



DEVELOPING OUR ROADMAP WITH YOU TOGETHER, A BRIGHTER TOMORROW OUR CLEAN ENERGY FUTURE

SEEKING INPUT FROM OUR STAKEHOLDERS

APRIL/MAY 2022



SOUTH ISLAND
TE WAIPOUNAMU
DISTRIBUTION GROUP

AGENDA FOR TODAY



- **WELCOME**
- **A RECAP ON THE MODELS WE INVESTIGATED**
- **YOUR ROLE AND HOW IT HAS CONTRIBUTED TO OUR INVESTIGATION PROJECT**
- **SHARING OUR PROGRESS – THE DRAFT ROADMAP**
 - Objectives
 - Framework & Approach
 - Workstreams
 - High-Level Roadmap
 - Preparation & Collaboration
- **NEXT STEPS (OUR PROJECT PLAN) + KEEPING YOU UPDATED**



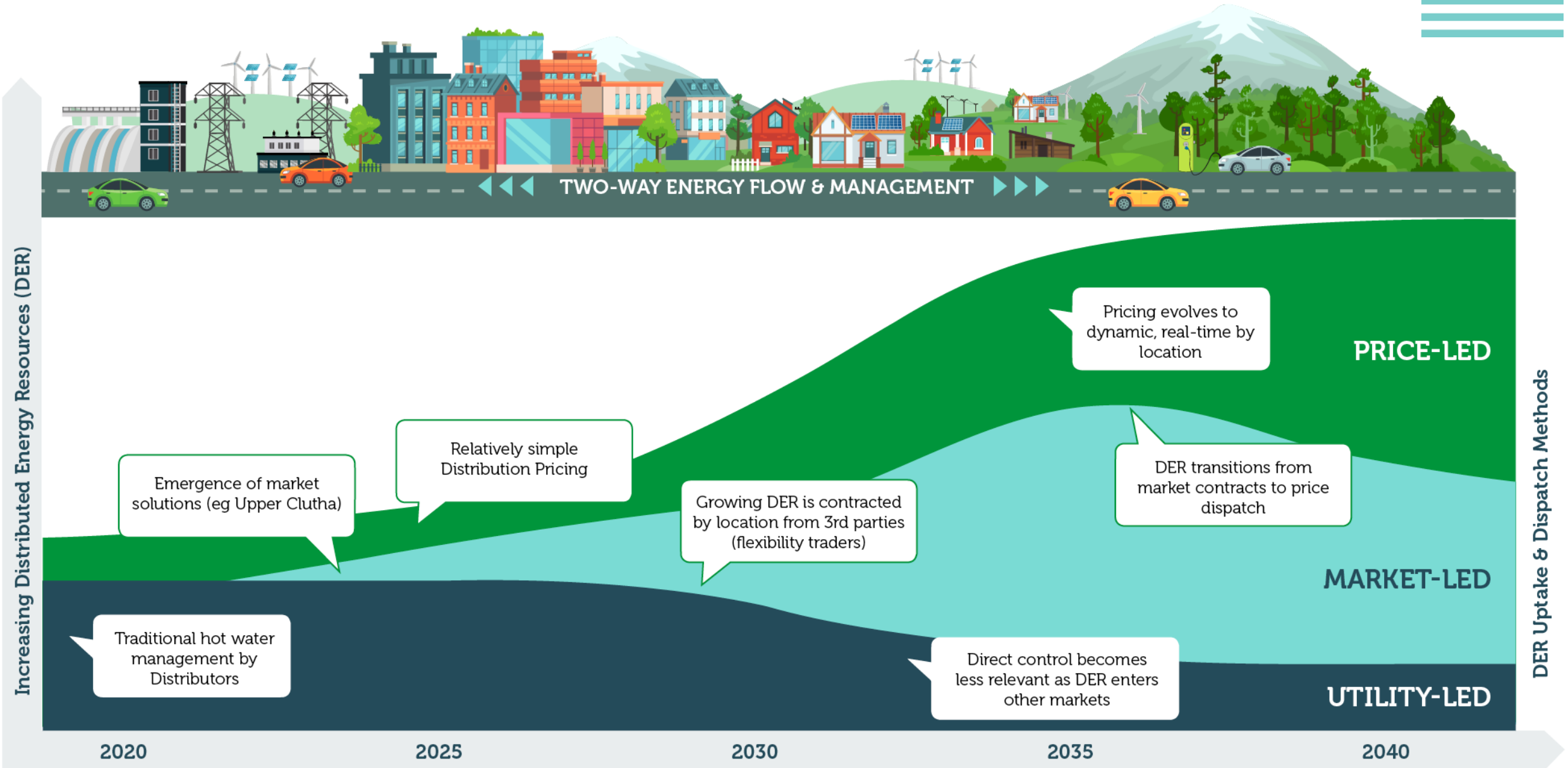
A RECAP ON THE MODELS

FUTURE OPERATING MODELS INVESTIGATED



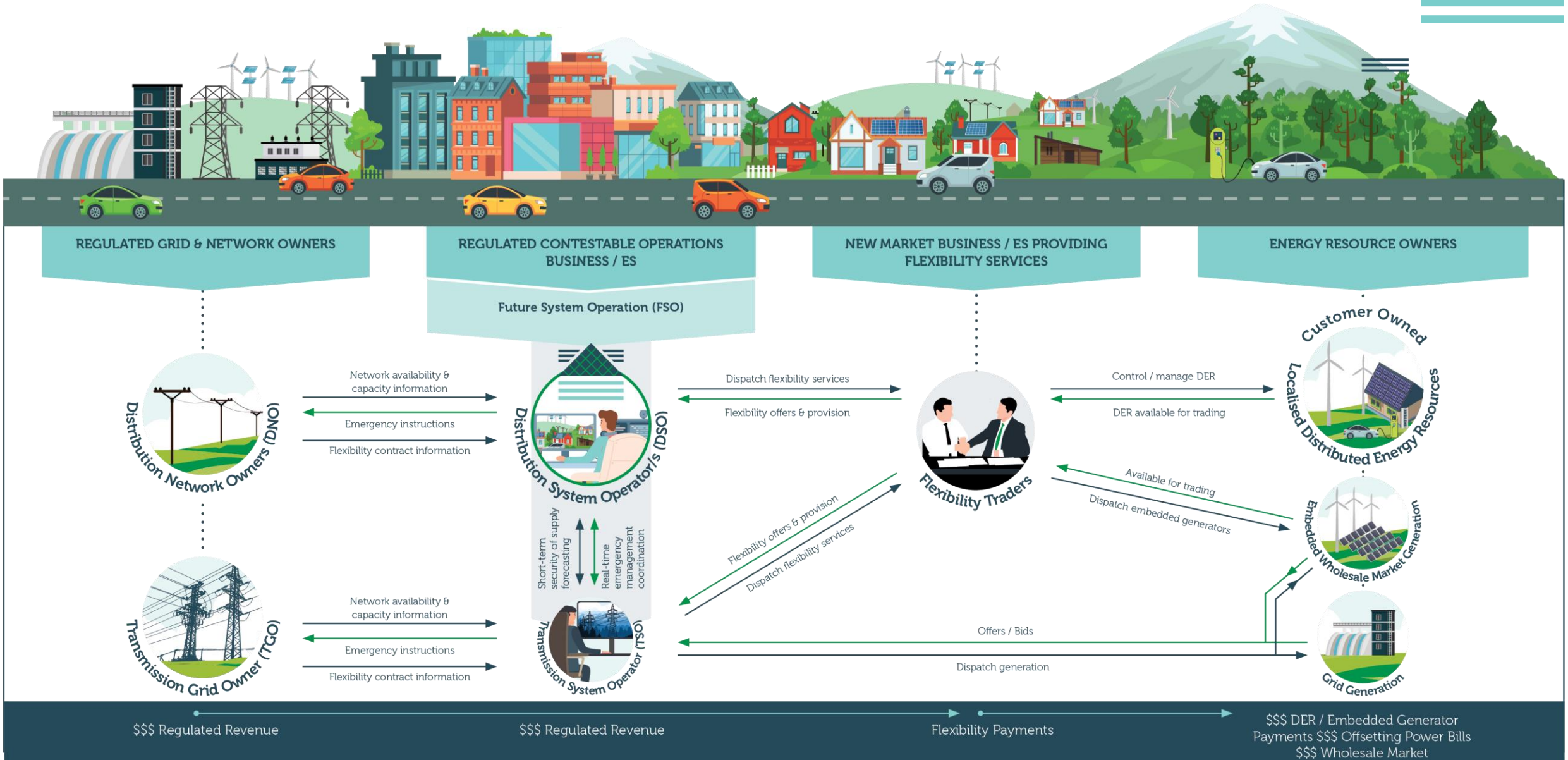
BACKGROUND RECAP: THE EVOLUTION OF THE FUTURE MODELS

