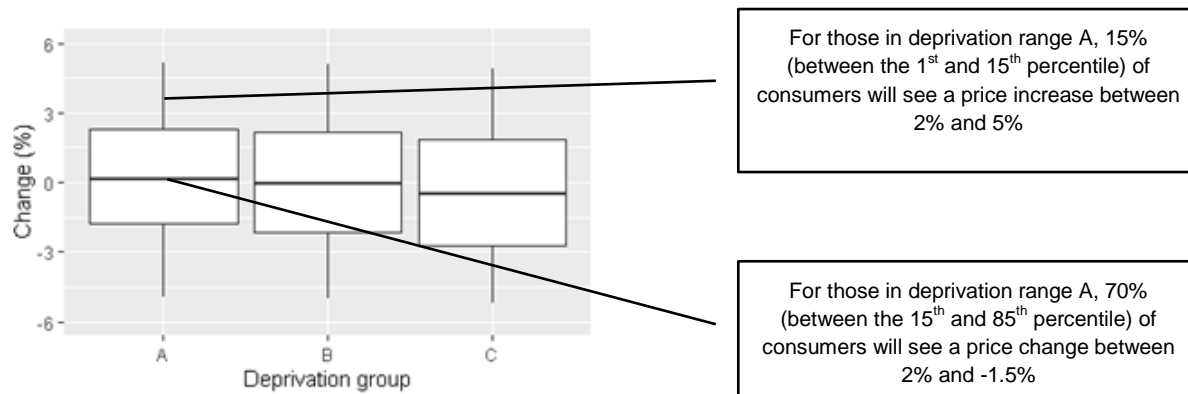
### 3.1 The box and whisker diagram

The impact on consumers is illustrated using box and whisker diagrams. The Y-axis of the box and whisker diagram indicates the magnitude of bill impact (in this example bill reductions for all), either in \$pa or %. The height of the box and whiskers show how impacts are distributed across a group of consumers. The height of the boxes represent 15<sup>th</sup> and 85<sup>th</sup> percentile impacts and the end of the whiskers representing 1<sup>st</sup> and 99<sup>th</sup> percentiles – i.e., 70% of consumers have impacts inside the range covered by the box, and 98% fall within the whiskers.

The X-axis groups consumers according to the Statistics NZ deprivation level for their household. Households in the wealthiest areas (deciles 1 and 2) are in deprivation group A, and the least wealthy are in group C. Group B captures the middle two deciles (5 and 6).

Figure 1 illustrates how to read the box and whisker diagram.

**Figure 1: Reading a box and whisker diagram**



### 3.2 Pricing scenarios

We have also considered the strength of the TOU peak and off peak signals. We have tested two scenarios for prices for the year starting April 2020:

1. Full ToU price signal that reflects the cost of providing energy at peak periods of congestion (a cost reflective pricing signal) – new residential ToU prices are introduced for uncontrolled and inclusive meters. The peak price for standard users also aligns with the peak rate for electric vehicle consumers, allowing for price simplification. The off-peak rate is set at a level that ensures equivalent overall pricing for each consumer group.<sup>1</sup> Corresponding low-user plans have then been developed.
2. Mild ToU price signal – the peak price for standard residential ToU is 40% of the strength of the full ToU price signal.

