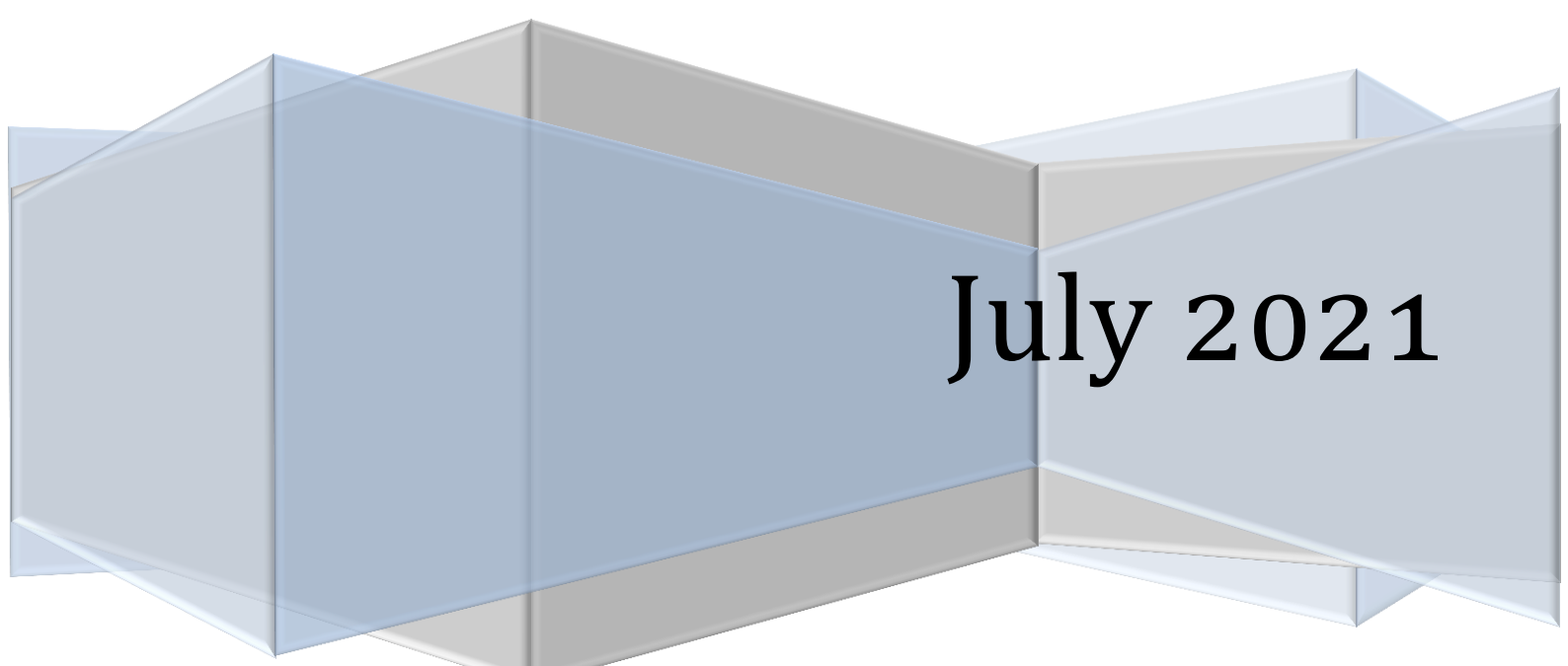


HIRINGA ENERGY

Ngati Tu Hapu Cultural Impact Assessment

TM



July 2021

CULTURAL IMPACT ASSESSMENT (CIA)

EXECUTIVE SUMMARY

The Hapu of Ngati Tu are descendants of the early Polynesian Voyagers who arrived in Aotearoa around 1350 AD. The People are also remnants of earlier Voyagers having arrived in 350AD.

In preparing this report the Author has taken the beliefs and views that Ngati Tu hapu have towards the Land & Water and infused the aspirations by utilizing available data and technologies, to help clarify and support a Whenua Ora & Wai Ora approach in caring for the World around us.

The primary reason for completing this document was from a request made by Hiringa Energy in them wanting to establish a relationship with the local people of Ngati Tu Hapu and requesting a Cultural Impact Assessment as away of understanding a Maori perspective as they move forward.

Research and assessments were conducted through interviews, discussions with as many parties as possible also available information through the internet. Further research was done to better understand some of the technologies used to measure healthier waterways and airways.

Evaluating and recommending possible options but also expectations of Ngati Tu in an attempt to bridge the gap between big business and the indigenous people of Ngati Tu while also recognizing the need and importance of employment in our unique culture of Aotearoa.

This report has allowed Ngati Tu the chance to document some of the concerns they have in a way that many stakeholders can relate to and understand – hence the reason data was gathered to support comments and recommendations without being critical and simply demanding recourse without cause.

