Energy (renewable) and Maori Development

Ko te whenua te waiu mo nga uri i whakatipuranga
(The land will provide sustenance for our future generations)

Investment and Strategy

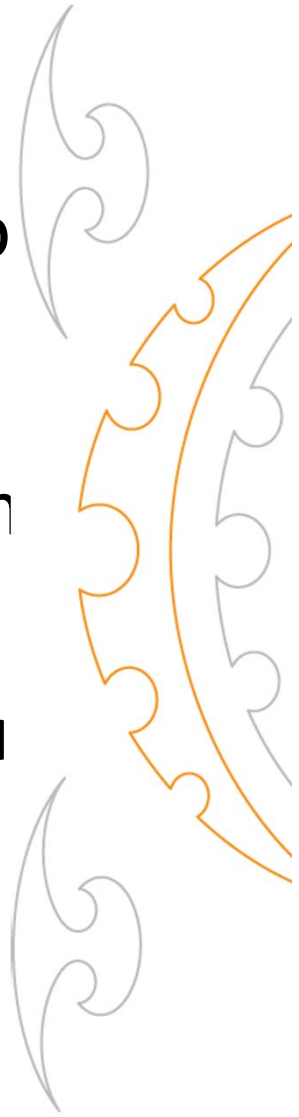
Te Papa, Wellington, New Zealand

15th April 2014

Chris Karamea Insley | Iwi Leadership Group (Climate change)

Kia ora

- The growing and diversifying Maori econo
  - Maori sustainability *(kaitiakitanga)* values framework
  - Maori economy and Renewable energy
- Current New Zealand political (policy) clim and energy settings
- Two Maori led Renewable energy case stu
  - Maori Geothermal energy
  - Large scale global food innovation strategy
  - A Maori community-owned renewable energy)



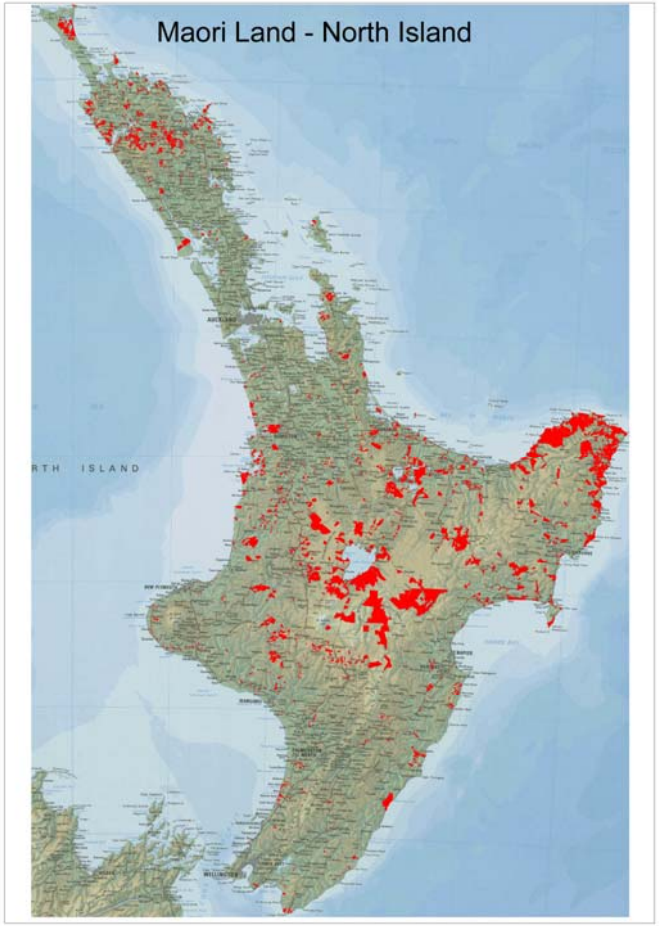
Contrasting Maori/Western
(Sustainability) Values Frameworks

	Western Values Framework	
Economic	Strong over-riding driver of decisions (NPV, IRR, Profitability Index, Payback period etc.)	
Profits	Owned individually and often lost offshore	
+ Social	Very low (only what is prescribed in law)	
++ Environment	Very low (only what is prescribed in law)	
+++ Culture	Nil	
Planning horizon	1- 5 years	

Contrasting Maori/Western
(Sustainability) Values Frameworks

	Western Values Framework	Maori Values Framework
Economic	Strong over-riding driver of decisions (NPV, IRR, Profitability Index, Payback period etc.)	Strong (NPV, IRR, Profitability Index, Payback period but may accept lower Return)
Profits	Owned individually and often lost offshore	Owned communally (reinvested back into whanau, communities, regions and the Nation)
+ Social	Very low (only what is prescribed in law)	Very strong (What is prescribed in law is bare minimum, whanau jobs, education, health and well-being)
++ Environment	Very low (only what is prescribed in law)	Very strong (What is prescribed in law is bare minimum, preservation of Papatuanuki)
+++ Culture	Nil	Very strong (Preservation of Te Reo, culture, tikanga – our identity).
Planning horizon	1- 5 years	Intergenerational (100 years plus)