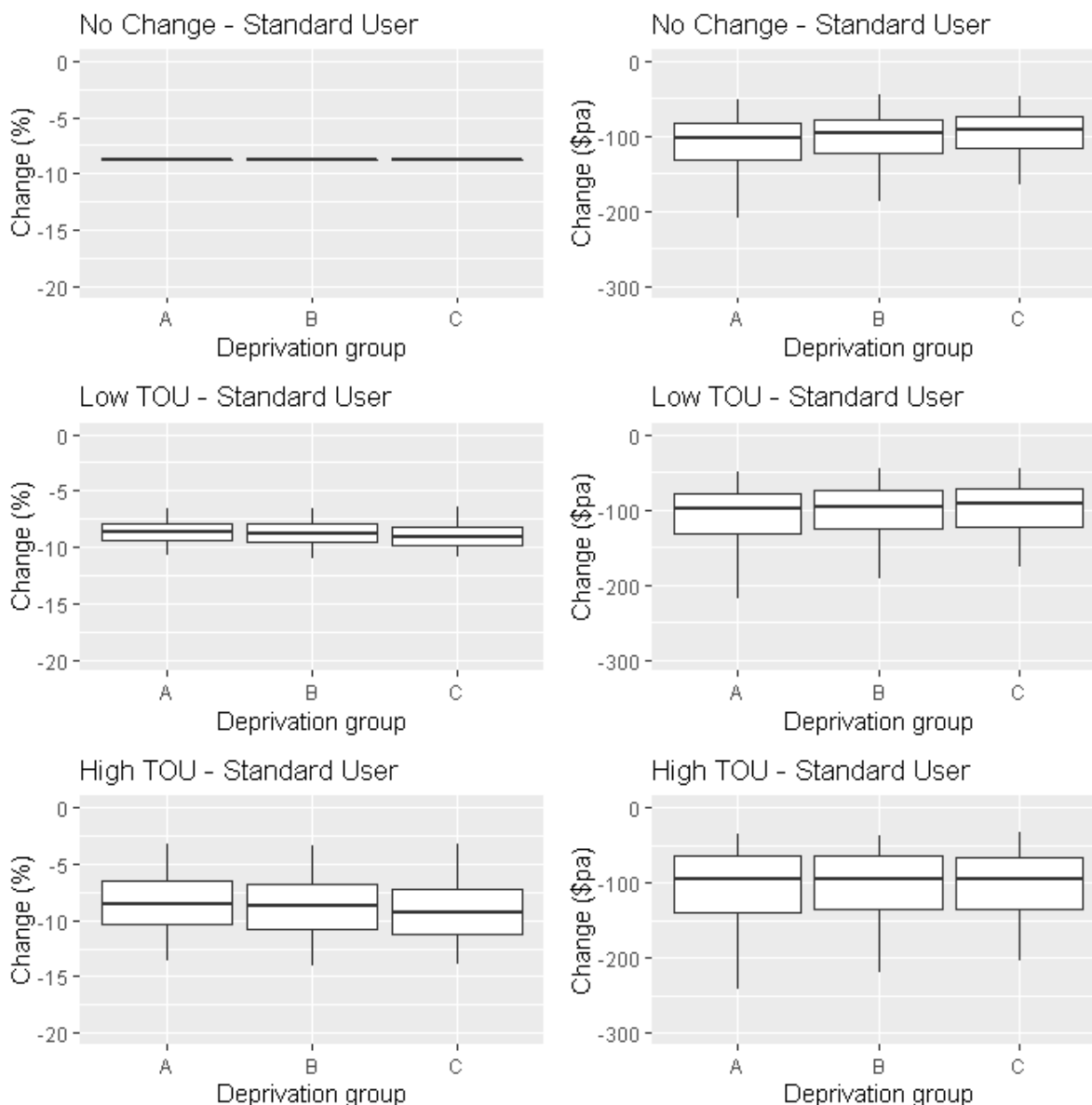
Both options are equivalent at a consumer group level, assuming no immediate and large-scale change in demand in response to the new signals.

### 3.3 Bill impact on standard residential prices

Figure 2 below illustrates the consumer impact of remaining on the current flat residential prices and of moving to mild or full ToU prices.

<sup>1</sup> We first had to develop a peak rate for electric vehicle customers with inclusive meters. The peak rate is designed to achieve an equivalent pricing outcome between inclusive and separately metered prices for a typical EV customer. In all cases, the peak rate referred to here is the April 2020 rate that would apply if prices were set using our current methodology and indicative distribution and transmission reductions.

