



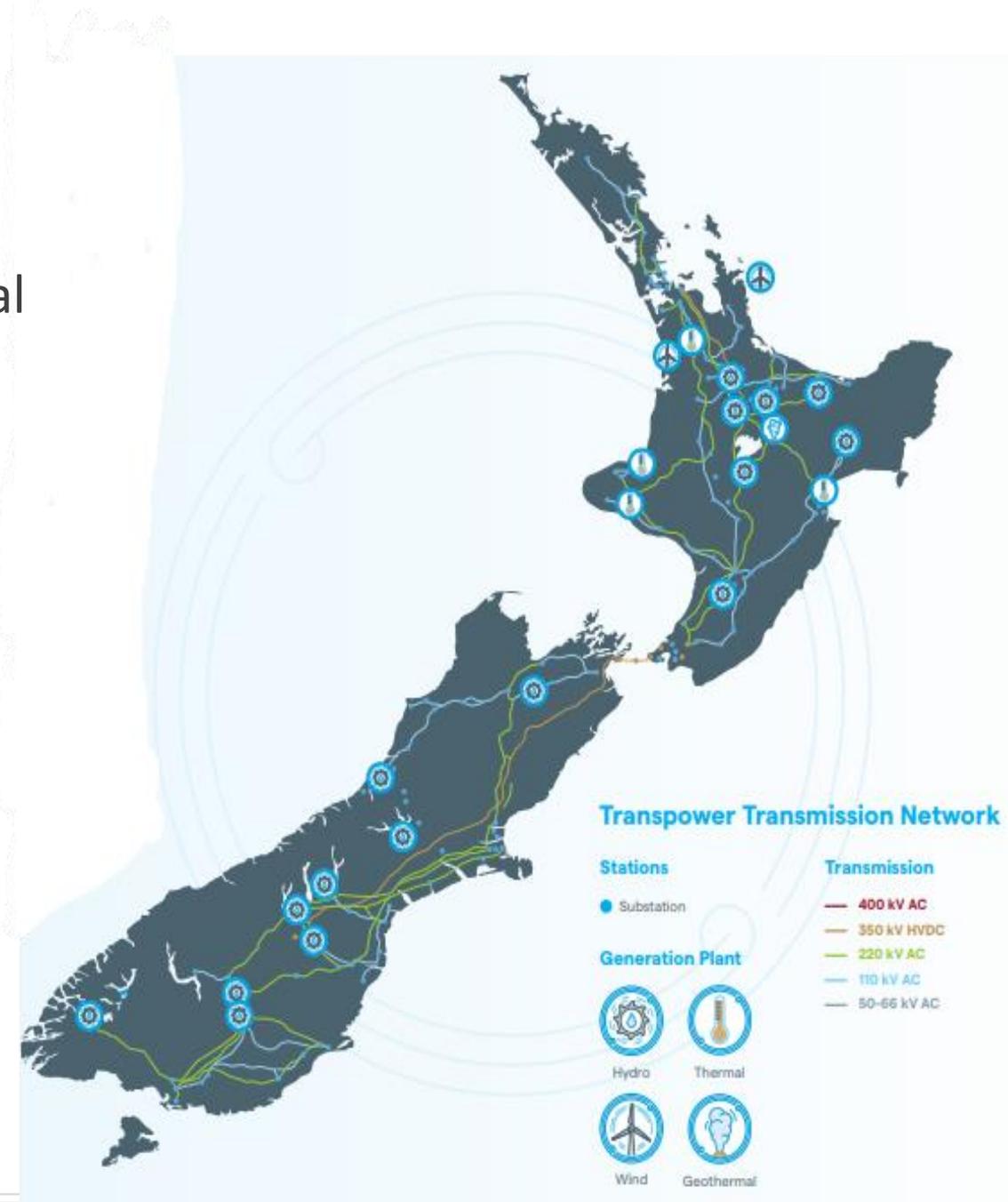
Developing a Waste Strategy for the National Electricity Grid