1.2 Million hectare Development opportunity



The Maori economy

(2010 NZ millions)

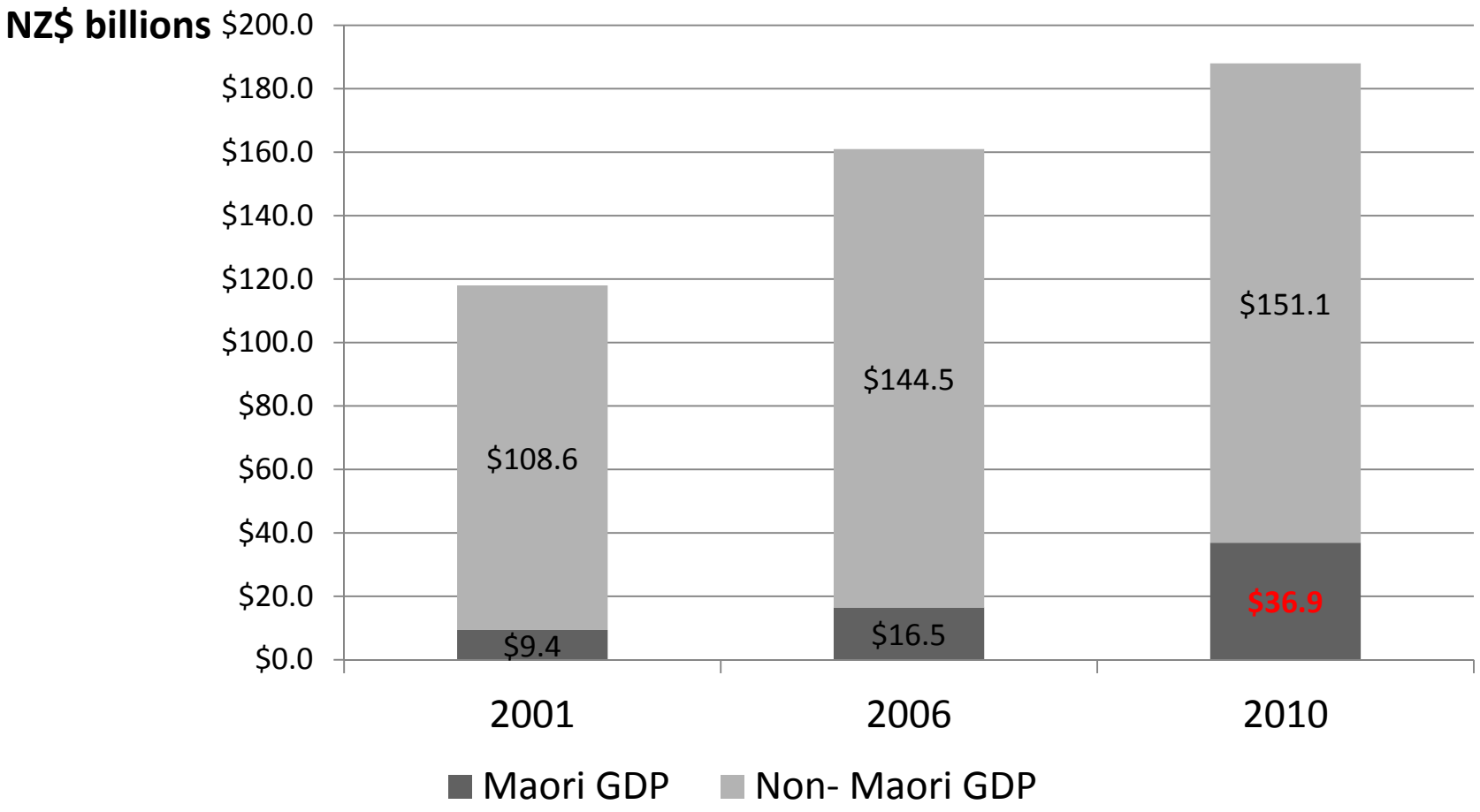
	Māori Asset Base 2010 $m			
	Self-employed	Employers	Trusts, Incorporations, Boards, MIOs, PGSEs, Holding Companies	Total
Agriculture			*2,530*	
Forestry			*2,242*	
Fishing			*1,035*	
Total Agriculture, Forestry and Fishing	1,534	3,238	5,807	10,579
Mining	0	0	5	5
Manufacturing	250	1,767	573	2,591
Electricity	0	0	270	270
Construction	397	1,040	0	1,438
Wholesale Trade	93	675	0	768
Retail Trade	98	660	0	758
Accommodation, Cafes & Restaurants	22	289	0	311
Transport and Storage	366	2,439	0	2,806
Communications	323	1,958	0	2,282
Finance and Insurance	112	1,484	0	1,597
Property and Business Services	1,525	4,583	808	6,916
Government	0	0	0	0
Education	41	950	278	1,269
Health and Community Services	39	286	66	391
Cultural, Recreational & Pers Services	269	877	2,813	3,958
Not Elsewhere Included	370	589	0	959
Total	5,440	20,837	10,620	36,897