DIRECT CONTROL TO MARKET UPTAKE & REAL-TIME PRICING



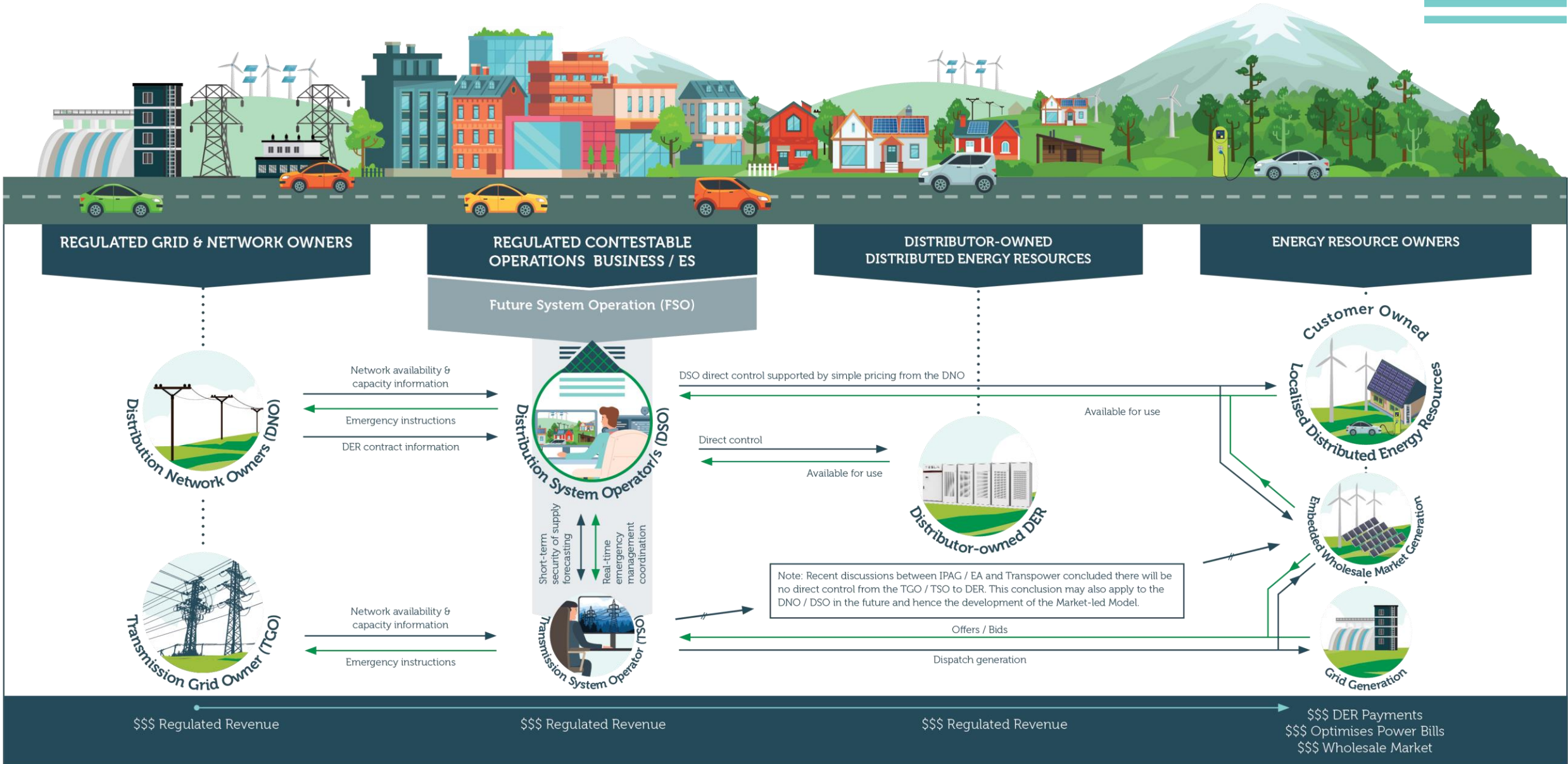
BACKGROUND RECAP: THE MARKET-LED MODEL

INTRODUCTION OF A FLEXIBILITY TRADER



BACKGROUND RECAP: THE UTILITY-LED MODEL

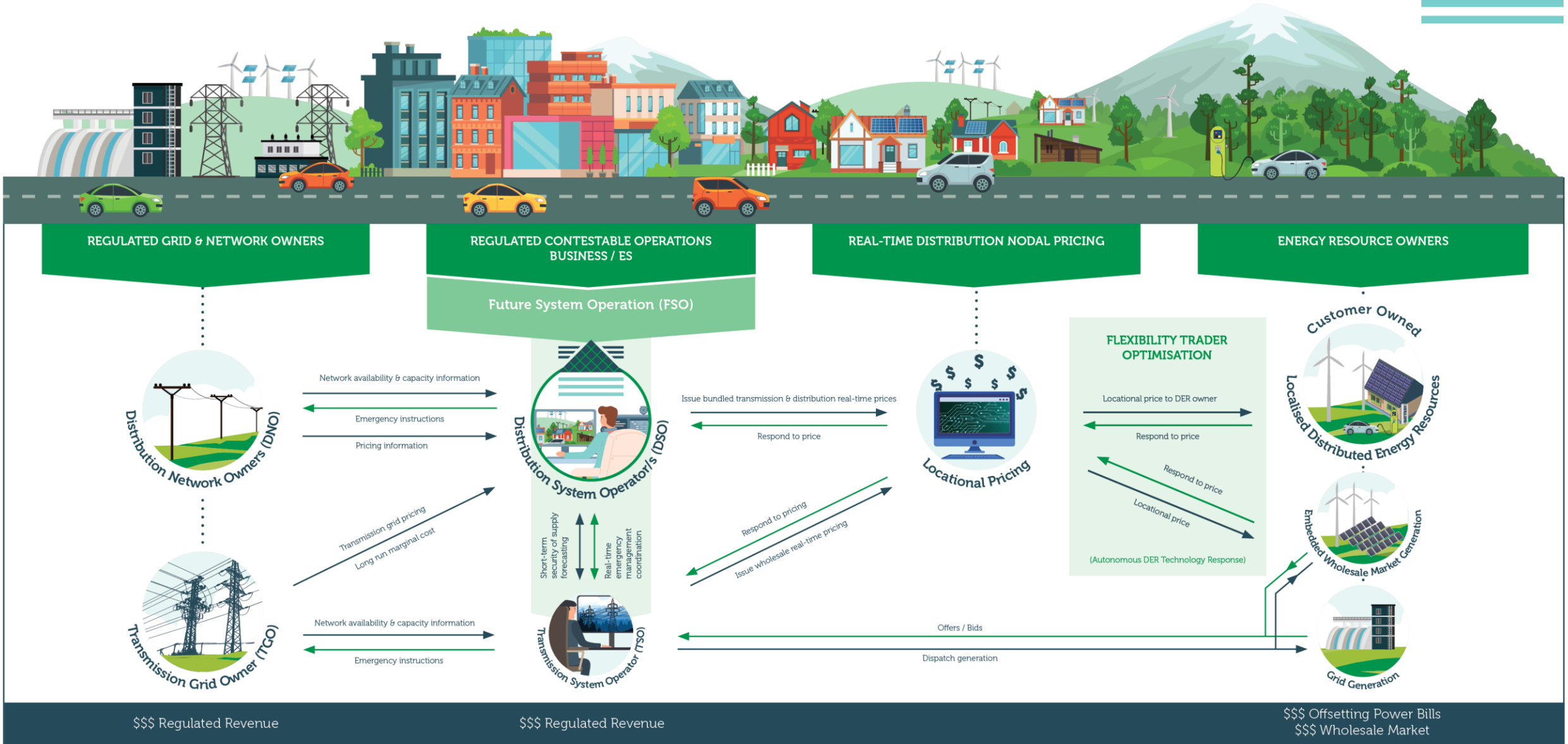
EXPANDING THE CURRENT STATE



BACKGROUND RECAP: THE PRICE-LED MODEL

TRANSITION TO REAL-TIME PRICES

BELOW MODEL HAS BEEN MODIFIED SLIGHTLY TO REFLECT STAKEHOLDER FEEDBACK





YOU HAVE PLAYED A SIGNIFICANT ROLE

YOUR INSIGHTS HELPED FOCUS OUR WORK



YOU HAVE BEEN PART OF A COLLABORATIVE CROSS-SECTOR ENGAGEMENT PROGRAMME

THANK YOU FOR YOUR INPUT SO FAR!



SHARING OUR WORK & COLLABORATING ON FUTURE SOLUTIONS...

Your role has been integral to our Project and has contributed to establishing a cross-sector lens that has helped shape our Investigation.

We have been engaging with:

- The Electricity Authority (via IPAG)
- The Commerce Commission
- Transpower
- The ENA (and its Smart Technology Working Group)
- ERANZ
- FlexForum, Vector, Powerco, Electra, Centralines, Wellington Electricity and Scanpower

(on request)

- EECA
- MBIE
- The EEA (and its Emerging Technology Working Group)

We have also kept the following organisations updated on our Project:

- The Climate Change Commissioner
- The New Zealand Infrastructure Commission
- Infrastructure New Zealand

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PROJECT UPDATE

JANUARY 2022

THANKS TO OUR STAKEHOLDERS