**Figure 2: bill impact for standard residential consumers**

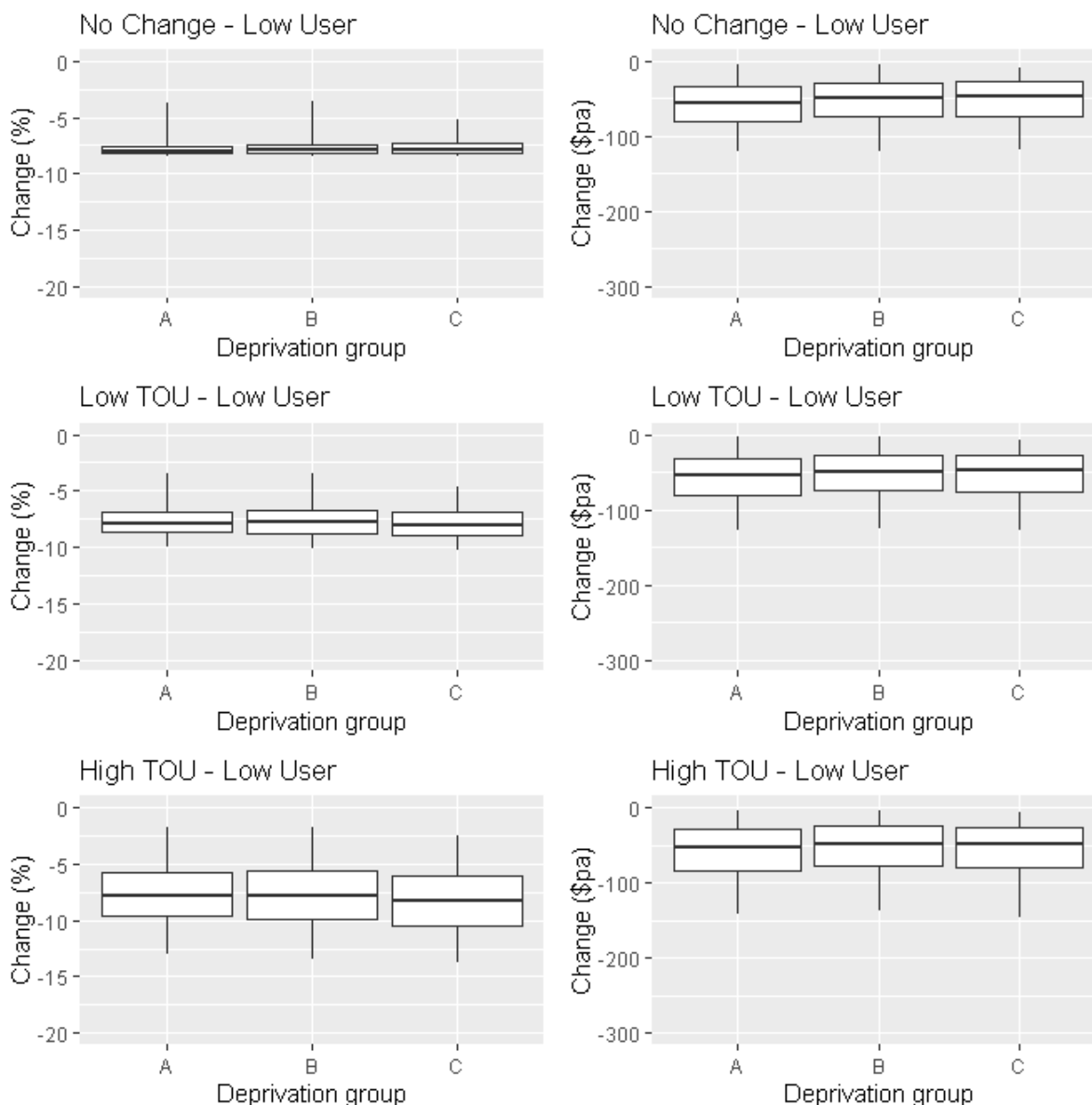


Introducing a full ToU price would see all consumers receive a price reduction due to the overall reduction in revenue (due to the regulatory WACC reset). While the average price change does not change between pricing options, the ToU price with full price signals does create more variation in the size of the price decrease. 85% of all consumers will receive a price decrease of greater than 6% for deprivation group A and 7% for deprivation group C. There is a small variation between deprivation deciles – the analysis indicates that the most-deprived have consumption which is less peaky, on average, and would enjoy a slightly bigger reduction in bills from the introduction of TOU.

### 3.4 Bill impact on residential prices with low fixed users charges

Figure 3 below illustrates the low fixed user consumer impact of remaining on the current flat residential prices and of moving to mild or full ToU prices.

**Figure 3: bill impact for low fixed user residential consumers**



No consumer would face a price increase due to the overall reduction in revenue. The ToU price with full price signals does creates the most variation in the size of the price decrease. 85% of all consumers will receive a price decrease of greater than 5% for all deprivation groups.