Maori are an evolving culture and with the traditions and practices being carried to today it is important to take stock of the opportunities and options available.. E.g. the word Waka has the same meaning today as it did millennia ago; the only difference now is that a waka either has four wheels or fly's but still a form of transportation. Point being to write a CIA and qualifying comments through traditional practices only is one view, by using resources available in today's world widens the view for many to see.

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1.0 PART ONE

1.1 Introduction

In preparing this document the author has gathered information that allows a reasonable understanding which has been done by visiting and evaluating the proposed area for the cable through Luscombe's farm on the corner of Skeet & Palmer Roads, and surrounding area, and a visit to the site where the 4 wind turbines will be located on a Paraninihi Ki Waitotara property (PKW)

Ngati Tu Hapu (NH) has core cultural principles centered on Mana whenua, Mana Awa & Mana Tangata.

An interesting feature of this Cultural Impact Assessment (CIA) is that Hiringa don't own any land or are they close to waterways/rivers. They pay a royalty to PKW and another arrangement to Luscombe farm for cable through their farm to the Balance site.

A brief history of Ngati Tu and their connection to Kaipokonui River is discussed while also identifying some of the native fish that are part of the river system.

1.2. Purpose of Cultural impact Assessment

The purpose of this CIA is to provide a view into the expectations of NH and their connection with Papatuanuku and Ranginui that provide not only a physical but also mental and spiritual link to the Whenua, Awa & He tangata with the constitution based on whakapapa.

1.3 Whakapapa

Ngati Tu claim descent through Turi (Te-Ariki-Nui of the Aotea waka) and Rongorongo. Ngati Tu so claim descent from Te Whanau A Tangaroa and Te Kahui Maunga, tangata whenua prior to the Great Fleet arrival in about 350 AD.

Ngati Tu Hapu is named after a tipuna Tuhaereao.

1.4 Historical Arrival

Aotea set off from Hawaiki and traversed via Rangitahua (Kermadec Islands) and Tamaki before landing at the Aotea harbor. During the fourteenth century, Turi, with his wife Rongorongo and their people, travelled south along the coast naming many places as they went including the Kaipokonui River and Maraekura.

The name of the flat lands adjacent to the Kaipokonui River and lying between Pukekohe Pa and the Taoratai kainga is Maraekura, 'courtyard of the precious heirloom Huna-kiko' Turi had brought with him from Hawaiki-Raiatea. This cloak was used for ceremonial purposes on multiple occasions during Turi and his people's time in Taranaki and it was during one of these

occasions that Maraekura was named. According to sources Turi and his companions who included his son Turangaimua, and the tohunga Tapo, Kauika, Tuau, Hau-pipi, and Rakeiora, constructed an altar on Maraekura and spread the cloak upon it. The central figures during the ceremonies would be Turi, his son Turangaimua and the Tohunga, Tapo, Kauika, Tuau, Haupipi and Rakeiora.

1.5 Boundaries

The boundary of Ngati Tu is south of the Otakeho River to south of the Kapuni Stream - from Mountain to the Sea. The boundaries are shared with Ngati Haua and Ngati Manuhiakai.

1.6 Background

Hiringa Energy is a Company recently formed (2017) which are made up of energy professionals focusing on developing Hydrogen.

Ballance Kapuni & Hiringa have joined forces to produce green hydrogen as a replacement for fossil fuels and is a first of its kind in NZ. Ballance Kapuni look to remove their greenhouse emissions where their industrial process plant will transition to renewable energy and produce green hydrogen. The turbines provide the energy that transforms water into Hydrogen & Oxygen via a process call Electrolysis. Green hydrogen when combined with Oxygen in the air provides energy that is then able to power vehicles and other machinery.

1.7 Limitation

Ngati Tu cultural values have existed for centuries but many things have changed during that time, including the landscape, waterways and some traditional practices have adapted.

By researching the information that we have through historical Stories, Waiata, Karakia and social activities those values can be restored in capturing Mauri Whenua, Mauri Awa & Mauri Tangata.

1.8 Methodology

A site visit was undertaken to review and gather information

Iwi records reviewed

Hui with Kaumatua

Collaboration of Waiata, Karakia & historical Stories

Internet search

2.0 PART TWO

2.1 Treaty of Waitangi

This was indeed a tumultuous time for New Zealand (NZ), Aotearoa. In 1839 the document known as 'Letters Patent' appointing William Hobson as Lieutenant Governor of NZ was written. George Gipps, Governor of New South Wales (NSW), was in fact the first Governor of NZ but delegated his powers to Hobson. NZ was a territory of NSW.