Since late November 2021, we have been focused on engaging with a vast range of key stakeholders to provide an overview of our investigation project into the options for how future distribution system operation models could be developed, and to seek stakeholder views and feedback. This has been a critical stage of our project, as we know reaching a common understanding of the future pathways requires insights, input and collaboration from across the sector.

We spoke with the Electricity Authority, the Commerce Commission, Transpower, the Electricity Networks Association (together with its relevant working groups and those individual distribution businesses keen to understand more), the Energy Efficiency & Conservation Authority (EECA), the Ministry of Business, Innovation and Employment (MBIE), the Electricity Engineers' Association (and its relevant working groups), the Electricity Retailers Association of New Zealand (ERANZ), as well as keeping the Climate Change Commissioner and the New Zealand Infrastructure Commission informed and updated on our project. We thoroughly appreciate the time you took to understand our project, and the valuable feedback you provided. On behalf of everyone in the South Island Distribution Group, once again, thank you.

It is important our investigation considers the views of our many stakeholders, so that we understand each organisation's objectives and ensure those views inform our work. We believe there is an opportunity to engage and innovate with the wider New Zealand industry ensuring everyone's unique perspectives and motivations are canvassed and our project is robust and in the long-term interests of our country. Therefore, we will continue to engage with you all to seek your ongoing input and feedback as part of the investigation project, as well as keep you updated along the way through these Project Updates.