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Transpower – who we are

- Owner and operator of New Zealand's national electricity transmission system
- We connect electricity generators to major electricity users and the local distribution networks
- Around 180 substations, more than 11,000 kilometres of lines



Transpower's Sustainability Strategy

- Approved by the Board in May 2020
- Focus embedding sustainability into our operations
- 15 KPIs, (including development of our Waste Strategy) across three challenge areas:

Climate Change



Environmental Stewardship



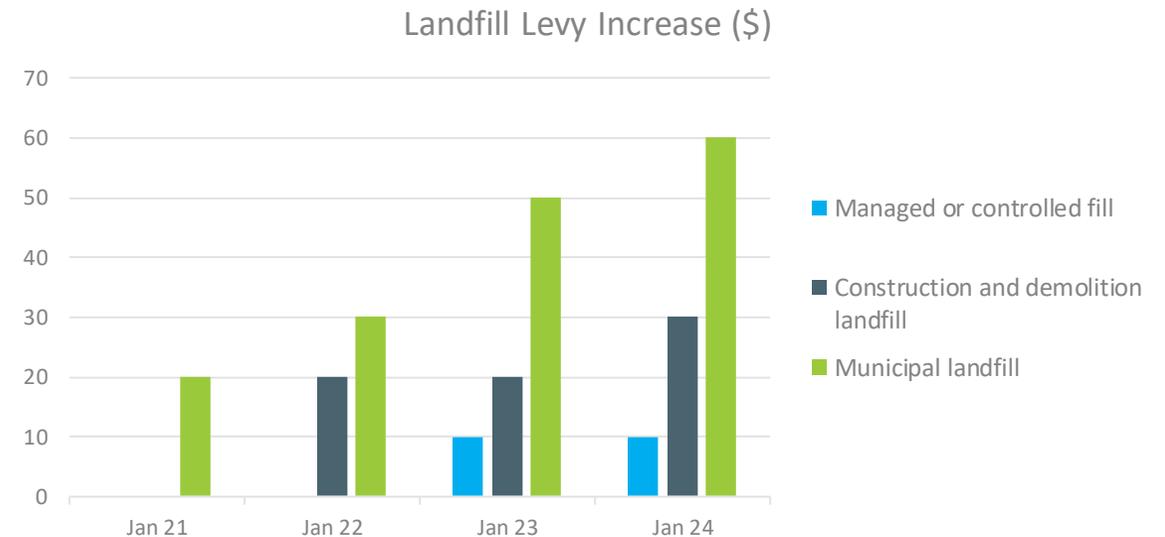
Sustainable Business



Waste Strategy

Our Context

- Shift signalled by the Government's Waste Strategy and supporting legislation
- Electrification will drive further grid development
- Major refurbishment programme – aging assets
- We have significant volumes of waste to manage
- Long lived, recyclable assets
- Decommissioned high value assets of potential interest to others in the sector
- Most of wastes are managed for us by our service providers



Waste Strategy

Vision - to operate as close to a zero-waste organisation as possible

Goal 1	Goal 2	Goal 3
Setting up for a Circular Economy	Moving waste up the hierarchy	Embedding in the business