The Treaty of Waitangi was signed on February 6, 1840 at Waitangi, in the Bay of Islands. Forty-three Northland Chiefs signed the treaty on that day. Over 500 Māori Chiefs signed it as it was taken around the country during the next eight months with Aotearoa succeeding as a separate autonomous colony.

The Treaty promised Māori that they would keep their Rangatiratanga over their lands and everything else.

However, the New Zealand Settlements Act 1863 was to enable the Governor to establish settlements for colonization in the North Island of New Zealand. This law was a companion to the Suppression of Rebellion Act 1863. Both Acts followed nine years of armed conflict that started with the Puketapu inter-tribal feud in Taranaki in 1854 and escalated to fighting between government forces and dissident tribes in Taranaki and Waikato from 1860 to 1863. During this period more than 1000 lives were lost.

On 31 January 1865 "Middle Taranaki" was declared a confiscation district.

In Taranaki 39,600 hectares (98,000 acres) were laid out as military settlements with the hope that when men were released from military duty they would remain on their allotments and become permanent settlers.

In short, many injustices have fallen to Maori and many of those wrongs cannot be restituted. There are also those early settlor families which now have their own Whakapapa to the confiscated Whenua and although some compensation has been given to Maori it provides reparation for only a fraction of what was lost. E.g. (Land/Culture/History)

The Queen guaranteed to Māori the undisturbed possession of their properties, including their lands, forests, and fisheries, for as long as they wished to retain them. This text emphasizes property and ownership rights. Ngati Tu looks to the government at national and local levels to honor the Treaty of Waitangi and recognize Mana Tangata Whenua, Kaitiakitanga & Rangatiratanga.

2.2 Statutory Responsibilities

Resource Management Act 1991

Ref (<https://www.legislation.govt.nz/act/public/1991/0069/latest/DLM231905.html>)

The following are the most significant references to Maori in terms of councils' responsibilities under the Resource Management Act 1991 (as at 14 April 2008). Notwithstanding, the highest intention of the Act is contained in Section 5: Purpose of the Act and everything else in the Act, must address that purpose

RMA Section 5

1 The purpose of this Act is to promote the sustainable management of natural and physical resources.

2 In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while -
(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; (b) Safeguarding the life supporting capacity of air, water, soil, and ecosystems; (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

RMA Section 6(e)

The requirement to recognize and provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other Taonga. Section 7(a) - requirement to have particular regard to Kaitiakitanga. Section 8 - requirement to take into account the principles of the Treaty of Waitangi.

2.3 Te Mana O Waimate

Various Awa that are located within the takiwa of Ngati Tu have great spiritual importance. They represent, "the blood and veins of the takutaimoana, with a story to tell." The wai that flows through these awa symbolises the link between the past and the present. Each awa has its own mauri and wairua which connect the hapu with the river and the spiritual world. They are significant taonga that provide both physical and spiritual sustenance.

According to John Houston in his book "Maori Life in Old Taranaki"

“.....The Ngati Tu people of Pukekohe Pa and the various settlements about the mouth of the Kaupokonui River took the fish of the river and the fish of the sea. The Kaupokonui was a good river for tunaheke (eel), piharau (lamprey), and the bright little kokopu. In the river the tribesmen constructed pa tuna (eel weirs) and they had many a rich haul when they lifted their hinaki (wicker eel pots). The sea yielded kahawai, tamure (snapper) and other fish. The kahawai frequently came right into the river from the sea with the high tide. Shellfish were secured along the coast.

3.0 MAORI PERSPECTIVE

Te Ao Maori based on three core principles Mauri Awa, Mauri Whenua, Mauri Tangata is defined and then explained using today's terminology to signify the importance of caring for the land, the water, and the well-being of people.

Definition: Mauri whenua, mauri awa, mauri tangata, The Pou is the center of a Maori system and has a physical, mental & spiritual connection to Papatuanuku & Ranginui with its constitution based on whakapapa. Papatuanuku is our earth mother with her body representing the land while the waterways are her life force flowing through her. The people are connected to Papa & Rangi through their whakapapa and are guardians (Kaitiaki) of the Papa & Rangi. The Kaitiaki connection symbolized through the Pou that is buried in the soil of Papatuanuku and reaches to the heavens or Ranginui.

To better clarify those connections; when making decisions that directly relates or affects the whenua - A question should be asked.

How will that action affect the water & the people? If the outcome is negative then an alternative action should be sort.

If another action relates directly to the Awa, How will that action affect the Whenua and Tangata? If the outcome is negative find another option.

Apply the same question to He Tangata and then ask how that action will affect the Whenua & Awa etc.