INITIAL STAKEHOLDER FEEDBACK – THIS IS WHAT IT TOLD US:

- There was strong support for our investigation project to help raise the level of understanding and to provide greater clarity on the way forward to enable implementation as soon as possible.
- There was consistent agreement that collaboration across the sector to establish a common view of the possible future models was needed.
- There was a positive appetite to share information across our stakeholder audiences, which further emphasises the commitment from all parties to find a solution that best serves the interests of our country for the long-term.
- There are other complementary workstreams across the wider sector that will benefit from two-way information-sharing.
- There was discussion amongst stakeholders on the importance of aligned Standards, to enable progress and to protect the reliability of supply for customers.
- Our stakeholders to the future of the industry.
- Some stakeholders the ease of which the model with the model, and how quickly to establish by time.
- Stakeholders all stronger 'needs' of our unique sector.

WHAT'S NEXT?

- The project team will now work to refine and confirm the possible options we discussed with stakeholders, for enabling a future DER market structure that manages different electricity supply and demand scenarios, and what those options might mean for customers, market participants and distribution network operators.
- Part of this will include reviewing all stakeholder feedback (the common themes, together with any direct input) to ensure we consider all facets that need to be included in the Roadmap we develop.
- As part of developing the draft Roadmap, we will be researching and talking with market players from across New Zealand and internationally to gather insights, take learnings, and further understand what will be required to ensure our project is robust.
- We will also look as distribution of our Roadmap.
- We will continue of our South Island together, create

UPCOMING
January– February: SIDG Project
February– March: Stakeholder Updates & Draft Roadmap Feedback Meetings
April – May: Confirm Roadmap

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PROJECT UPDATE

FEBRUARY 2022

OUR ROADMAP PLANNING & DEVELOPMENT IS TAKING SHAPE

Since our last update, we have taken all of your valuable insights, feedback and suggestions into our planning for a future implementation Roadmap. This is the culmination of our Investigation Project, and once developed, will demonstrate a clear plan for how a new operations systems model could be delivered for distribution businesses, and support the work across New Zealand to advance a new energy future. It is important our Roadmap (once drafted) includes the context, the research we have used, the models we have considered, and pulls together all our work to date (including your input as part of our stakeholder engagement) so that there is a comprehensive plan for the future. We have recognised that part of this Roadmap must include continued efforts from all of us to collaborate and align our approaches so that future pathways are in the long-term interest of New Zealand, demonstrating consistency, partnership, and a commitment to support Aotearoa's drive for a decarbonised, customer-centric energy future.

OUR EARLY ROADMAP PLANNING & WHAT WE'RE THINKING ABOUT:

- We are reviewing the three "emerging models" we showed you through a lens of the planning considerations needed to implement – what would be needed to expand on our current model for the Utility-Led Model to emerge, what new network approaches and interfaces would be needed to facilitate the Market-Led Model, and what pricing and DER data access would be needed to transition in time to a Price-Led Model.
- This has enabled the project team to consider all operational and industry sector changes that would be needed, to help formulate key streams of work needed in a future Roadmap.
- In starting to consider what workstreams would be needed, and what outputs would be required, we have been deliberate in our inclusion of the useful feedback you provided as part of our engagement late last year – things like the trade-offs between each model and the pace of implementation, the alignment and collaboration needed across our broader NZ energy sector to advance any necessary changes, and how a strong "needs-case" would be beneficial to include in our Roadmap.

WHAT'S NEXT?

- The project team will continue our efforts to develop the Roadmap – using various scenarios to challenge our thinking and planning, and what different Roadmap options might mean for customers, market participants and distribution network operators.
- Once we have considered all aspects and the detail that would be needed to support them, we will pull our draft Roadmap together for stakeholder input, future consideration, validation and any implementation planning.
- We will continue our efforts to learn from, and participate where we can, in the various working groups across our sector to share our own learnings and hear from others to ensure our Roadmap planning efforts are robust.

FINALISING OUR DRAFT ROADMAP & SEEKING YOUR INPUT

We are committed to continuing our engagement with all of you, on behalf of our South Island representative distribution businesses – and together, create a brighter, cleaner Aotearoa.

UPCOMING KEY DATES

March: SIDG Project Team Finalises Draft Roadmap
March/April: Stakeholder Engagement & Draft Roadmap Feedback Meetings
April/May: Confirm Roadmap & Investigation Project Complete

TOGETHER, A BRIGHTER TOMORROW.
OUR CLEAN ENERGY FUTURE.

YOUR FEEDBACK HAS HELPED FOCUS OUR EFFORTS

WHAT WE HEARD...



ENGAGING WITH SUCH A VAST RANGE OF STAKEHOLDERS PROVIDED INVALUABLE INSIGHTS. THERE WAS SUPPORT & QUESTIONS...



Strong support for our investigation project to help raise the level of understanding in NZ

Agreement that collaboration across the sector was needed to establish a common view

Support of “value-stacking” DER so it is fully utilised and prioritised to its highest value use

Agreement on need for standardisation to simplify implementation and maintain the security of the network



Questions about the levels of visibility needed into areas with constraints, and availability of DER

Queries around ‘who’ would be contracting for flexibility services

Questions around funding – how would consumers be rewarded, and how will revenues be managed/regulated

Some questioned the speed of activating a new model for NZ, however value-stacking was acknowledged as important for our future in NZ

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OUR CLEAN ENERGY FUTURE.



SHARING OUR DRAFT ROADMAP

CREATING A FUTURE ENERGY SYSTEM IN COLLABORATION WITH YOU



WHY WE SET OUT TO INVESTIGATE DISTRIBUTION OPERATING SYSTEM MODELS THAT WOULD SUPPORT A NEW ENERGY FUTURE...



“A SYSTEMIC SHIFT IS UNDERWAY IN MANY OF THE WORLD’S ELECTRICITY SYSTEMS...FROM THE LEGACY 100-YEAR-OLD POWER SYSTEM TOWARD A MORE CUSTOMER DRIVEN ECOSYSTEM, AND THE RELATED MARKET ARCHITECTURES NEEDED FOR THE 21st CENTURY.”

PACIFIC ENERGY INSTITUTE ‘A GAMBIT FOR GRID 2035’ (APRIL 2021)



OUR OBJECTIVES FOR THE ROADMAP

TAKING YOUR FEEDBACK TO HARNESS WHAT WE NEED TO ACHIEVE



OUR ROADMAP IS THE CULMINATION OF OUR JOINT EFFORTS & REFLECTS THE WORK BY ALL OF US TO COME TOGETHER IN THIS IMPORTANT WORK FOR OUR SECTOR.