Base Maori economy

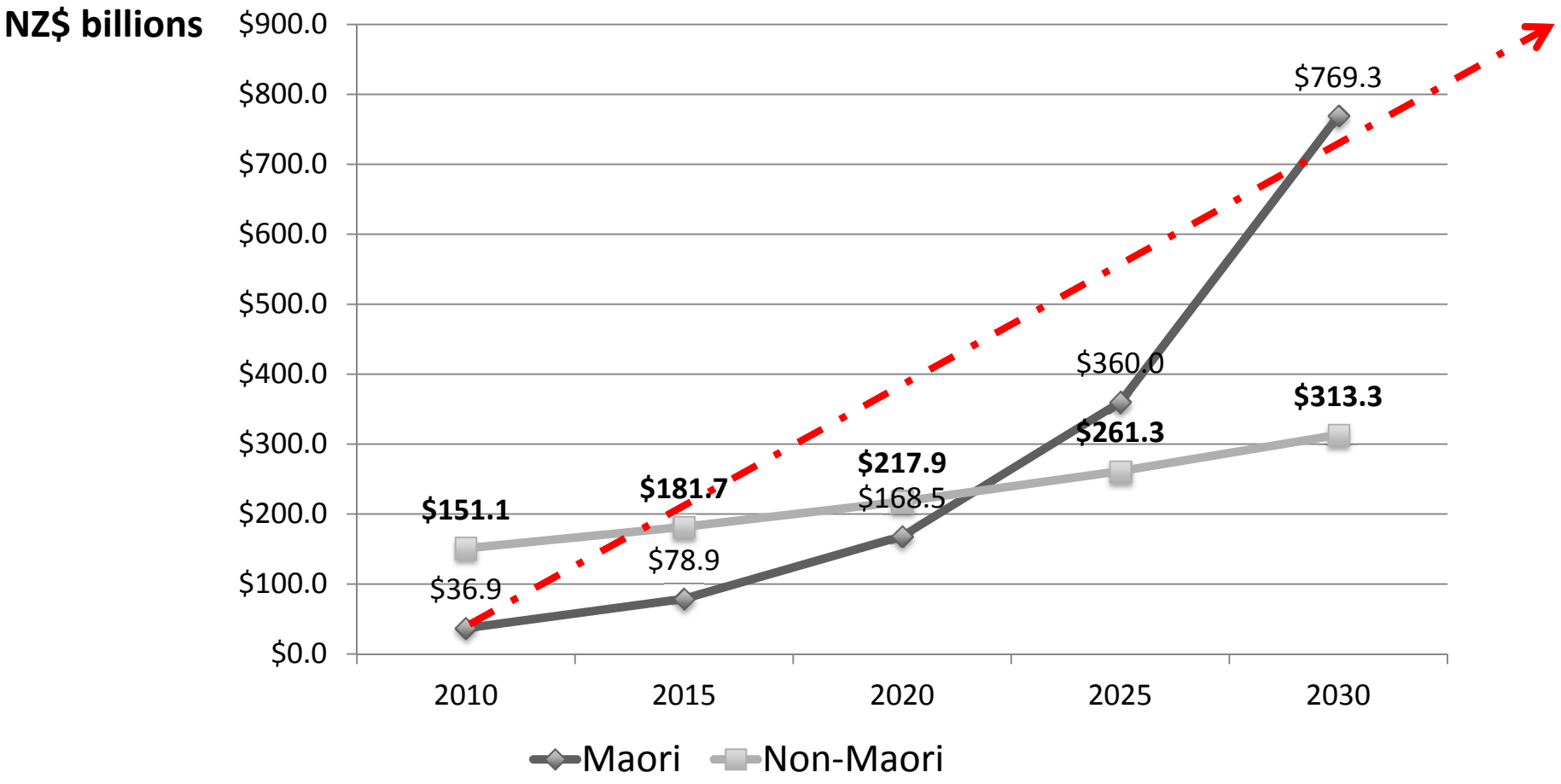
Diversified Maori economy

Source: BERL 2010

Comparative **historic** GDP Growth



Comparative **forecast** GDP Growth



i Leaders on climate change policy

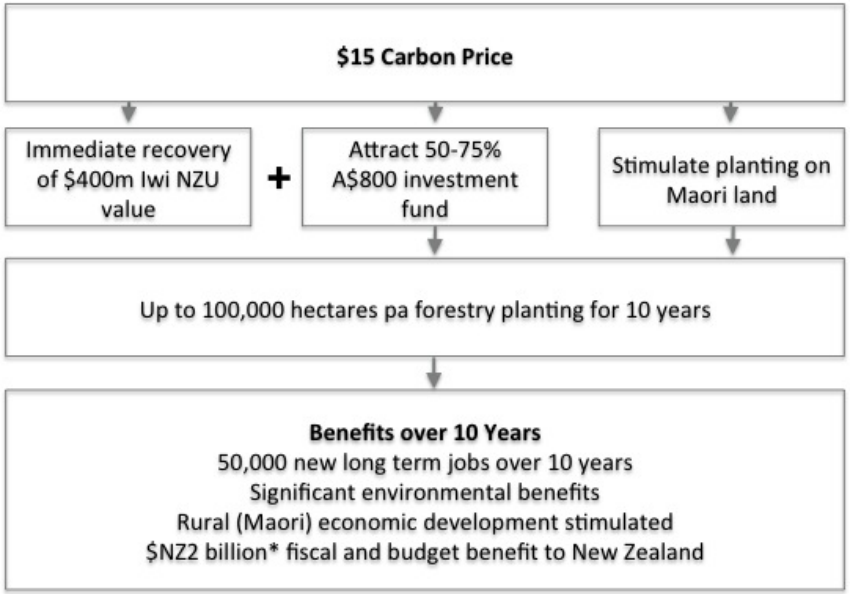
Karamea Insley

endent Board Director

Current New Zealand climate policy a disgrace[1]

- Withdrawn from Kyoto Protocol
- No NZ strategy to meet medium term international emission reduction targets
- Knowingly allowed the carbon price to collapse costing NZ tribes $NZ600 million
- Perverse incentives rewarding polluters $NZ100's millions
- No incentives towards Renewable energy
- An election year
  - Opposition parties have strong emission reduction policies and support renewables
  - A major National and International issue for Iwi in 2014

Iwi Leaders $2.0 billion Proposal



Source: (Brian Fallow) New Zealand Herald – December 19,2013.

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Benefits

To Iwi:

- Immediate recovery of $400 million of value on current Iwi NZU's
- This value is immediately available for reinvestment by iwi
- Make productive 1.2 million hectares of Maori lands
- Return on under utilised land without risk to land ownership

For Maori Communities:

- Utilises available rural labour capacity and increases skills
- Brings long term wealth and social benefits to Maori communities

Regional economic development - Employment:

- Large scale employment opportunities (50,000 new long term rural jobs) in Maori communities where the new forests are established
- Double the size of the forest industry and foster local wood processing industry

Benefits (cont'd)

For Environment:

- Significant long term environmental benefits including waterway cleansing and erosion control
- No trade offs required to attain environmental benefits

For New Zealand:

- Promote Brand New Zealand
- Trigger new Maori low-emissions clean-tech industry
- 0.7% increase in incomes nationwide; or
- An Increase in wealth of $900 per person over 10 years.

For International obligations and reputation

- Would become New Zealand's strategy to meet it's medium term emission reduction obligations (currently has nothing)

-study ONE

100% tribal-owned Geothermal energy company – a *large (and ing) established company*