This is a basic quick test process to see if an activity or action that people / groups / organizations / companies etc., wish to carry out align with the views of Ngati Tu Hapu

3.1 MAURI AWA

Water Ecology is very important to Ngati tu hapu as a healthy waterway affects the health of all the fish life within. Physical characteristics of water can be determined by the senses of touch, sight, smell and taste .E.g. temperature by touch, colour, floating debris, turbidity and suspended solids by sight, and taste and odor by smell. (Temperature, colour, taste, odour etc.)

3.1.1 Temperature:

The most direct source of heat for fresh water is generally the sun, although temperature can also be other water inputs (such as precipitation, surface runoff, groundwater, and water from upstream tributaries), heat exchanges with the air, and heat lost or gained by evaporation.

Water temperature has an effect on biological activity and growth as temperature directs the kinds of organisms that can live in rivers and waterways, Fish, insects, zooplankton, phytoplankton, and other aquatic species all have a preferred temperature range. As temperatures get too far above or below this preferred range, the number of

Zooplankton is a vital component of freshwater food webs. The cycle individuals of the species decreases until finally there are none.of zooplanktons starts when maller zooplanktons are eaten by the larger zooplankton, which in turn, is eaten by small fish, aquathe stic insects and so on.

Herbivorous zooplanktons graze on phytoplankton or algae, and help maintain the natural balance of algae.

Phytoplanktons are some of Earth's most critical organisms and so it is vital to understand them as they generate about half the atmosphere's oxygen, as much per year as all land plants. Phytoplankton also forms the base of virtually every ocean food web. In short, they make most other ocean life possible.

Phytoplanktons are microscopic marine organisms that sit at the bottom of the food chain. They are food for other plankton and small fish, as well as larger animals such as whales. Phytoplanktons gets their energy from carbon dioxide through photosynthesis (like plants) and so are very important in carbon cycling.

Warm stream water can affect the aquatic life in the stream. Warm water holds less dissolved oxygen than cool water, and may not contain enough dissolved oxygen for the survival of

different species of aquatic life. Some compounds are also more toxic to aquatic life at higher temperatures.

Some research has been done and found that “warming of aquatic ecosystems by 3°C may shift to a planktonic food web functioning more dominated by fast growing, r-trait species (i.e., small sizes and rapid development). Finally, further experimental studies, at perhaps larger scales, are strongly encouraged to better understand and predict effects of climate change on food web interactions at higher trophic levels in oligotrophic freshwater ecosystems”

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0140449>

3.1.2 Taste

Water source is the primary factor in determining its taste. Water from different sources contain varied combinations of dissolved minerals and salts and to a great extent, it is these mixes that determine its taste. Water rich in minerals (such as calcium or magnesium) create a sensation of water that is less smooth while water low in mineral content is described as being smoother. Concentration of salt solutions in water has a direct impact on taste. For example, water rich in chloride will have a saltier taste

Water temperature is another factor that impacts taste. Cold water is often described as being tastier and more refreshing, since chemical compounds are less noticeable at lower temperatures. The sense of smell is also intensified in the case of very hot or boiling water. Odours carried by steam will be sensed quite a while before the taste, as smell is a primary component of taste.

Oxygen concentration affects freshness and crispness. One of the reasons that standing water in a closed container is not tasty is the reduction in the amount of dissolved gas in the water.

3.1.3 Colour

Several natural and artificial causes are responsible for an existing water color. The most favorable environments for high coloration include elevated organic activity with algal growth and presence of soluble minerals.

Algae growth before or during decomposition; algae may impart a green, brown or even reddish color to the water. Algae can grow in lakes, streams, canals, and even in wells and water pipes.

This growth can produce hues varying from a pea-soup green to a reddish brown. At high concentrations, algae can produce an unpleasant "pond scum" and can clog pumps where the water is used for irrigation. Algal blooms also can degrade the visual appeal of a waterbody, and negatively affect its ecology by consuming dissolved oxygen as the algal mats decay. In some cases, the decay produces a bad odor from the release of methane gas.

Minerals presence is possibly the most common cause of water color. Red and brown colors are due to iron; blue are lacking in copper; black to manganese or organic matter; and yellow to dissolved organic matter such as tannins. Iron and manganese are common, at least in small amounts, in most rocks and sediments. In groundwater that contains abundant dissolved oxygen, iron and manganese form solid mineral phases and cannot be dissolved to any extent.

Colorless water is considered pure though it may be unsafe for human health. Generally, colored water imparts adverse effect on human health and aquatic environment. As pure water doesn't possess any kind of color, a water's color may provide evidence that there is some form of contamination. All kind of particles- organic matter, algae, sediments, dissolved minerals or other artificial chemicals are harmful to human and aquatic health. Colored water may stain textile and fixtures that can cause permanent damage. Impacts of colored water on industrial boilers, equipment and tools could be high consumption of energy because of the insulation caused by minerals present in water hence reduces efficiency and life of the equipment. Highly colored water has significant effects on aquatic plants and algal growth. Light is very critical for the growth of aquatic plants and colored water can limit the penetration of light. Thus highly a colored body of water could not sustain aquatic life which could lead to the long term impairment of the ecosystem. Ref.

