Minutes of Energise Ōtaki's bi-monthly meeting held at the Gertrude Atmore Supper room, 12 February 2020

Chairman Leigh welcomed everyone to our meeting.

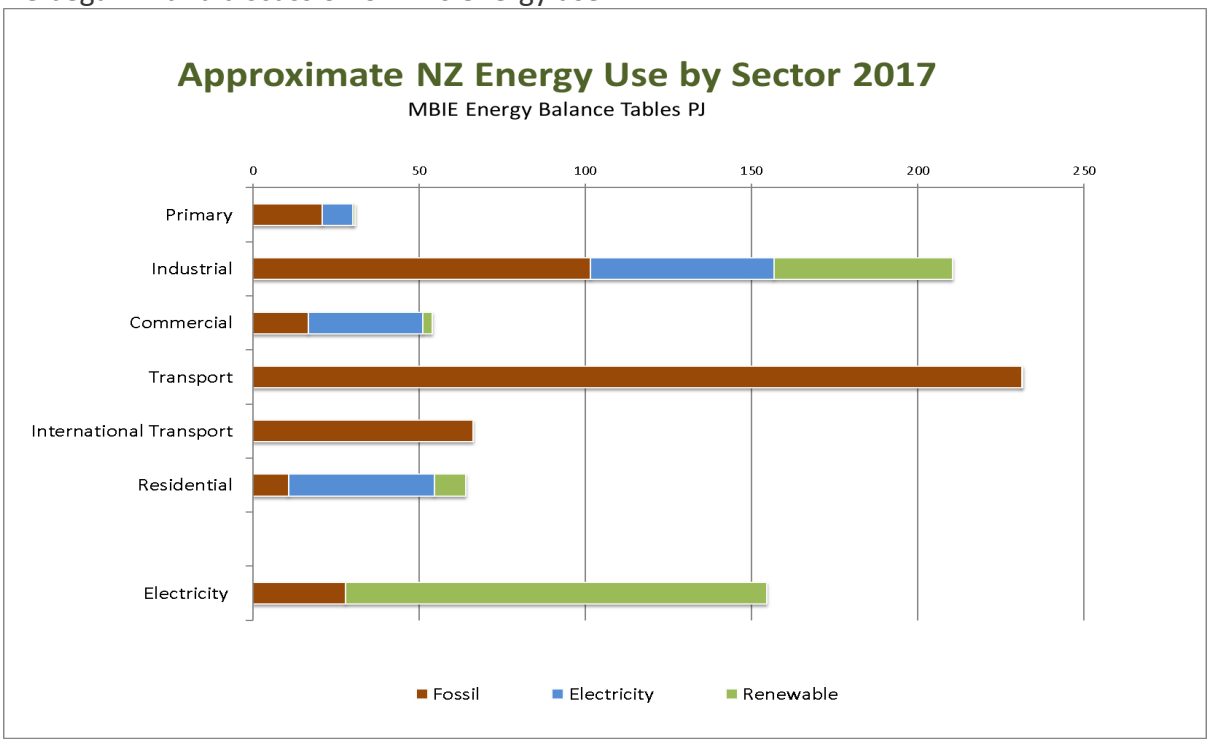
Attendance: Leigh Ramsey, Stuart Pritchard, Hanna Wagner-Nicholls, Lloyd Chapman, Iain Jerrett, Sara Velasquez, Russell Longuet, Simon Arnold, Jude Lloyd, Jane Woodhall, Liz Francis, Pete Davis, Barbara Aires, Lenore Street, Caroline Haskett, Richard Haskett, Tony Silke, Joy Silke, Karina Hilterman, Daniel Müller, Denis Harnett, Jill Broom, Chris Greenwood, Terry Creighton

Apologies: Gael Ferguson, Dave Rumsey, Hugh Bentall, Cam Butler, Moira Blake, and Malcolm Harrison.

Presentation

Guest speaker, Te Horo Beach's Simon Arnold spoke to an attentive audience about **Future Transport Fuels.** Simon is part-time CEO of NERI, National Energy Research Institute, dedicated to high-quality energy research and education within New Zealand.

He began with a discussion of NZ's energy use.



The graphic shows Fossil fuels in brown, Electricity in blue, and Renewables in green. As Renewable energy goes, NZ is blessed with its hydro electricity, which our 80% abundance of renewable electricity distinguishes us from much of the rest of the world's 20%. In addition,

we have geothermal energy and we are amongst the windiest countries in the world, giving us the potential to easily increase our wind- related energy. Wind and geothermal, in Simon's opinion could easily increase their contribution by 50%, which would help insulate us against the majority of NZ's electricity having to come across Cook Strait.

With the world's growing awareness of greenhouse gas (GHG) and it's horrific influence on Climate Change, it's appropriate to consider where NZ might go in the future. Transport, currently fuelled by fossil fuels is the subject. Currently the market is in approximately three equal parts: Petrol, Diesel and Aviation fuel. The internal combustion engine is still dominant.