Utilise the feedback from our members and stakeholders to ensure a robust pathway is established



Capture any preparatory actions we can take, supported by stakeholder collaboration efforts



Ensure delivery is driven by evidence-based decisions and discovery work



Identify the most efficient ways to achieve decarbonisation for NZ's energy sector, through a partnership approach



Undertake economic modelling and risk analysis to ensure our Roadmap delivers best value for NZ

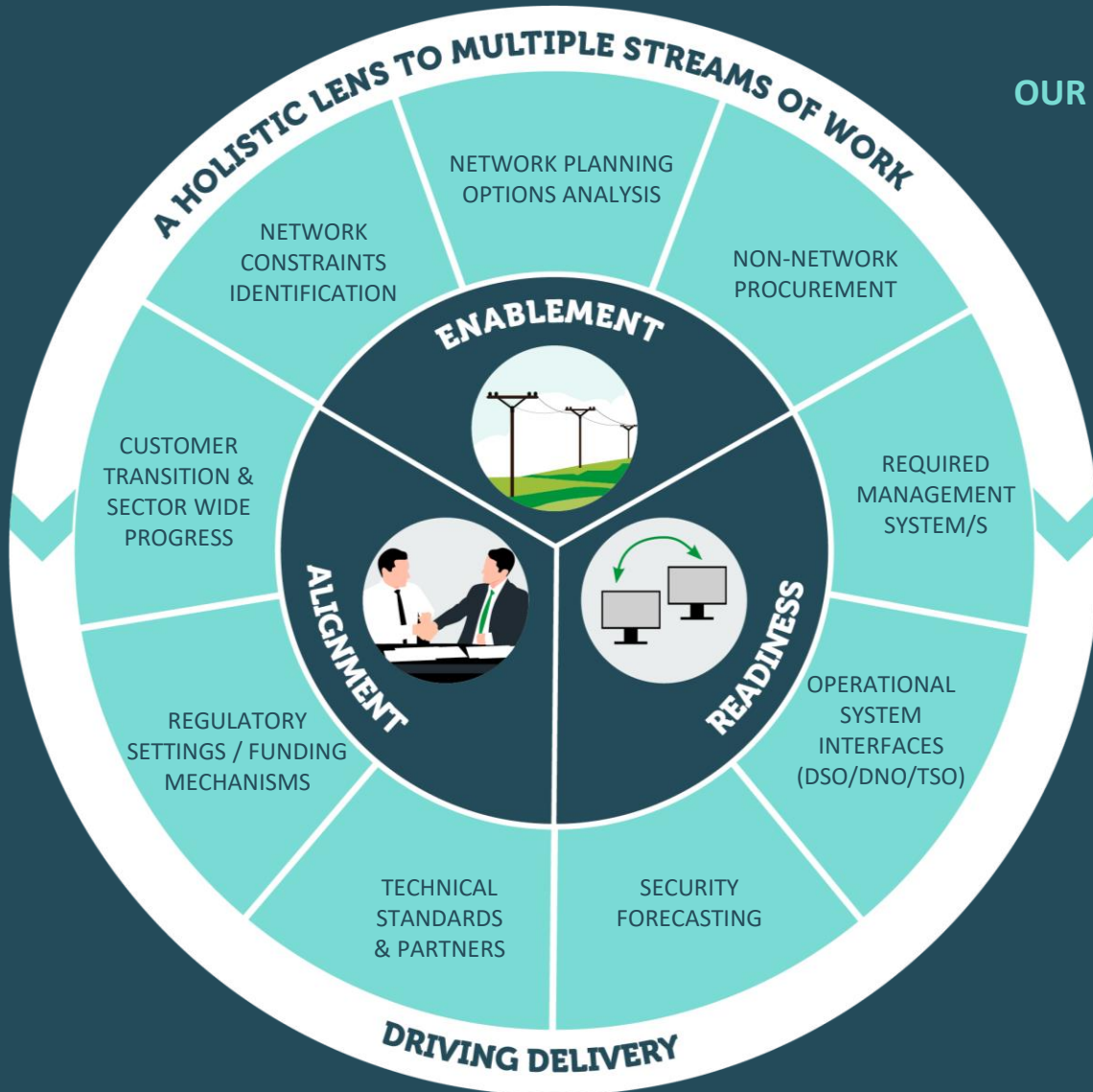


Demonstrate action, enable progress through collaboration, & ensure alignment with stakeholder interests

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OUR APPROACH

THE FRAMEWORK GUIDING OUR ROADMAP



OUR FRAMEWORK & APPROACH IS GUIDED BY THREE STRATEGIC THEMES:

ENABLEMENT

- WHAT NETWORK PLANNING & OPTIONS ANALYSIS CHANGES ARE NEEDED
- HOW CAN WE ESTABLISH CONSISTENT PROCUREMENT APPROACHES

READINESS

- WHAT OPERATIONAL SYSTEM/S DO WE NEED
- WHAT INTERFACES WILL BE REQUIRED

ALIGNMENT

- WHAT TECHNICAL STANDARDS & REGULATORY CHANGES ARE NEEDED
- HOW WILL WE SUPPORT OUR RETAIL PARTNERS AND CUSTOMERS WITH THE TRANSITION
- HOW WILL WE WORK TOGETHER AS A NZ-WIDE INDUSTRY TO INFLUENCE CHANGES NEEDED

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WORKSTREAMS IDENTIFIED

THE AREAS WE KNOW NEED TO BE ADDRESSED



OUR FRAMEWORK AND STRATEGIC THEMES HELPED US TO IDENTIFY FOUR KEY WORKSTREAMS FOR OUR ROADMAP



- Constraints Identification
- Options Analysis
- Non-Network Solution Procurement



- Required Management System/s
- Supporting System Interfaces Required
- Security Forecasting



- Technical Requirements & Standards
- Regulatory Frameworks



- Support to Retailers & Market Players with Customer Transition
- Continued Stakeholder Engagement for Alignment

OUR WORKSTREAMS ALSO DIRECTLY RESPOND TO THE ENA'S NETWORK TRANSFORMATION ROADMAP, WITH DELIBERATE STEPS TO HELP MAKE PROGRESS ON BEHALF OF THE DISTRIBUTION SECTOR.

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OUR DRAFT ROADMAP IS A POSSIBLE EVOLUTIONARY STEP...



“...AN OPEN AND TRANSPARENT DISTRIBUTION MARKET IS THE NEXT EVOLUTIONARY STEP REQUIRED TO CREATE A NEW ENERGY ECONOMY...”