3.1.4 Wai Ora

"Life cannot survive without water (Wai)

Water from the sky (From Ranginui) and the water-ways carry the lifeblood of the Papatuanuku.

The physical, spiritual & mental survival of all things is dependent on the maintenance of the Mauri, Wairua, Mana and Tapu of Wai.

Wai Ora means the purest form of Water

Wai Ora can sustain, Heal and rejuvenate

Tohunga use Wai Ora in blessings, healing and rituals

If the physical Wai is healthy then the Mauri & Wairua is healthy, as they are connected.

3.1.5 Do Trees Matter

NZ approximately 300 - 400 years ago was covered in bush and in most cases right up to the waterways. Trees or bush acted in a number of ways such as; shelter against direct sunlight onto the water thereby affecting the rise of water temperature and can enhance water quality in other ways

Studies in Nigeria, Indonesia and other countries have shown that, when the forest is removed, minerals and nutrients that trees absorb or recycle make their way, unchecked, into drainage water. Apart from the disadvantage of losing minerals and nutrients from the immediate area, the extra nutrients in the water enhance the growth of oxygen-depleting organisms on canal and river beds, and reduce the overall value of the water for irrigation purposes.

Forest buffer zones around lakes and streams act as a filtering system, reducing the amount of sediment, agricultural chemicals and pesticides in the watercourses. The loss of this filtering system results in high levels of sediment and dissolved minerals in rivers and streams which reduce crop growth and disrupt fisheries.

Increased reforestation on unstable land and around lakes, rivers and streams can thus help to increase the water-retention capacity of land and improve water quality, both of which benefit food production.

As forests are cleared and the land becomes increasingly degraded through misuse, water supplies suffer. In an environment with vegetative cover, the soil acts like a gigantic sponge, storing a vast quantity of water that is used by plants and trees or released gently into streams and rivers. Degradation limits the storage capacity of this sponge, leading to water shortages during dry seasons and, in wet seasons, to brief destructive floods, during which very little water is absorbed by the soil. Ref

3.1.6 Ngati Tu Recommendation

Ngati Tu would ask that any seeking Cultural Impact Assessments would find or provide “A fresh Water Ecology Report” within the last 12 months and/or Stream Health Monitoring Assessment Kit Test (SHMAK) as to the Ecological health status of the waterways in their boundaries.

We would support more trees/riparian planting be done along waterways, not just a single row. This is a natural buffer against many adverse things such as run off or leeching through the soil of fossil fertilizers. It is encouraging to know that Hiringa Energy will replace any riparian plant removed to enable culverts for site access but riparian will be replaced on farm at a 2:1 ratio and that consideration is being made to go beyond single row planting.

3.2 MAURI WHENUA

What defines healthy Land?

From a regenerative aspect the first point of interest is the soil biology. Some characteristics of healthy soils include good soil tilth, good soil drainage, large population of microorganisms, sufficient (but not excessive) levels of essential nutrients, and low weed pressure.

Soil erosion is a serious problem for productive agricultural land and for water quality concerns. Controlling the sediment must be an integral part of any soil management system to improve water and soil quality. Soil erosion is a gradual process that occurs when the impact of water or wind detaches and removes soil particles, causing the soil to deteriorate. Soil deterioration and low water quality due to erosion and surface runoff have become severe problems worldwide.

In a recent article in Taranaki Daily News the following was published “Public health warnings not to collect shell fish, plant life or swim at the Waingongoro and Kaupokonui River mouths were issued after water sampling showed high levels of E.coli (Escherichia coli) in the rivers. Regional council science manager Victoria McKay said the high readings of E.coli in the rivers had arisen from contamination after recent heavy rainfall. The heavy rain caused run-off to swell

streams, she said if the run-off is from pasture, it is likely to include faecal material from livestock, and possibly wildfowl”

The most effective way to control erosion is to maintain a permanent surface cover on the soil surface, such as pasture or meadow. Therefore, areas that are highly susceptible to water or wind erosion need to be considered for soil conservation programs.

Plant residue management is another way of controlling soil erosion by intercepting raindrops, thereby reducing surface runoff and protecting soil surface particle detachment by raindrop impact. Crop residue can provide an excellent soil cover after harvest and enhance snow harvesting during the off season, improve soil water intake by preventing soil surface sealing due to raindrop impact, and consequently, reduce surface runoff. Equally important in minimizing soil erosion is the adoption of a cropping system along with conservation tillage practices such as no-till, strip-till, and ridge-till. The degree of effectiveness of different tillage practices depends on the degree of soil manipulation, which effects the residue distribution on the soil surface.

