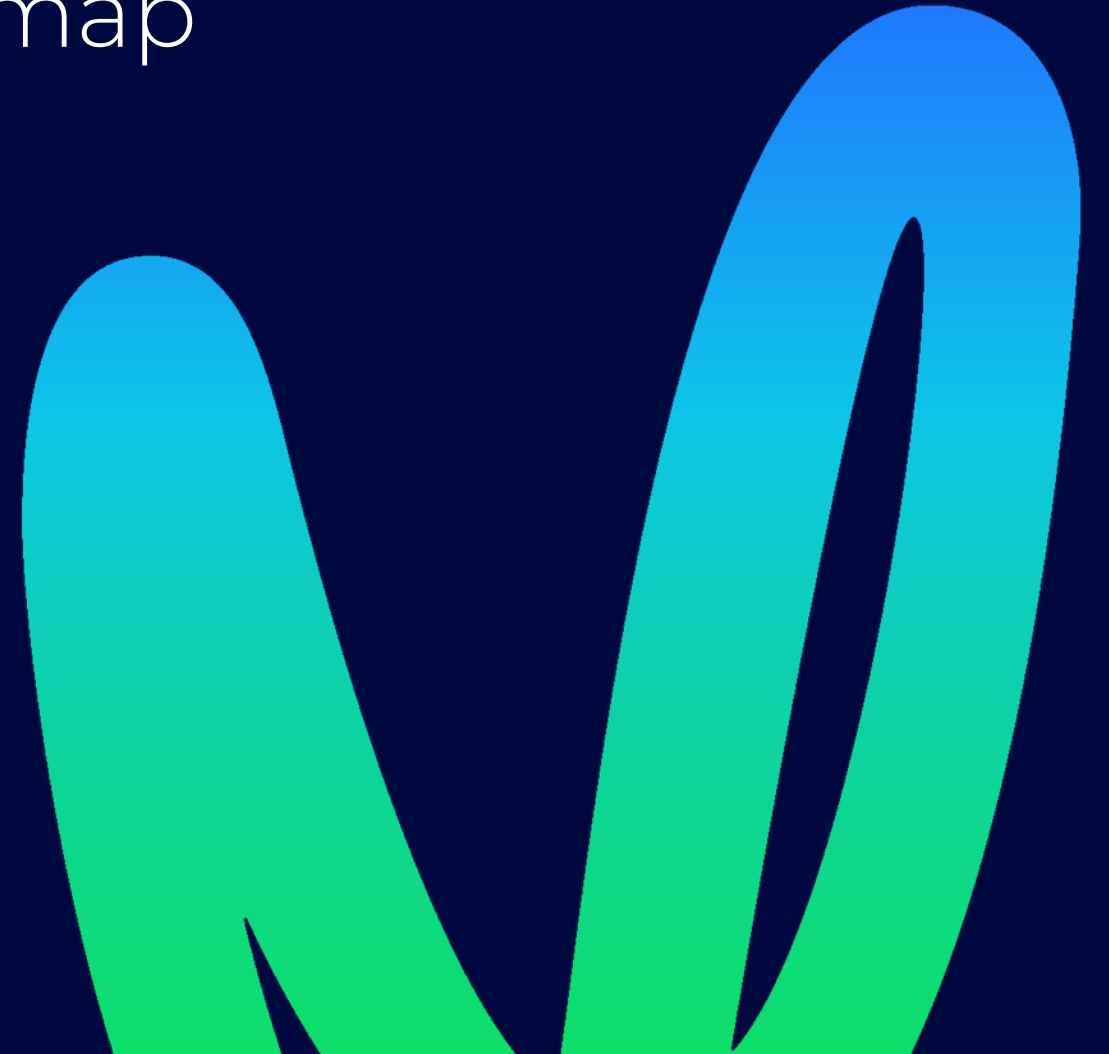


April 2020

Distribution Pricing Roadmap



Customer led new energy future

New breed of customer:

- New behaviours
- Demand for new options/choice
- Demand for increased resilience, lower costs and a reduction in carbon
- Support for new technologies



Vector is enabling this new future:

- Data analytics
- Battery storage
- Peer-to-peer trading
- Integration of distributed generation (DG)
- Managed smart electric vehicle (EV) charging
- Smart load control
- New pricing