BLACK & VEATCH CONSULTING 'DSO MODELS FOR UTILITY STAKEHOLDERS'



A CHANGING FUTURE

PREPARING FOR THE UNKNOWNNS



THERE'S STILL WORK TO DO TO GATHER THE FACTS WE NEED...

- Delivering a Roadmap for consideration is the final component to our Investigation Project
- Any decisions around whether to progress with implementation will be made by the SIDGs Governance Team
- We recognise that any implementation efforts would need to be done in collaboration, and in alignment to, the work being carried out by our various stakeholders
- A number of stage-gates have been included to ensure if implementation commences, there is sufficient evidence at every phase to inform a decision to progress to the next stage
- This means if implementation proceeds, various factors could result in a change of direction, in needing to flex along the way, or even result in ceasing implementation efforts completely...

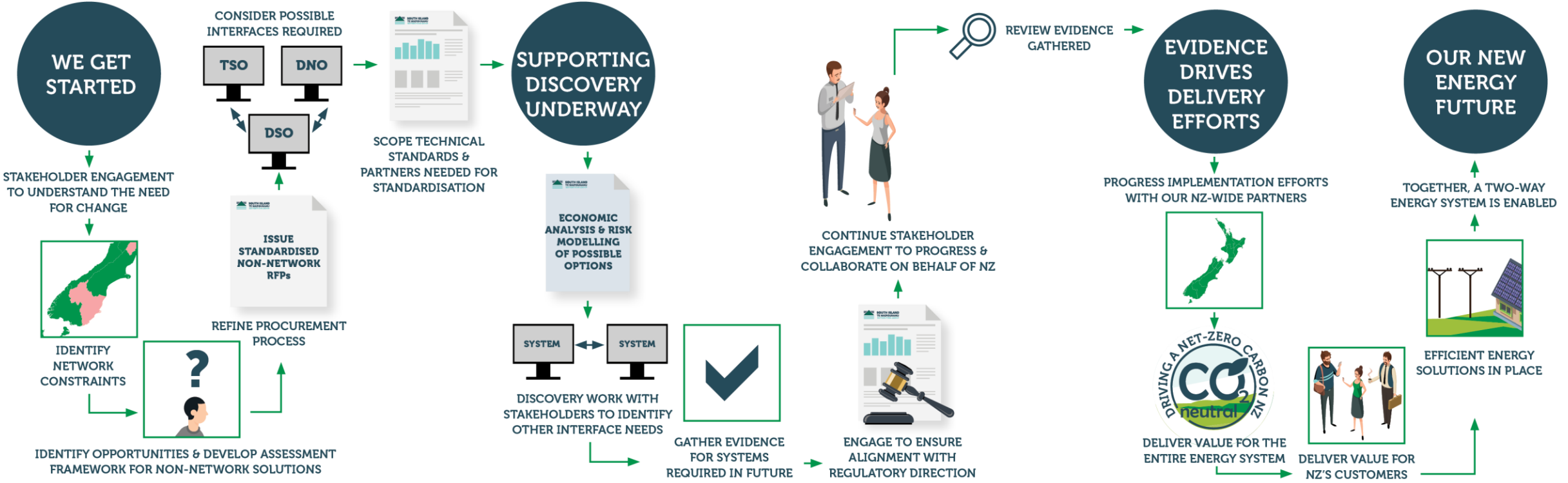


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OUR DRAFT ROADMAP AT A GLANCE

THE HIGH-LEVEL VIEW

EVIDENCE TO PROCEED?



STAKEHOLDER INPUT & COLLABORATION

PHASE 1 - KEY OUTPUTS

- Continued engagement with Stakeholders on Roadmap to understand need for change
- Constraints Identification & Heat Maps to develop needs-case
- Identify opportunities for non-network solutions
- Review & refine existing EDB procurement processes for non-network solutions, standardise & make available for EDB sharing & issue RFPs to market where needs arise
- Determine possible interfaces required between DSO, DNO & TSO – for stakeholder input
- Review applicable Technical Standards & work with partners to define potential changes needed
- Look for opportunities to learn from demonstration projects wherever possible, as well as work from other National Groups making valuable progress

PHASE 2 - KEY OUTPUTS

- Use Phase 1 outputs to identify further discovery and evidence needed
- Continued review of interfaces required, in collaboration with stakeholders and partners
- Economic analysis & risk modelling of possible options
- Continued stakeholder engagement / Collaborate on 'NZ Inc' discussion to ensure alignment
- Engage for alignment to Regulatory direction
- Review any relevant case studies to help inform evidence gathered
- Work with partners to confirm Phase 3 delivery timeframes

PHASE 3 - KEY OUTPUTS

- Take needs-case through to delivery planning with NZ-wide partners
- Deliver benefits for NZ and its customers
- Work across sector to enable any interface integrations needed
- Deliver value for entire energy system
- Enable decarbonisation in most efficient way

COLLABORATION IS THE KEY TO SUCCESS

NONE OF US CAN DO THIS ALONE



IT IS OUR VIEW THAT TOGETHER WE WILL MAKE THE MOST MEANINGFUL IMPACT...

There is some great progress being made across the energy sector in NZ



- ENA's - Network Transformation Roadmap
- Wellington Electricity - EV Connect
- EECA – Decarbonisation / Electrification of Transport / Co-Funded Energy Innovation Pilots
- Flexforum – Distributors, Gentailers, Traders, technology providers, Iwi, etc
- Transpower – Future Security and Resilience, Renewable Energy Zones, etc
- Electricity Authority – Distribution sector review
- Commerce Commission – Information Disclosure and Input Methodologies review
- MBIE – Government Renewable Energy Strategy + Electricity Pricing Review (EPR) Workstream Commitments
- EECA & EEA – Open ADR Trial



We want to collaborate so that the SIDG's efforts contribute effectively to the NZ-wide progress being made.