The simple answer to soil erosion is to maintain good pasture at pre and post grazing of all stock.

The establishment of woody perennials and nitrogen-fixing trees close to, or intercropped with, agricultural crops maintains or improves the fertility of arable land. Trees increase the soil's ability to absorb and retain water, produce nutrients for plants, maintain high levels of organic matter in the soil, and moderate soil temperatures and once again trees prove to be very important.

Simple visual soil analysis can also provide a quick assumption such as, worm activity, fungi present, calcium rich soil can be seen on the worm while quick water testing soil absorption time test will indicate soil compaction.

Ngati Tu supports the use of more natural/organic based fertilizers such as fish oil/seed weed based and chicken manure E.g., Osflo fertilizers (to a degree), and the reduction of fossil fertilizers. The need to totally remove fossil fertilizer is uncertain at this point in time, but if the

soil biology works and plants are able to further establish through a deeper rooting system then the need for fossil fertilizer stimulation will be greatly reduced and nature will be allowed to develop and then provide those shortfalls in pasture growth etc., naturally.

3.3 MAURI TANGATA

Mauri Tangata is the well – being of people and understanding of Hauora through many avenues that reside within the whanau group. Through activities of Whare Wananga, Kaitiaki te noho, Nohonga Tahitanga, Manaaki atu/Manaaki mai Hauora is further supported and developed. The key is that the three principles are connected and when making decisions about He Tangata then consideration should be taken as its effects to the Awa & Whenua.

Te Ao Maori is to enhance the Well- being of people through developing the mindset on principles of Tikanga and build pride through connection to whanau and a link to the whenua & Awa supported by whakapapa.

Simple acts of reviving traditional fishing (Eeling) with a hinaki (traditional fishing basket) are ways to connect to the ancestors and are activities that support the three inter related principles of Mauri Whenua, Mauri Awa, Mauri Tangata.

A similar comparison would be a work stressed person going fishing and enjoying nature to relieve tension and enjoy a balanced life. (Hauora)

4.0 KAPUNI WIND TURBINE PROJECT

4.1 Wind Turbines

Benefits of Wind Turbines

- Wind power is cost-effective. Land-based utility-scale wind is one of the lowest-priced energy sources available today
- Wind creates jobs.
- It's a clean fuel source with zero carbon emissions. Wind energy doesn't pollute the air like power plants that rely on combustion of fossil fuels, such as coal or natural gas, which emit particulate matter, nitrogen oxides, and sulfur dioxide—causing human

health problems and economic damages. Wind turbines don't produce atmospheric emissions that cause acid rain, smog, or greenhouse gases.

- It's sustainable. Wind is actually a form of solar energy. Winds are caused by the heating of the atmosphere by the sun, the rotation of the Earth, and the Earth's surface irregularities. For as long as the sun shines and the wind blows, the energy produced can be harnessed to send power across the grid.
- Wind turbines can be built on existing farms or where there is space away from cities or a congestion of people.

Challenges of Wind Turbines

- Wind plants can impact local wildlife. Birds have been killed by flying into spinning turbine blades. Most of these problems have been resolved or greatly reduced through technology development or by properly siting wind plants. Like all energy sources, wind projects can alter the habitat on which they are built, which may alter the suitability of that habitat for certain species.
- Maintenance or repairs can be costly and time consuming
- When wind turbine blades reach the end of their usefulness, most are sawed into transportable pieces and hauled to landfills, where they never break down. ... Due to this, tens of thousands of aging blades are being removed and have nowhere to go but landfills. Ref: Bloomberg Green.21/01/2021
- A turbine propeller has a life span of 20 – 25 years

Comments: Many of the advantages of the Wind Turbine cancel out the disadvantages; however disposal of propellers in 20-25years by burying in landfill is not environmentally friendly, and hopefully by that time better disposal is available or reuse age may be an option. Ngati Tu would not support a landfill disposal.

In response to this concern Hiringa Energy are prepared to commit to involving Ngati Tu Hapu in the decommissioning plan to find alternative options and proposal of a draft condition of consent involved in turbine blade disposal.