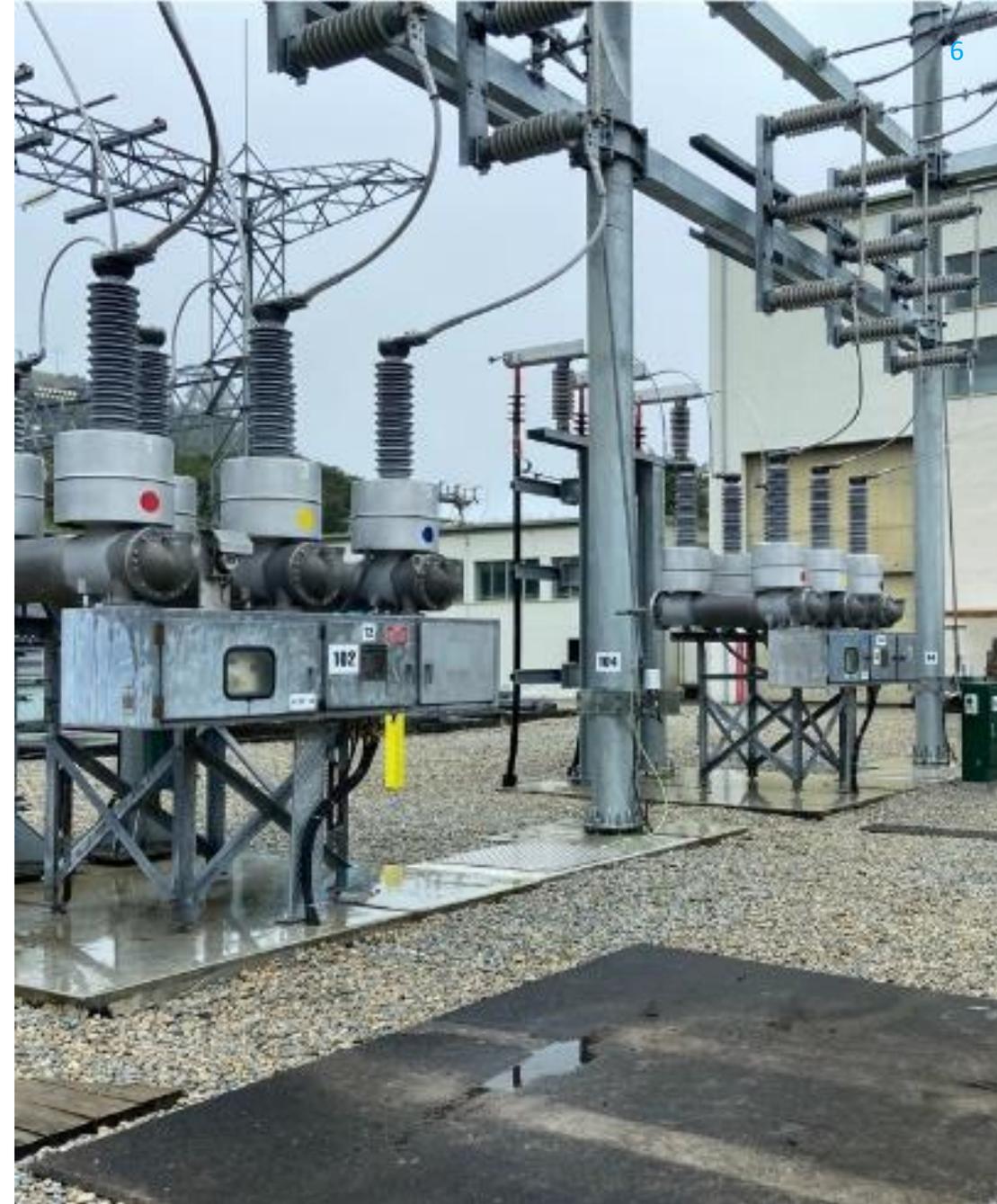
Target - A 30% reduction in the proportion of waste sent to disposal from 2022/23 levels by 2030



Waste Initiative Examples

Goal 1 – Setting up for a Circular Economy

- Developed our Sustainability by Design Standard with resource and waste reduction as key focus areas
- Asset management - moved from age based to condition-based asset replacement which typically extends asset life
- Demand side management, (paying power users to reduce use during peak demand) delays the need to build new assets



Goal 2 – Moving Waste up the Hierarchy

- Service providers – setting waste management expectations within new contracts. Includes waste reporting, and annual sustainability plans
- Contracts include KPI's related to achieving sustainability outcomes

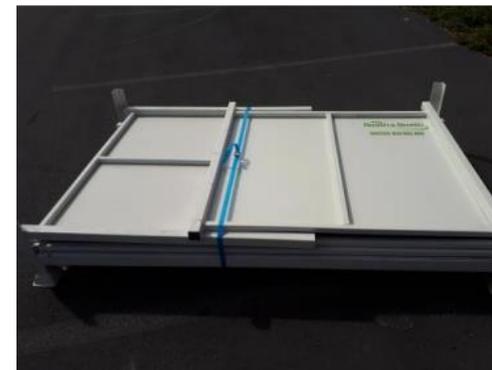


Goal 2 – cont.