Customer-centric pricing

Pricing structures need to satisfy customers rather than textbook economic theory:

- Explain prices simply
- Get input
- Design around what customers value
- Test / trial
- Implement
- Manage impacts

For pricing to be sustainable it must be acceptable to consumers



What our customers tell us they value



SIMPLICITY



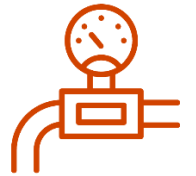
CHOICE



SUSTAINABILITY



IMMEDIACY



RESILIENCE

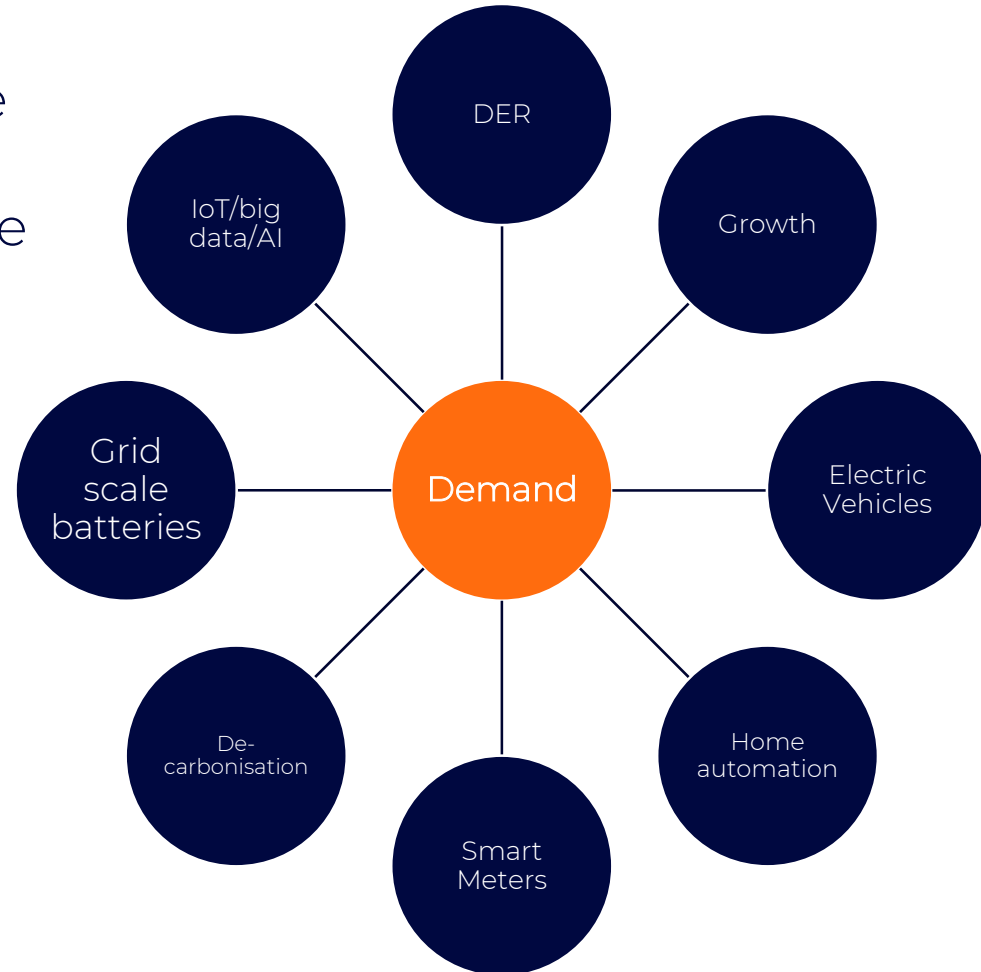


Pricing is an important part of Vector's overall network strategy

Vector's Symphony Strategy seeks to leverage new energy solutions to meet energy needs affordably – starting with the customer not the power plant

Our future network scenarios consider:

- Traditional assets
- New technology
- Digital assets
- Customer integration/choice and experiences
- Delivering value from data analytics
- Pricing



Stakeholders support pricing reform

Regulators, policy-makers and industry are aligned on need for pricing reform – but customer impacts must be carefully managed

“Substantial changes to distribution pricing will be needed in coming years to exploit emerging technology, lower carbon emissions and get prices more in line with true costs. These changes, as desirable as they are, will hurt some consumers in the short term.”