Ngati Tu Hapu looks forward to working closely with Hiringa Energy in developing a strategy around the decommissioning/disposal of the Wind Turbine propellers strategy plan

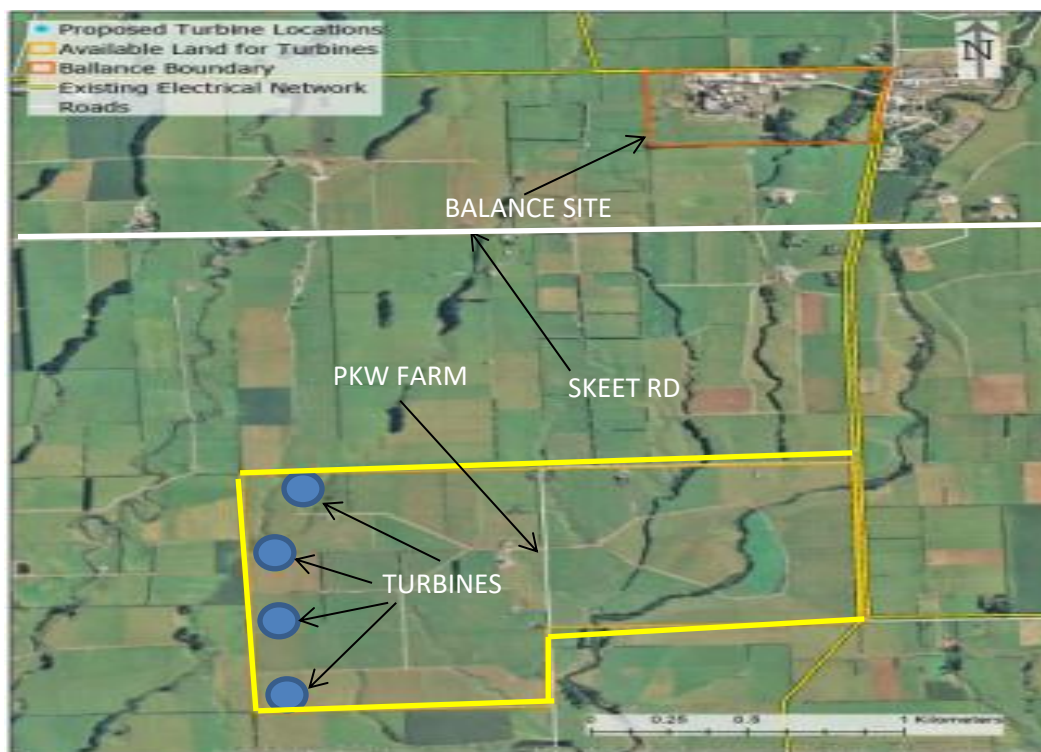
A report provided, indicated that migrating birds will not be affected by the Wind Turbine Location. Consideration needs to be made for the future planting of trees and increased activity of birdlife.

Response: Hiringa have offered to plant additional trees at locations around the site including an area Ngati Tu Hapu approves. They have also included offers to farms surrounding the Wind turbine location.

Ngati Tu Hapu: This is offer from Hiringa.

4.2 Turbine Location

The Wind Turbine project will be spread across two sites in Kapuni. Specifically the Four Wind Turbines will be located on PKW farm holdings land, which is located at 271 – 359 & 414 Kokiri Road. The other components will be housed at the Balance Agri-Nutrients Plant, located at 309 Palmer Road, Kapuni; and is identified below.





Comments;

The difficulty in this instance of placing specific responsibilities directly to Hiringa is that they are not the landowner. A royalty is paid to PKW for the location; therefore it stands to reason that both share responsibility for Cultural Impacts on this land block although, Hiringa would have to be accountable for impacts the turbines may have.

4.3 Hiringa Efforts

Hiringa Energy has made good effort to satisfy many of the issues and/or questions that may rise from erecting Wind Turbines.

Once project tasks are completed it will be interesting to read the report to the actual effects compared to predictions as evidence needs to be provided.

Preparation for consent application has been done which includes the following environmental assessments:

- Cultural relationship agreement with Hapu
- Landscape and Visual Impact Assessment (Boffa Miskell Limited)
- Landscaping and mitigation plans for impacted landowners
- Ecological Impact Assessment: Terrestrial Ecology, Birds and Bats (Boffa Miskell Limited)
- Independent Review of Ecological Impact Assessment of Kapuni Green Hydrogen Project by Boffa
- Miskell (Green Inc Limited)
- Freshwater Ecological Assessment (BTW Company)
- Archaeological Assessment of Effects (Archaeological Resource Management)
- Assessment of Noise (Hegley Acoustic Consultants Limited)
- Risk Assessment (Worley and Hiringa Energy)
- Economic and Social Benefit Assessment (Insight Economics)
- Traffic Management Plan (BTW Company)

Comment: Hiringa have made a very thorough approach to dealing with issues that may occur and have provided reports to satisfy these issues with some of these provided below.

4.4 Water Usage

Hiringa Energy will consume from 20m³ to 40m³ of water per day. In actuality this equates to a minimum use of 20,000 liters and up to 40,000 liters per day consumed which is very reasonable.