wharetoa ki Kawerau

Karamea Insley

pendent Board Director

Ko wai tatou? *(Who are we?)*

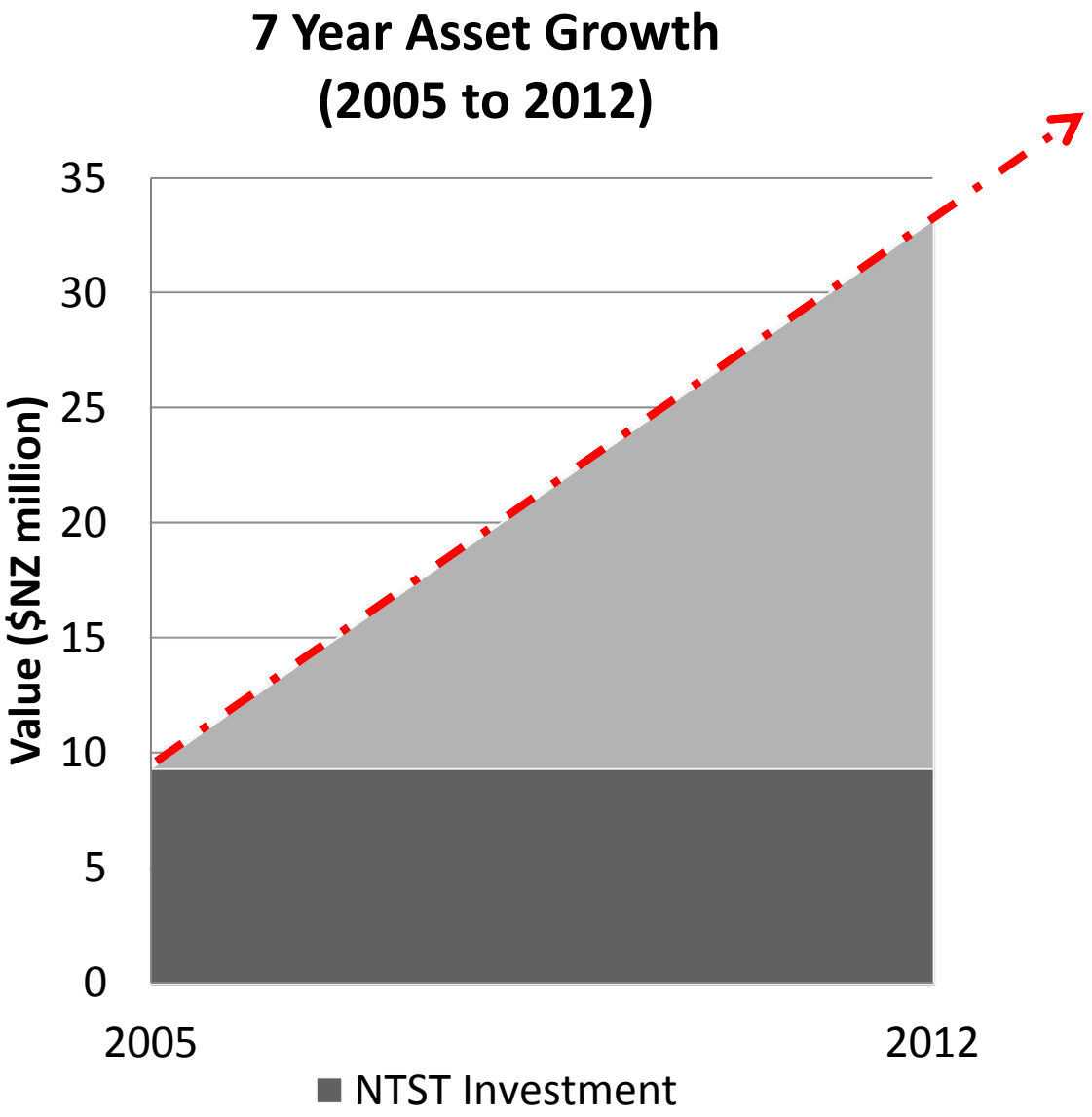
Our Maori (tribal) uniqueness

- Only 100% tribally owned geothermal business in New Zealand
- Only geothermal business predominantly supplying process heat;
- Largest geothermal process heat supplying business in the world;
- Support local industry by providing geothermal energy:
  - for process drying, and
  - for electricity
- for over 50 years

Our wood-processing customers

Our performance and growth plans

- Treaty Settlement of $NZ10 million
- Current net asset book value $NZ35m
- Market value $NZ70m+
- 20% compound annual growth rate (CAGR)
- Resource consent to double take from steam field
- Strategic plan to continue growth through diversification



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ewable energy into Innovation Foods strategy