One only has to see the number of Electric vehicles (EVs) in the car park, and see the number of Toyota Prius' hybrids comprising the Wellington taxi fleet to realise that disruption is with us in personal transport. As KCDC's Terry Creighton commented, the Mayor is about to take delivery of a Nissan Leaf, and KCDC will have five EVs by the end of the year.

EVs, said Simon fit in well in NZ's low duty cycle, and are getting cheaper as car makers and battery suppliers benefit from economies of scale. The electric motor is simpler, more efficient and offers re-generative braking. There is no doubt that this **is** the future.

Over time, he said it would not be unreasonable to see half our road transport fleet replaced by EVs. The balance of the transport fleet, the longer distance component (including road, rail, sea and air), will not be so clear-cut. By our location NZ is particularly exposed to the risks here, particularly in *trade and tourism*.

It's not that easy on the long-distance front. Aviation is expected to embrace hybrid power by 2030, but the issue is compounded by the fact that burning hydrocarbons, as well as generating GHG, also creates water, which doesn't fit well in an aircraft.

Equipping long-distance trucks & trains with electric propulsion will come, but diesel power, especially if it is used to drive a generator is still likely, despite the fact that it generates GHGs. The slow turnover in fleet replacement is also an issue.

Simon discussed Hydrogen as a possible alternative to EVs. He noted that Japan is making a large investment in 'blue' Hydrogen, because they don't have an abundance of electricity. Whether we see hydrogen-powered vehicles in NZ is debatable, since the issue of distribution will be expensive.

Simon also discussed Biofuels. The issue here is price. As long as biofuels are more expensive than fossil fuels, their uptake will be difficult. NZ has the potential to produce biofuels, but the economics are the issue.

Looking further into the future, Simon Arnold believes that the demand side will drop before 2030. More automation will reduce the number of vehicles. If we embrace autonomous vehicles, that too will decrease the number.

Simon's talk was challenging, leaving us with much to consider. His optimism for some of NZ's strengths was interesting. For instance, NZ leads the world in Power Transfer and Inductive Charging. A very interesting, challenging and informative talk. He reiterated that NZ has some unique transport issues that will require inventive, unique solutions. Watch this space……

Energise Ōtaki news

Bike Space. Sara Velasquez reported that we gave away 40 bikes at the weekend, with help from our Paekakariki friends.

Premises. Fit out of our new Main Street location is nearing completion. We'll soon be open to the public in our 'Main Street Shop' selling energy efficiency concepts, and offering advice to the public on energy conservation. Plans are to be open Tuesday, Wednesday & Thursday from 10am to 2pm. Drop in and say hello.

Solar farm. Contract signed with Wellington company Infratech.

Ōtaki College

Solar Farm specifications are near-complete, and the go-ahead imminent.

We have made application to the Department of Education for a $300,000 grant for energy advances in a joint venture with the college.

Interns. Discussion underway with Victoria university for interns to work with Energise Ōtaki out of the Main Street office, addressing a number of energy-related issues.

Treasurer Hanna discussed a number of projects under her stewardship:

Repair café. Last year's inaugural café was a huge success. 55 people attended. Biggest subject was electrical repairs. Another café planned for the Summer. Hutt and Petone groups, on hearing of our success have followed the Energise Ōtaki model and replicated our success. Good work, Hanna!

Curtain Bank. In 2019 we fitted thermally-efficient curtains to 60 Ōtaki homes where Community Service cardholders live. This is a joint venture with the Wellington xxx

We are the only town in Greater Wellington to offer this service, which has been an outstanding success. We will run it again this year.

Community Garden. Difficulties using the Ōtaki College garden have resulted in a change in emphasis. We are now working with the Birthright group, and are investigating further ventures with Foodbank and Ngati Raukawa.

KCDC's Terry Creighton gave us brief overview on Council energy-related matters. Carbon neutrality by 2023 remains the challenge.

Climate Change Summit forum here in Ōtaki 8 March. KCDC will be there, as will Energise Ōtaki.

The meeting closed at 7.45.

Next meeting:
8th April 2020 at 6pm – **Regen, an Integrated Waste to Energy Project for the Ōtaki Transfer Station**
In April there will be a presentation of research that is being undertaken by Nufuels Ltd., an Ōtaki based clean energy business, looking at the potential for an integrated waste to energy system for waste at the Ōtaki Transfer Station. It includes extraction of energy from plastics and tyres and conversion to useful fuels (such as electricity generation), gas production from food waste and some residual organic wastes, battery storage (alongside solar energy production at the solar farm), an energy management system, and possible delivery of thermal energy to surrounding businesses. It involves looking at energy balances and the overall economics of such an approach.