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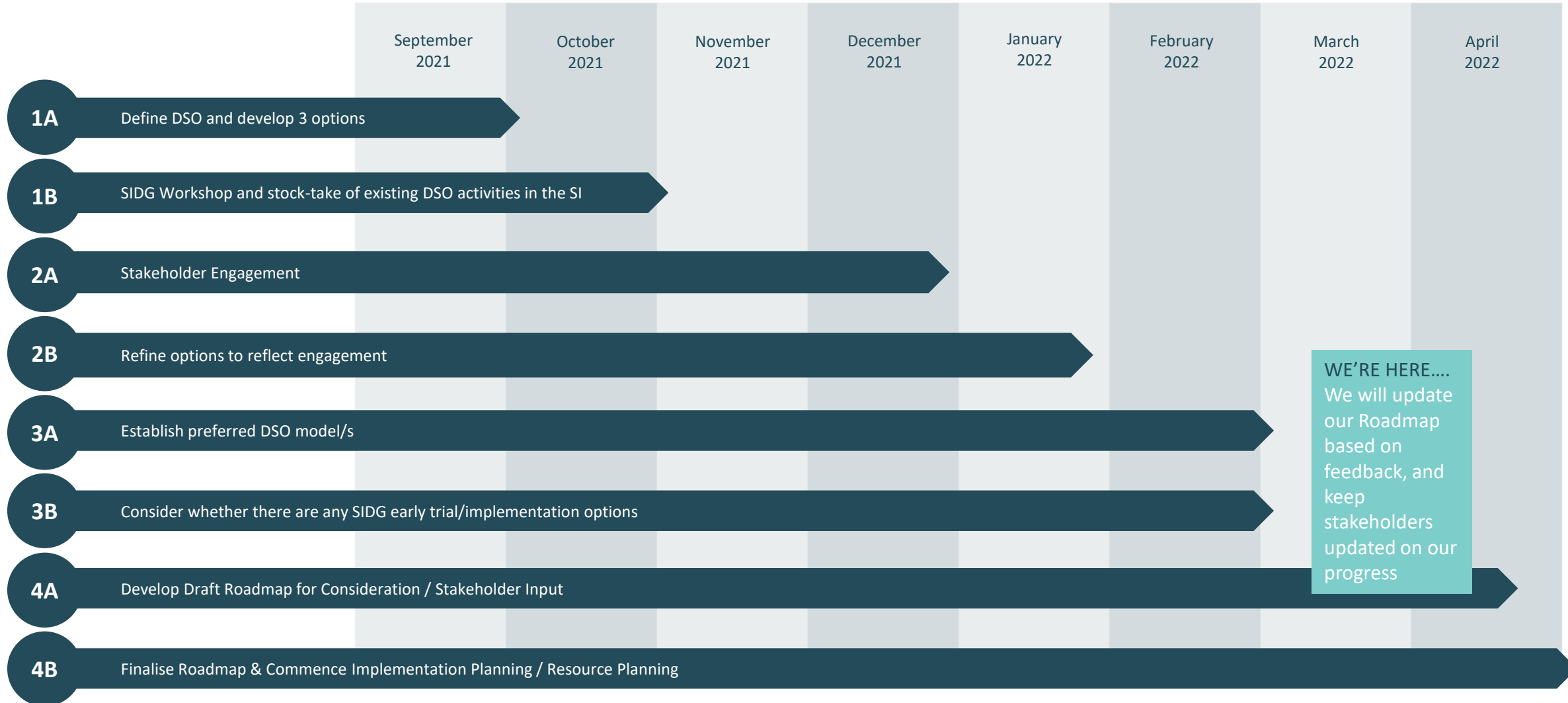


STAKEHOLDER INTERESTS & OUR PROJECT PLAN



A SENSE CHECK OF THE PROJECT PLAN

HOW WE'RE GOING & WHERE WE'RE AT....



WE ARE KEEN TO UNDERSTAND YOUR VIEWS ON THE ROADMAP IT HELPS ENSURE THE FINAL PART TO OUR INVESTIGATION IS ROBUST



CENTRAL TO OUR INVESTIGATION PROJECT IS ENSURING YOUR VIEWS HELP INFORM IT.

- What do we need to understand about your organisation's progress, that will be important for the Roadmap?
- What would you like to know more about from us?
- To gather insights on our Roadmap, we'll be talking to: Transpower, the Electricity Networks Association (ENA), the Commerce Commission, the Electricity Authority, Ministry of Business, Innovation and Employment (MBIE), the Electricity Engineers' Association (EEA), the Electricity Retailers Association of New Zealand (ERANZ) as well as keeping the Climate Change Commission, the Energy Efficiency & Conservation Authority (EECA), and New Zealand's Infrastructure Commission across what we are doing.
- Your feedback will help progress our investigation, so we welcome your ideas and input – so please share with us as we go!

PROJECT INFORMATION

IF YOU WANT TO KNOW MORE / OR TO PROVIDE FEEDBACK



To help ensure we best coordinate our many stakeholders and their interests, if you would like more information, would like to provide feedback, or to arrange meetings in future, please liaise in the first instance with our Project Manager, Ben Bulling.

EMAIL ben.bulling@auroraenergy.nz

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Alpine Energy
Aurora Energy
Buller Electricity
Electricity Ashburton
Mainpower
Marlborough Lines