EPR Final Report, May 2019

“Distributors urgently need to improve the efficiency of their distribution prices because technology is rapidly changing how electricity is produced and consumed. These changes affect how distribution networks are used, and how distribution services should be priced.”

Electricity Authority, Nov 2019



“How the costs of new network connections are allocated, and the way that distributors price their services, has implications for potential investors in new distributed generation... Distribution prices also have implications for consumers investing in technology to generate and store electricity, especially if they are to be rewarded for engaging in the electricity market.”

MBIE, Dec 2019

“Pricing reform... will play an important role in delivering optimal outcomes to consumers in the context of ongoing technological development... analysis strongly indicates that careful transitioning is essential if reform to distribution pricing is to be successful.”

ENA, Feb 2019

Vector's approach to reviewing its prices

Vector reviews its pricing annually:

- Data driven analysis
- Meet regulatory requirements including Electricity Authority Pricing Principles
- Ensure prices fairly reflect costs to the system
- Assessment of evolving technologies
- Consumer insights
- Leverage international best practice
- Industry engagement
- Retailer consultation
- Publish [price schedules](#) and [pricing methodology](#)

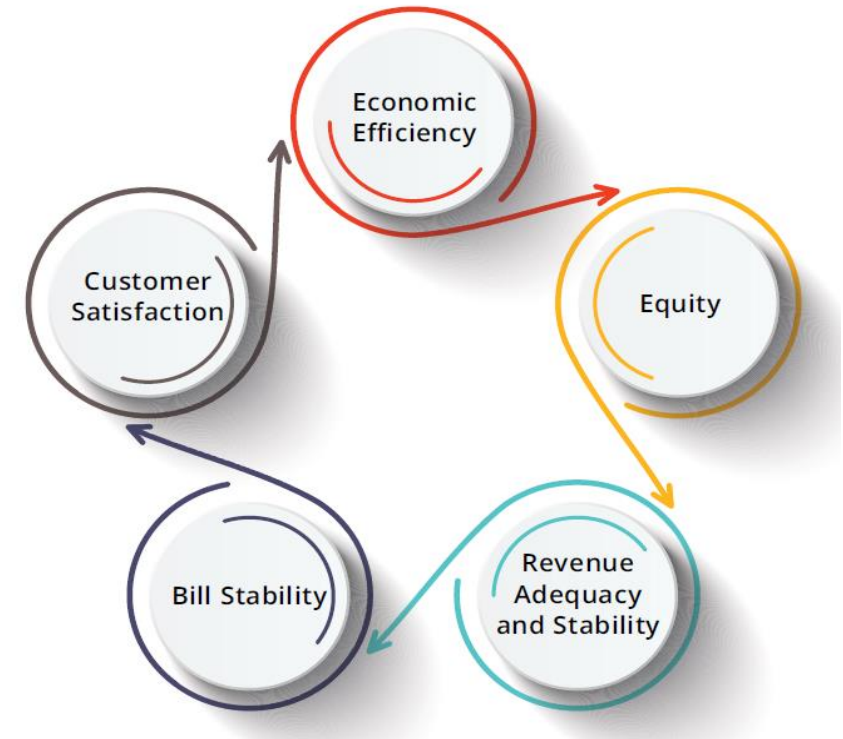
Pricing assessment involves tradeoffs

Trade-offs between competing goals:

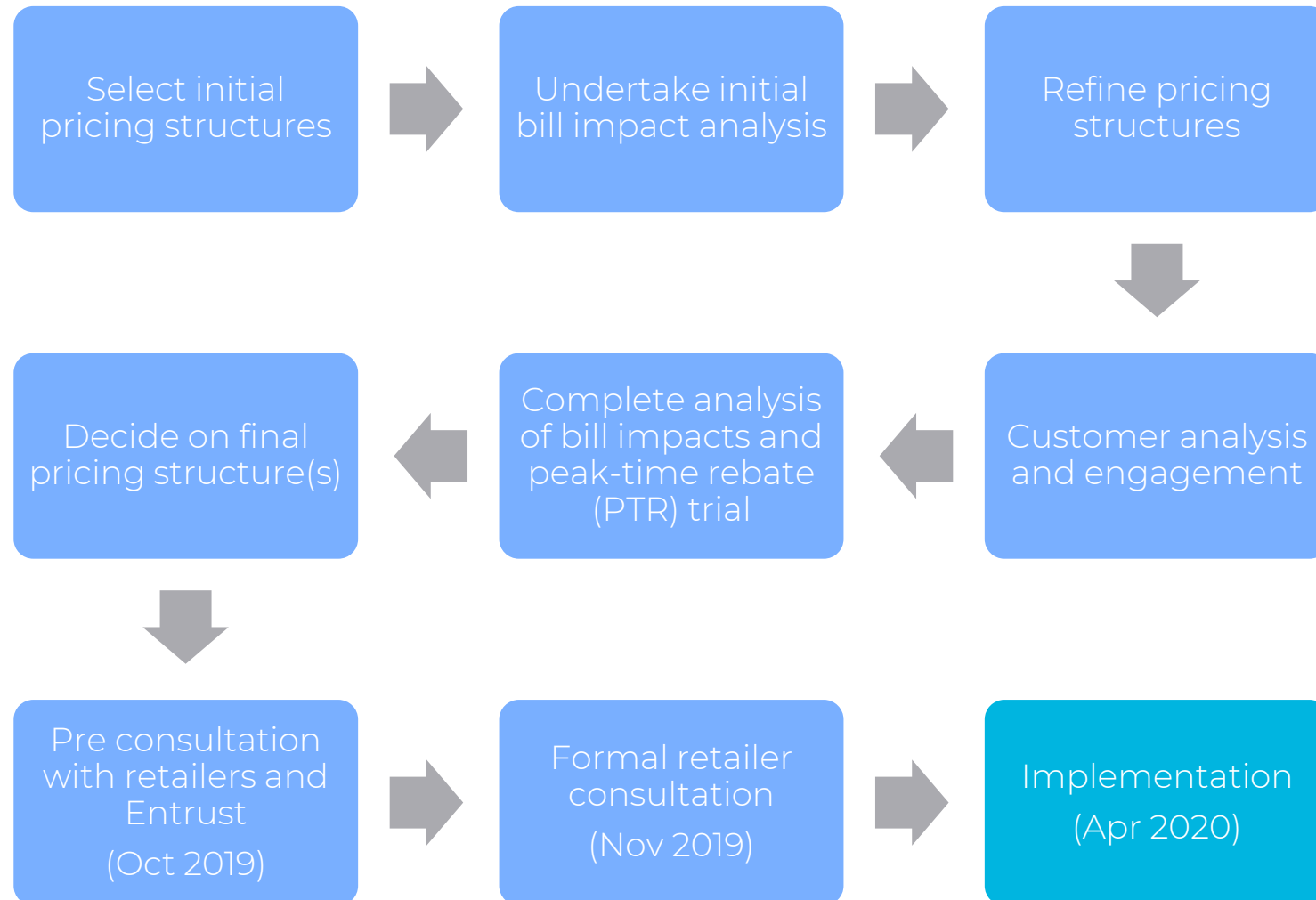
- Service based/cost reflectivity – what is the consumer purchasing, what drives Vector and consumer investment?
- Simplicity/acceptability – could the consumer understand the pricing, is it sufficiently predictable to be actionable?
- Bill impact – what are the consumer-level drivers of their cost changes?

Underpinned by consideration of:

- Regulatory requirements, including EA Pricing Principles
- Economic theory
- Practical implementation aspects
- Regulatory and public perceptions
- Consumer effects and expectations
- Revenue risk implications
- Low User Fixed Charge Regulations