ori owned 6-step Value-chain strategy

Karamea Insley

endent Board Director

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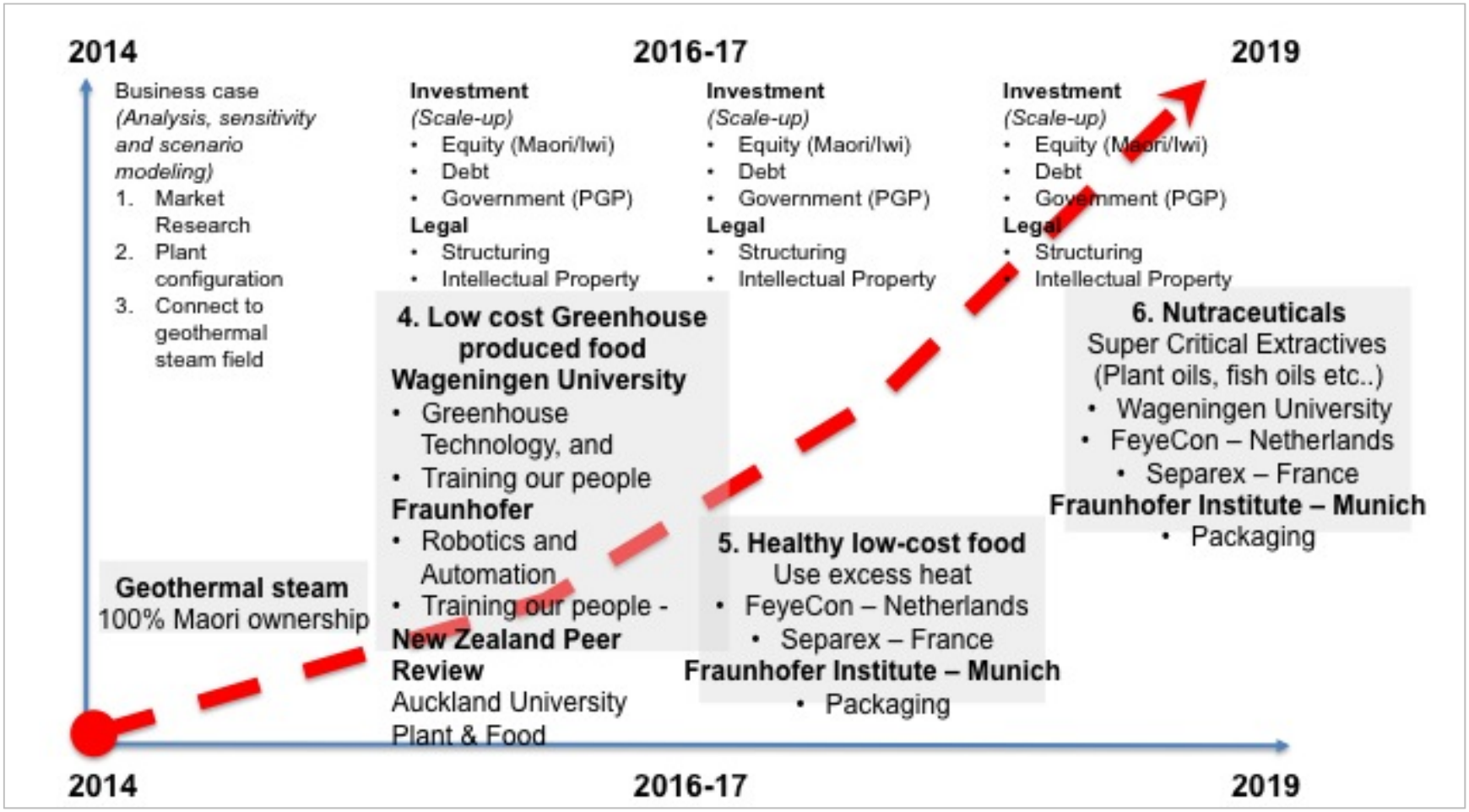
Our diversification growth-strategy