4.5 Archeological Assessment

An archeological assessment was done with results as follows

- No known archaeological sites affected by the project and considered unlikely to be found:
- No archaeological evidence of human occupation predating 1900
- Prior land modification through drainage, recontouring and ploughing
- Distance from bush line ~ 1km
- Several papakainga are located in the general vicinity but none within 3km.
- Recommended to proceed with archaeological discovery protocol and no requirement to proceed under an archaeological authority from. HNZPT

Comment: Very happy that this activity was undertaken to remove any doubt of the presence of any Waahi Tapu sites

4.6 The Proposed Site is Not a Migratory Route for Domestic Migrants

- Unremarkable site from an indigenous flora and fauna perspective
- Exotic pasture
- No habitat for Lizards, bat or invertebrates
- No cultivation in any wetland areas.
- Visual observation and bioacoustics recorders

Monitored:

- Species
- Abundances

- Flight heights
- Flight directions
- Behaviours
- Likely migrant bird mortality predicted to be 0.01/ yr.

Comments: With descriptions like unremarkable suggests a bland and boring environment which indicates that the Kapuni landscape shows little attention to nature and more commercial and industrial driven. If the migratory expert had referred the comment as a general reference to the habitat as not adequate for native species of birds or wildlife, the need for more emphasis on the environment through native fauna and flora is evident

Ngati Tu would encourage strategies towards sustainability and enhancement of the environment.

4.7 HIRINGA ENERGY'S OFFER

Hiringa are seeking

- Support from Ngatitu to ensure cultural elements have been identified and mitigated
- Formal recognition that cultural elements have been addressed

In return Hiringa are offering

- Hiringa / Balance project contribution to an environmental restoration project of importance to Ngati Tu.
- Remunerated cultural monitoring during earthworks stage
- Opportunities for hapu employment with contractors during earthworks stage
- Installation of a new solar energy system at the Marae to fully cover electricity costs
- Development & Implementation for a Landscape plan/native planning scheme for the marae.

Aquaculture Development

- Hiringa will facilitate parties for project establishment
- Hiringa can assist Ngati tu with feasibility assessment funding & structures to support hapu involvement / stake in project
- Work to establish agreements that enable the hapu to leverage the oxygen supply from the Kapuni project.

4.8 Ngati Tu Hapu Responses to Offer

As Kaitiaki of this Rohe and after much discussion Ngati Tu Hapu would require an annual royalty to fully support this project. This will allow funds being utilized to immediate needs of Hapu.

There are further discussions that would be required to progress a royalty amount but believe there is merit to this claim, especially when other hapu around Ngati Tu may also claim rights to projects within Ngati Tu Rohe.

Acknowledgement is made to Hiringa Energy wishing to establish a relationship with Ngatitu Hapu, including offers of remuneration as identified.

5.0 CONCLUSION

The difficulty in preparing documents that require traditional and cultural impacts on an environment or the health of people from an indigenous view point is making information current, relevant and providing clear information to better understood the expectations and views of Ngati Tu Hapu.

Like many hapu, Ngati Tu understands their histories and values pertaining to the Land, Water and people. The challenge is making others aware of our belief system and asking others to change the way things are done, for the benefit of all is not straight forward.

An objective the hapu hopes to achieve is to firstly be recognized as Kaitiaki of this rohe. 'It is not the Regional council or the Iwi but Hapu that are Kaitiaki'.

A strategy or feasible solution is hoped as part of further developing relationships with Hiringa to resolve concerns around the following;

- The need to support the increase riparian/native tree planting in an around waterways however possibly.
- The disposal of Wind propellers after their 20 – 25year lifespan.

With reference to the Wind Turbine Project & intentions of Hiringa Energy, Ngati Tu Hapu has reviewed the documentation that has been presented and is happy with the general direction Hiringa Energy is heading.

A goal targeting zero carbon emissions is in line with a sustainable future and with intentions to further support the use of hydrogen powered vehicles is also positive. The viability is something not totally known but will be for Hiringa to evaluate over time.

Economic Impact Assessment of Proposed Green Hydrogen Development; certainly identified the economic ambitions for those in the energy field and in particular the uses of Green Hydrogen. In reality a work plan to support the vision would be very challenging but Ngati Tu look forward to the progress and economic ambitions in the future.

Compared to many of the other provinces around Aotearoa, Taranaki is very lucky. There is an opportunity to make changes while we can, to look after the whenua and awa and it means being proactive and informative but also looking at more collaboration and changing the way we do things.

Whakataka te hau ki te uru

Whakataka te hau ki te tonga

Kia makinakina ki uta

Kia mataratara ki tai

E he ake ana, te ataakura

He tio, he huka, he hauhu

Ti hei Mauriora