



Report to Entrust

The Energy Solutions Programme

Financial Year 2015/16

August 2016

1 The Energy Solutions Programme

The Company and the Trust agreed that Energy Solutions Programme Investment for the past year would be spread across overhead improvement (undergrounding and right-of-way (ROW) pole replacements for safety) and new technologies (the Future of Energy initiative and provision of electric vehicle charging stations).

Through our commitment to keep the Trust informed on the focus and achievements of the Company, and in particular this programme, we submit this report for the 2015/16 year.

2 Expenditure of the Energy Solutions Programme

The total investment made over the past year has been \$10.638m, and is detailed below:

Overhead Improvement:	
Undergrounding	\$5.426m
Undergrounding contributions:	(\$0.400m)
ROW pole safety	\$2.280m
New Technologies:	
Future of Energy:	\$1.834m
Electric vehicle charging stations:	<u>\$1.498m</u>
	\$10.638m

3 Achievements in 2015/16

Overhead Improvement

The focus of our undergrounding effort in the past year has been on completing the large scale project in the Pakuranga Heights area. We commenced this project in January 2015 and completed it in November 2015. It removed 15km of overhead lines along 7.4km of streets and has directly benefited 900 customers' properties. In addition to our investment made in Pakuranga, we completed 8 projects comprising 3 small scale undergrounding, one aerial bundled conductor project, and 4 pole substation conversions. The small scale undergrounding projects completed were; Wharua Road in Remuera, Mt. St. John Ave in Epsom, and Costley Street in Freemans Bay.

We gained significant momentum in our safety programme to replace the ROW poles through the year. We replaced or undergrounded 790 poles on 350 properties across the Trust District. The majority of the work undertaken has been across the Avondale, Papakura, Takanini, Manurewa, Blockhouse Bay and Mt. Albert suburbs.

The total overhead improvement investment was \$7.706m. Contributions received through the resident's initiated projects in Mt. St. John Ave and Wharua Road, and from Chorus in Pakuranga totalled \$400k. This resulted in net overhead improvement investment of \$7.306m.

Delivering the undergrounding work this year has been frustrated, as it has in previous years, through securing Chorus' cooperation to convert the telephone lines simultaneously. After completing the project in Pakuranga, Chorus advised that they no longer wish to invest in undergrounding copper telephone services. They do however wish to continue to work with Vector on undergrounding projects, but only where all customers can be converted to fibre services and the copper infrastructure can be displaced. We are working with Chorus, on a small resident's initiated project, to trial undergrounding in a street in Parnell where residents have committed to converting to fibre. If successful, this model will be used by Chorus to facilitate mandatory migration to fibre and will likely incentivise them to resurrect support to work with us on our future undergrounding projects.

We have commenced work, in collaboration with Auckland Transport and Watercare, on the undergrounding of Franklin Road in Freemans Bay. This project, together with a couple of residents' initiated projects in development, and targeted projects in Bairds Road (Otara) and Massey Road (Mangere), will be the focus of our undergrounding work during the 2016/17 year. Progressing the Bairds Road and Massey Road projects will be subject to Chorus' successful development of the fibre migration model.

All overhead improvement works have been delivered without a lost time injury and have received complimentary customer feedback upon completion. Additionally all undergrounding projects provided positive brand exposure to the Trust through co-branded project signs, co-branded project information flyers, and references in project correspondences.

The photos depict the "before and after" images of some of the undergrounding works completed through the year.



Mt. St. John Ave, Epsom



Mt. St. John Ave, Epsom



Lame Road, Pakuranga



Udys Road, Pakuranga



Larne Road, Pakuranga

Future Of Energy

Installation of 3kW Vector Solar and 6.4kWh Tesla Powerwall battery combination systems into 100 homes and 30 schools commenced in April, highlighted by the official New Zealand launch of the Vector Solar and Tesla Powerwall energy systems at Rongomai School on 13th May.

The Honourable Simon Bridges, Minister of Energy and Resources officially launched the first Vector Solar and Tesla Powerwall energy system. The launch was attended by Melanie Higgin, US Consul General, Candy Gree, Deputy Chief of Mission from the US Embassy, Entrust trustees, and members of the Vector board and executive team, as well as distinguished guests from the local community.

Of the 130 systems targeted for installation within this tranche, 36 were installed by the end of the year. The balance of the 130 systems have been procured, are held within inventory and are expected to be installed by the end of September. Vector will use the project to kick start the company's entry into the residential energy storage/management market in September 2016. Additionally Vector has completed installation of solar systems at Ngati Whatua's properties in Orakei.



Installation of the first Tesla Powerwall unit – Rongomai School, Otara

Electric Vehicle Charging Stations

The programme to install the Electric Vehicle Chargers procured last year has progressed well. Standard chargers have been installed in the Britomart carpark in the CBD, and at the Vodafone Events Centre in Wiri. Rapid chargers have been installed at Vector's Hobson and Newmarket substations in Hobson Street and Gillies Avenue, and at McDonalds in Greenlane.

Work to install further charging stations are underway at the Airport and at BP Pakuranga. Other sites within the Trust District we are targeting for charger installations include; Motat, Auckland Museum, Takanini, Auckland Transport's parking buildings.



Electric vehicle charger station installation at Hobson Substation, Hobson Street



Electric vehicle charger station installation at Hobson Substation, Hobson Street



Electric vehicle charger station installation at Newmarket Substation, Gillies Ave



Electric vehicle charger station installation at McDonalds, Greenlane

4 Summary

- The Energy Solutions Programme Investment for the year met the target.
- The investments made in the Overhead Improvements and the Electric Vehicle Charger programmes exceeded targets.
- Progress in the Future of Energy programme was slightly below target (\$1.8m delivered vs \$2.7m target) principally due to more significant than expected compliance obligations delaying the start of installations, and key externalities (e.g. inverter integration issues; inspection and retailer delays) which have subsequently been resolved. However, this was offset by the higher than expected spend on Overhead Improvement and Electric Vehicle Charging Stations.



Andre Botha
Chief Networks Officer