Ormat Geothermal Energy

Wageningen Greenhouse

5 Year Geothermal energy & Food Innovation Value-chain strategy



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hip marae-owned project

mmunity-owned Renewable energy

Karamea Insley

rman and Project Manager

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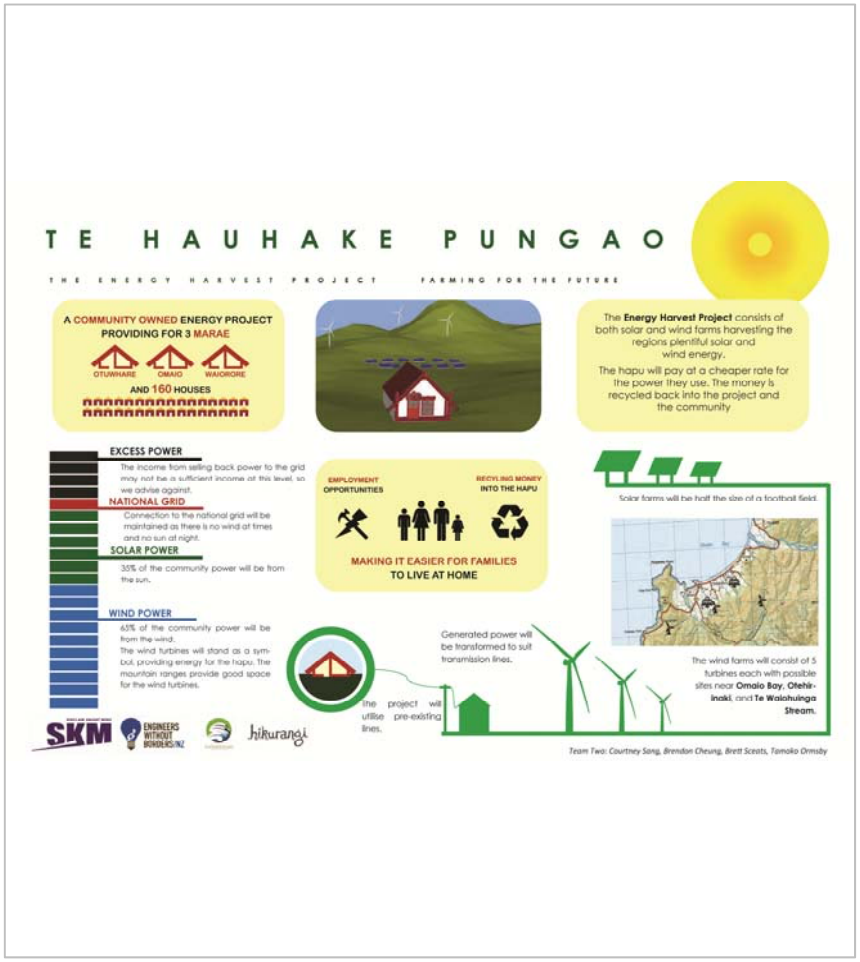
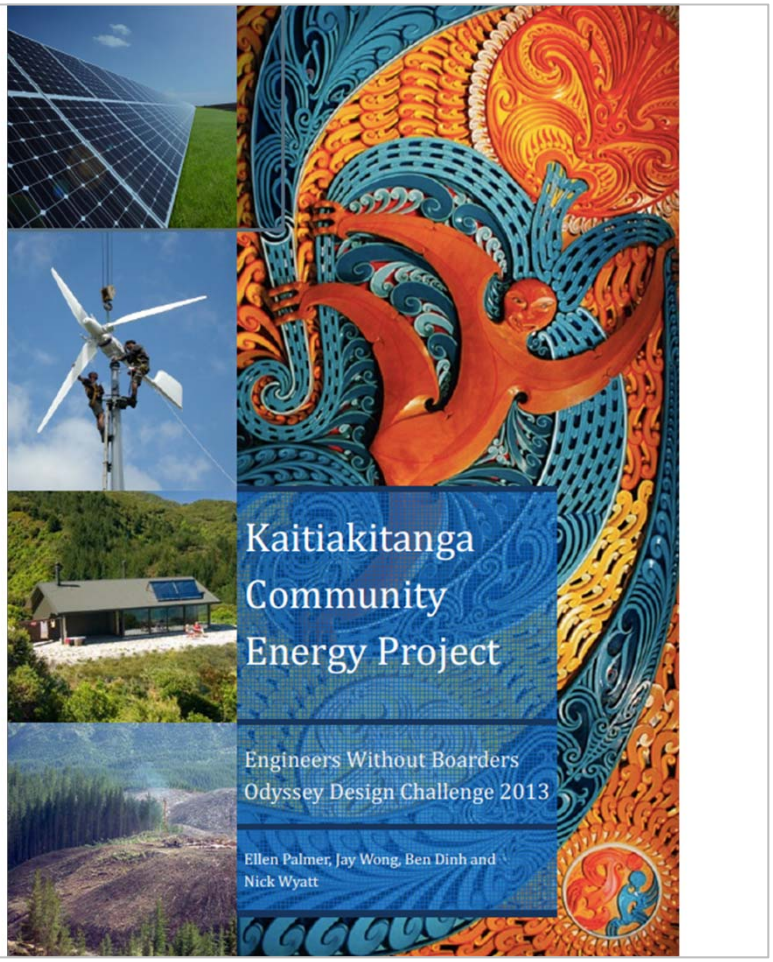
2013 Odyssey Engineer Design Challenge