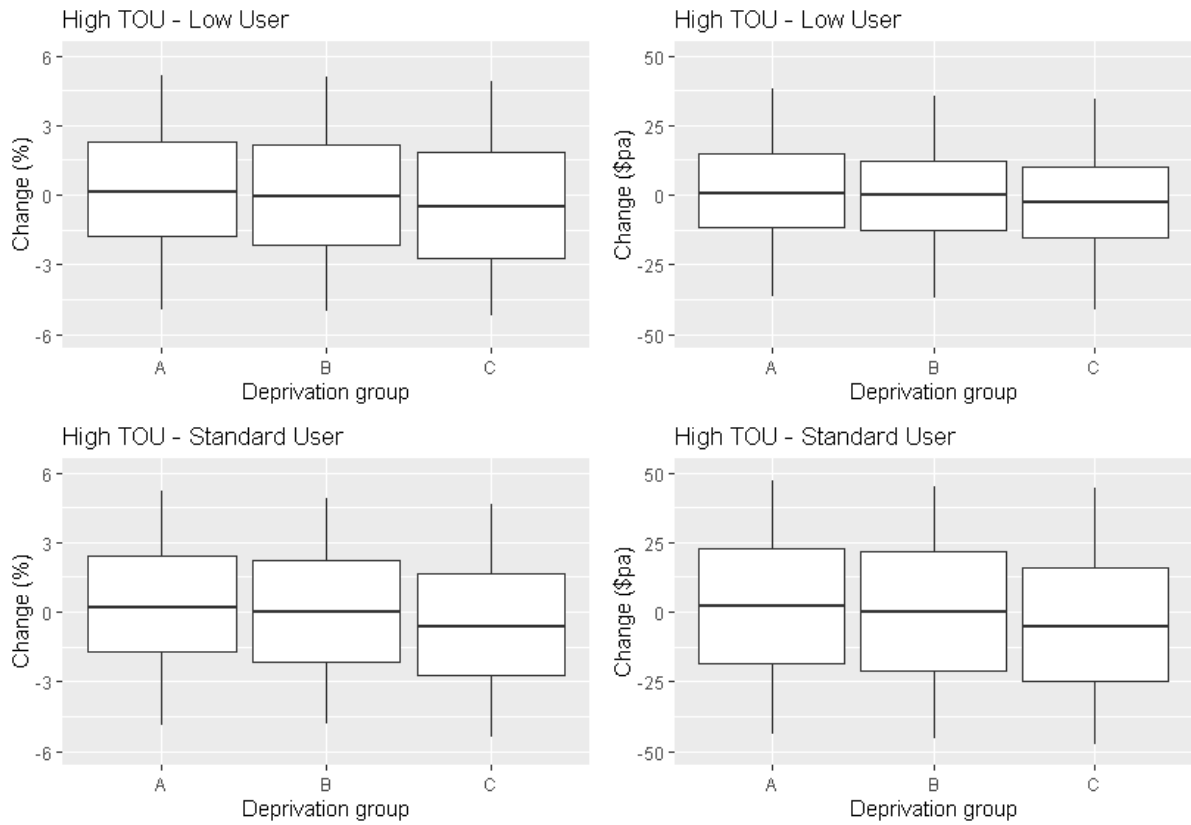
### 3.5 Bill impact of delaying the roll out to all residential consumer

WELL considered whether to make residential ToU prices optional initially and to transition consumers to ToU over time. However, WELL expects all consumers to be on cost reflective prices at some stage in the near future<sup>2</sup>. If the introduction of ToU prices is delayed and the introduction does not coincide with the reduction in revenue that is expected from April 2020, prices for 50% of customers will increase when ToU prices are eventually introduced.

<sup>2</sup> The Electricity Authority and the Electricity Price Review both support and promote the implementation of cost reflective prices.

Figure 3 below illustrates the customer impact of postponing the introduction of prices to all residential customers (the example assumes the full ToU price signal has been applied). Figure 3 shows that 50% of customers would see prices increase, with the price increase ranging up to 5%.

**Figure 3: Consumer impact of postponing the introduction of ToU pricing**



WELL believes that the reset of the regulatory price/quality path provides a unique opportunity to manage any potential bill shocks. April 2020 is an ideal time to introduce change because our target revenue will be reducing significantly as networks move to a new regulatory period with lower financing costs. WELL's draft decision is to apply Full ToU prices to all residential consumers at the same time as prices reduce overall. If consumers were moved to ToU from April 2020, almost no consumer would see an increase in the distribution charge component in their annual power bill (assuming the price decrease is passed through by the retailer).