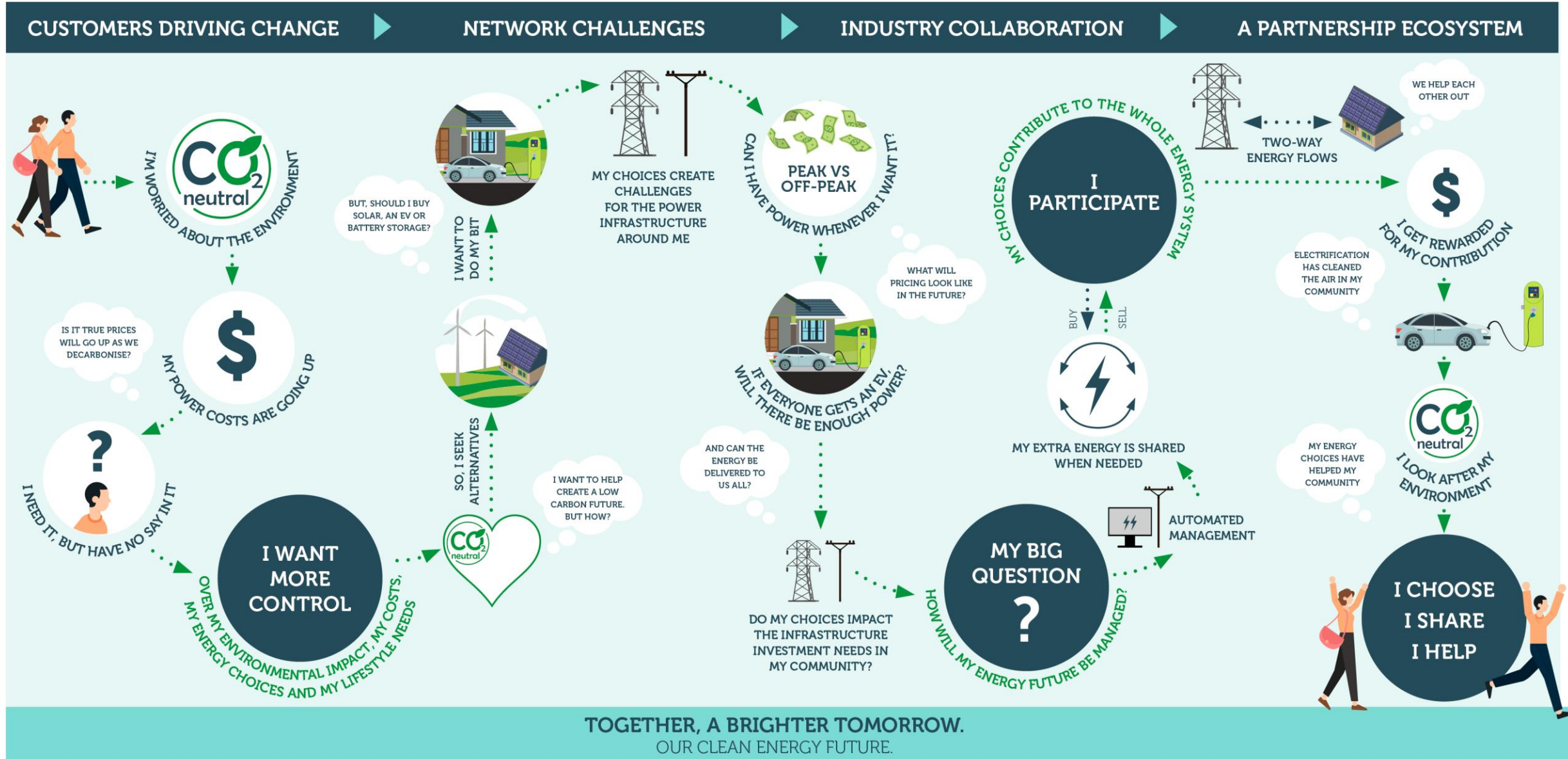
Network Tasman
Network Waitaki
Orion NZ
Powernet
Westpower

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BACKGROUND RECAP: OUR ROADMAP RESPONDS TO THE CHANGING FUTURE FOR CUSTOMERS



As Distributors, we're getting ready to enable and support Retailers and Market Traders to engage with customers about their changing energy future.



BACKGROUND RECAP: OUR ROADMAP RESPONDS TO THE STEP CHANGE REQUIRED

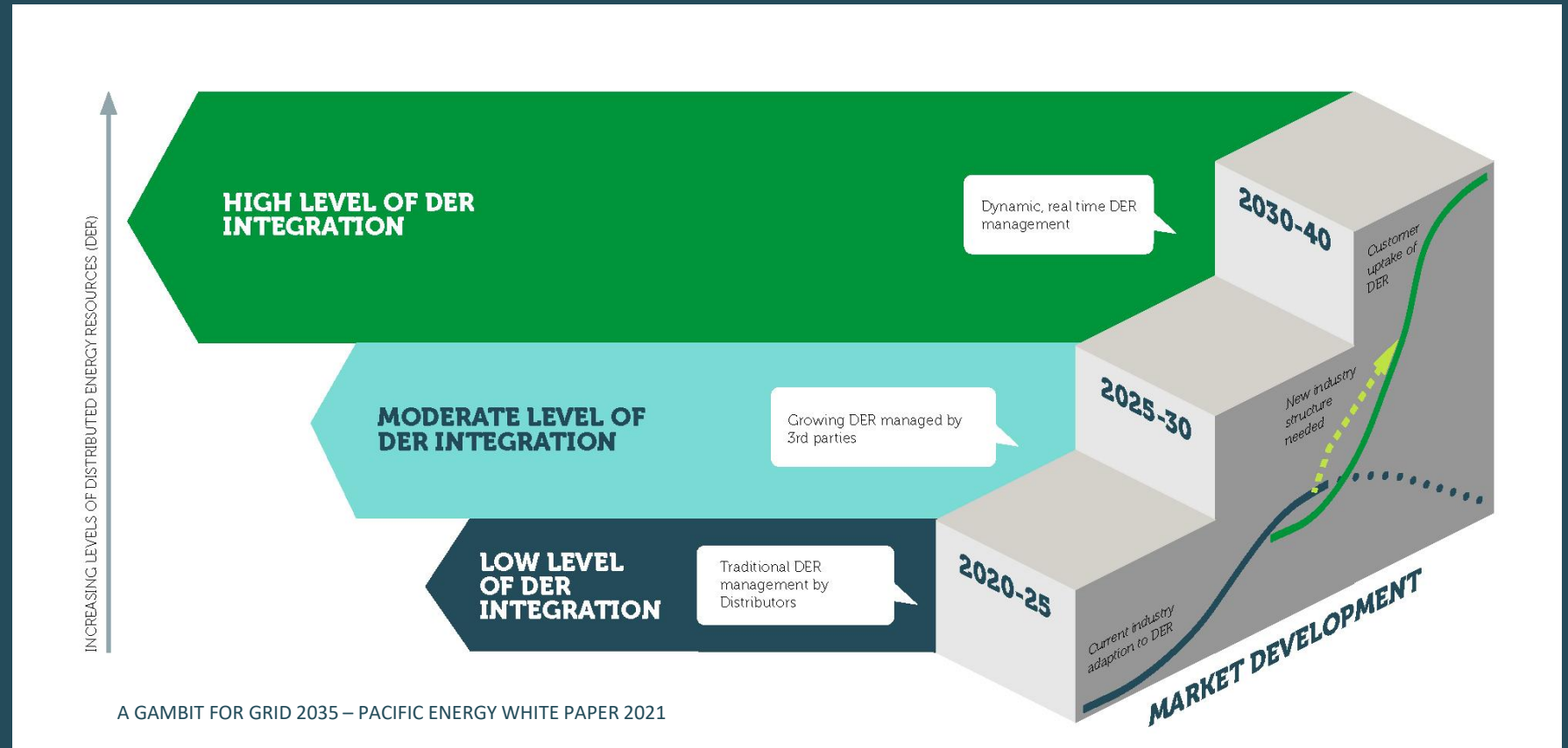


THE PROLIFERATION OF DER DRIVES THE NEED FOR A STEP CHANGE

By stepping to a new Operations structure/paradigm we significantly increase our capability to support DER uptake

New approaches to Planning and Operations will enable value stacking and increased customer participation in decarbonisation and power system efficiency

Without a step change in our approach we may be unable to keep pace with customer expectations and over time we become less relevant (dark blue line)





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