We undertook an extensive review of our prices in 2019-20



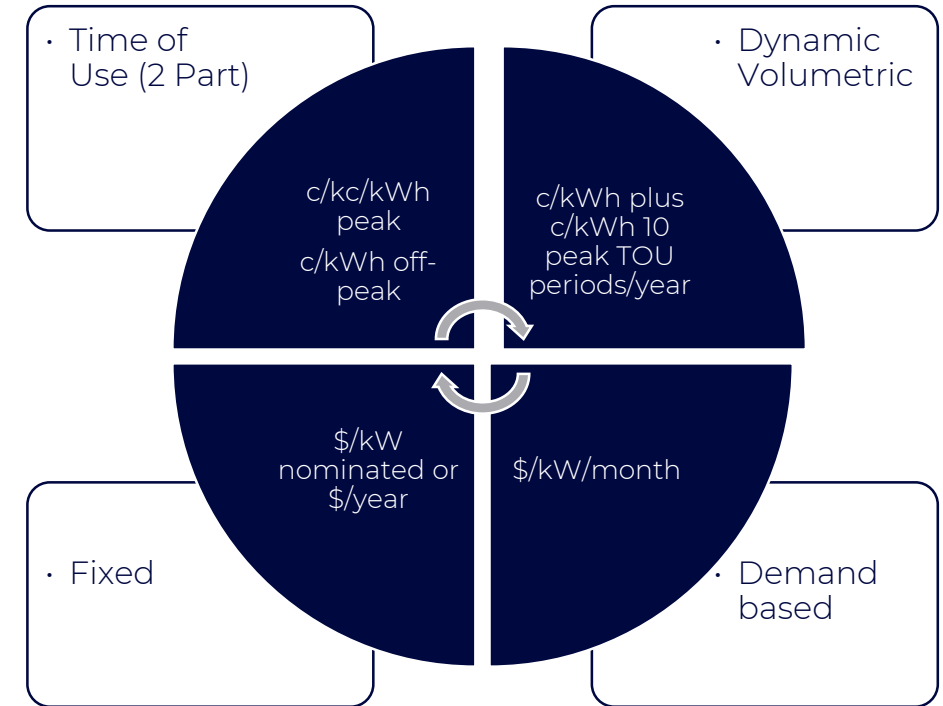
New ToU pricing introduced on 1 April 2020

Five structures were considered:

- Existing pricing – no time differentiation
- Time of Use (ToU) - Peak and off-peak, all year
- Dynamic Volumetric – 10 peak days
- Demand based – Monthly peak half-hour
- Fixed – Capacity or fully fixed

Two-part ToU best overall candidate for standard price structure for now – balancing a range of trade-offs, and underpinned by regulatory requirements

LUFC regulations* impede implementation of some tariff options (demand based, fully fixed)



Alternative price structures – assessment against objectives

Dynamic Volumetric

- Volumetric (kWh) charge with high rates on annual peak demand days
- High monthly variation in prices
- Strong cost-reflective signal but low predictability for customers
- Less intuitive/simple than flat volumetric or static TOU

Demand based

- Peak demand (kW) charge based on monthly peak (Anytime Maximum Demand or AMD)
- Reduces winter bills on average as volume effect reduced
- Charging unit (kW) not intuitive and would require customer education
- AMD not necessarily connected to system peaks/investment costs
- Requires active management to manage costs

Fixed bill

- Fixed monthly charge irrespective of usage
- High bill impacts on low volume / low load factor customers
- Reduces winter bills on average as volume effect removed
- Simple to understand and similar to many other products (broadband, Netflix etc)
- Not LFC compliant
- Not cost reflective on its own but could be combined with PTR or excess demand charge

Design of ToU tariff

Our new two-part ToU residential tariff consists of a daily fixed price with different volumetric prices depending on the time period when the electricity is used:

- peak-time price – 7am-11am and 5pm-9pm weekdays
- off-peak pricing during other times

Standard residential tariffs

Price category	Daily charge (\$/day)	Volumetric charge – off-peak (\$/kWh)	Volumetric charge – peak (\$/kWh)
Uncontrolled	1.01	0.0229	0.1150
Controlled	1.01	0.0229	0.0962

ToU better reflects the costs of electricity distribution and transmission as high electricity demand puts pressure on the electricity networks at peak times

ToU tariff is mandatory for residential customers, but a one year exemption can be granted at Vector's discretion for retailers who require additional lead time for implementation

Where Vector is heading



Two-part ToU best overall standard price structure for now – balancing a range of trade-offs



ToU is a transitional step – we will continue with analysis and engagement on alternatives



Vector is considering moving to more fixed charges for recovery of fixed pass-through costs, e.g. transmission



However LUFC is an impediment to pricing choices



We will monitor any LUFC changes that arise from the Electricity Pricing Review



If/when LUFC is removed we will proceed with further pricing reform