Glass Insulator recycling

Moving landfilled glass insulators up the hierarchy

- Is the glass suitable for recycling?
- Is it practicable to process for recycling?
(completed insulator recycling trials)
- Entering a contract to serve Transpower nationally
- Recycle routes include in the manufacture of glass wool insulation
- Recycling costs lower than current landfill disposal costs
- Affects approx. 127T p.a. for 30 years



Goal 2 – cont.

Regional Initiatives

- Surplus concrete poles sold to Network Tasman
- Decommissioned 66kV Circuit Breakers from Linton sold to Firstlight now in their Gisborne Substation.
- Working with councils on use of concrete poles in flood defences.



Goal 2 – Cont.

Developing guidance on management of end-of-life assets

Workshops clarified areas of current uncertainty, e.g.:

- How we confirm an asset is fit and available for reuse by others?
- How much can an asset be sold for – e.g. \$1, scrap value, book value?
- Guide considers the waste hierarchy
- Assists with good decisions and outcomes
- Captures what we do well and seeks improvements
- Specific asset and material advice on a supporting web-page

The image displays two mind maps from workshops. The left mind map, titled 'Reuse', is centered on the question 'How much can an asset be sold for?' and branches into several sub-topics: 'What contract do I use and who signs it off?', 'What information must be provided when selling asset?', and 'If an asset is no longer useful to Transpower, who can say if it might be...'. The right mind map, titled 'Recycle', is centered on 'How do I know if I'm getting a good deal (metal market/sustainability) from scrap merchants?' and branches into 'What about liquids and gases SF6, oils etc?' and 'Who decides the asset is no longer needed by Transpower?'. Both mind maps contain numerous smaller text boxes with specific discussion points and questions.

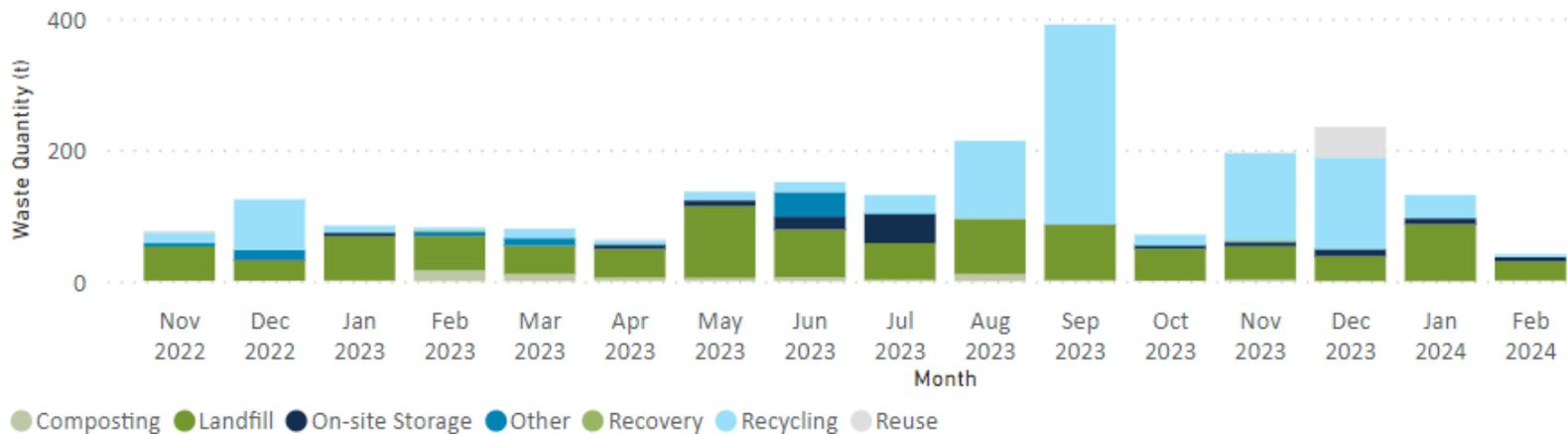
Goal 3 – Embedding in the Business

- Communications plan to keep staff and service providers engaged and informed
- All service providers and Transpower offices and warehouses reporting waste data monthly
- Power BI tool tracks waste data trends and movement towards targets

Movement of waste towards attainment of the target (%)



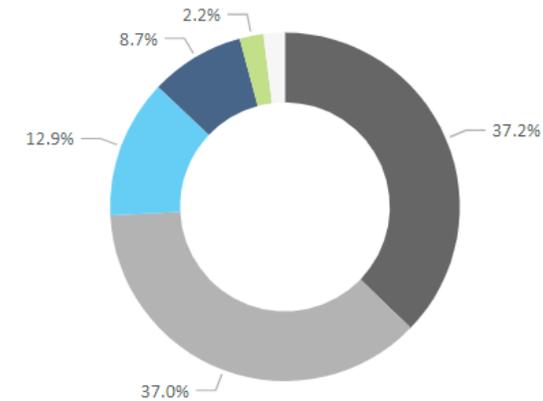
Waste Quantity (t) by Waste Sub-Type (Month)



Goal 3 – cont.

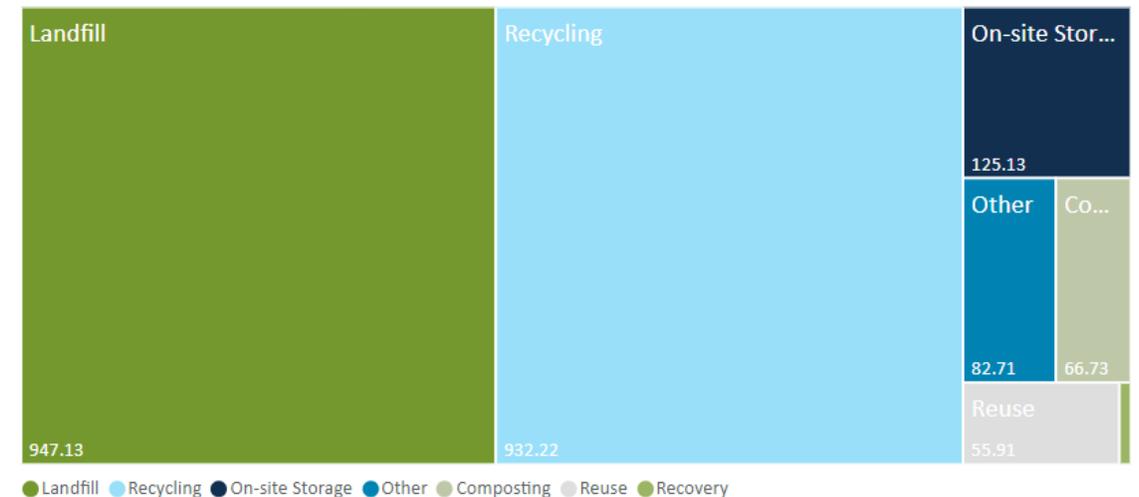
- Reporting now fully automated between data input by waste producers and availability of graphics for various audiences
- Data helps inform the waste management improvement activities
- Further developing QA/QC

Summary of Waste Quantity (t) (Last 18 Months)



● Projects ● Master Grid Services Contract Companies ● Tower Painting ● Facilities Management ● Offices ● Warehouses

Summary of Waste Quantity (t) by Waste Sub-Type (Last 18 Months)



● Landfill ● Recycling ● On-site Storage ● Other ● Composting ● Reuse ● Recovery



**Thank you &
any Questions**

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