Winning engineering concept designs





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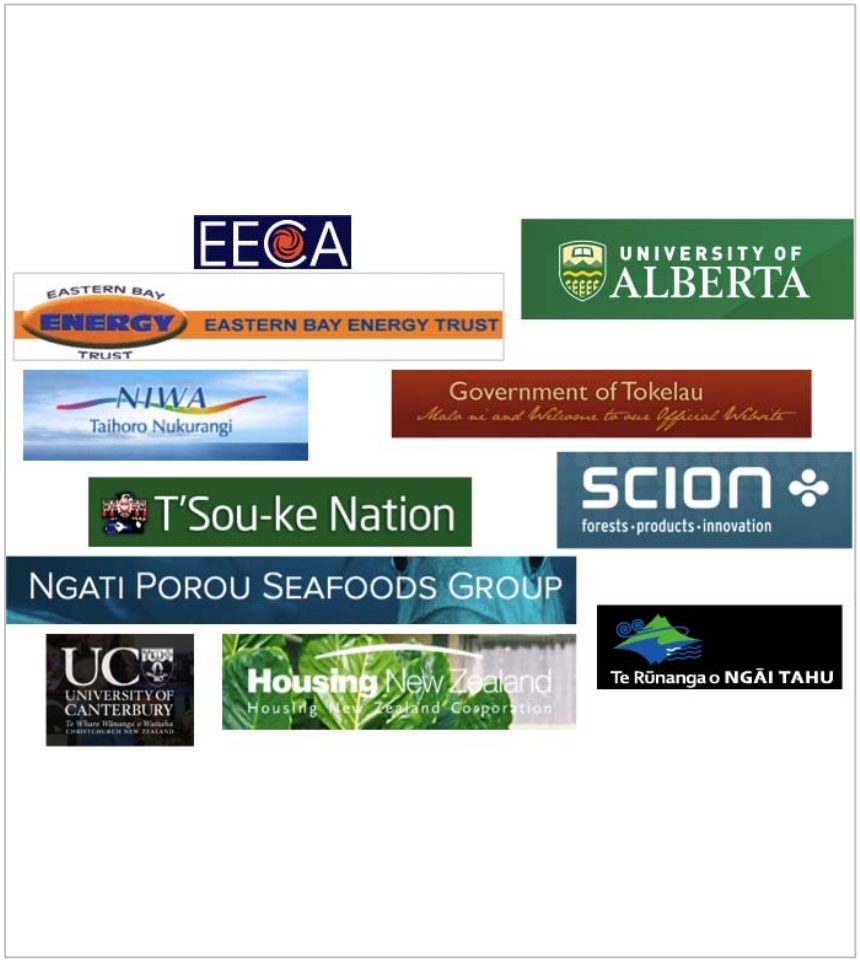
Partner strategy



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- Formalizing Memorandum of Understanding right now
- Will provide expert engineering advice for large 2-5 Year Projects,
- Provide access to key New Zealand and international expertise and renewable energy technologies

ENERGY GENERATION EXPERT ADVISORY PANEL

Alastair Brookes
Qualifications: MSc Renewable Energy Systems Technology, Loughborough University (2007, Distinction); BScTech Engineering and Business Studies, Sheffield University (1997, 2:1, Hons).

Christian Jirkowsky
Qualifications: Mechanical Engineering, Federal College of Mechanical Engineering.
Experience Christian is a General Manager with over 20 years of experience in areas such as: Power and Heat Generation via Biomass and Fossil Fuels, Emission Control and Heat Recovery Systems; and markets such as Europe, Oceania and Americas. Proficiency in Mechanical and Performance Engineering as well as in Team Building and Leading.

Doug Hattersley
Qualifications Bachelor of Engineering (Honours) degree, is a Chartered Professional Engineer, Graduate Member of the Australian Institute of Company Directors.
Experience Doug has over 39 years experience on large infrastructure projects in USA, New Zealand, Africa, South America and Asia.

Pat Bodger
Qualifications Doctor of Philosophy (PhD), Electrical Engineering, University of Canterbury
Experience Pat is a Professor of Electrical Engineering at the University of Canterbury specialising in Power Systems. Pat is also a director of the Electric Power Engineering Centre, a university-based research organisation that consults to industry. Pat has over 35 years' experience in electric power engineering.

Patrick Harnett
Qualifications Bachelor of Science with triple major (Computer Science/Operations Research/Statistics) from the University of Canterbury, and a Master of Commerce with honours in Operations Research. Qualified Chartered Secretary and member of the Institute of Directors.
Experience Patrick works as a professional problem solver following from extensive work in the area of deregulated energy markets.

Stacey Fellows
Qualifications B.Tech (Biotechnology and Bioprocess Engineering) Hons, Massey University (1993).
Experience Stacey has 17 years experience of process engineering in the chemical and dairy industries. Her project experience includes Fonterra Energy Efficiency Project which contributed to 15% energy savings.

Susan Krumdieck
Qualifications PhD, Mechanical Engineering, Advanced Materials Processing, Combustion, Biofuels, University of Colorado Boulder, BS, MS, Mechanical Engineering, Energy Systems Engineering, Arizona State University.
Experience Susan is Associate Professor in Mechanical Engineering at the University of Canterbury where she has been based since 2000. Her areas of research include transition engineering, energy systems engineering, energy demand management and fossil fuel reduction.

Richard Gapes
Was born in New Zealand and graduated in Chemical and Materials Engineering followed by Biotechnology. He then worked in differing fields in private industry including consulting engineering, plant construction in both the dairy and mining industries, and in production in an ethanol distillery. He then completed his doctorate in Austria and headed the research group Biochemical Engineering for many years.

- Preliminary structuring options
- Legal agreements
- Memorandum of Understanding (MOU) for Expert Advisory Panel

LEGAL UPDATE – LARGE ELECTRICITY GENERATION PROJECTS

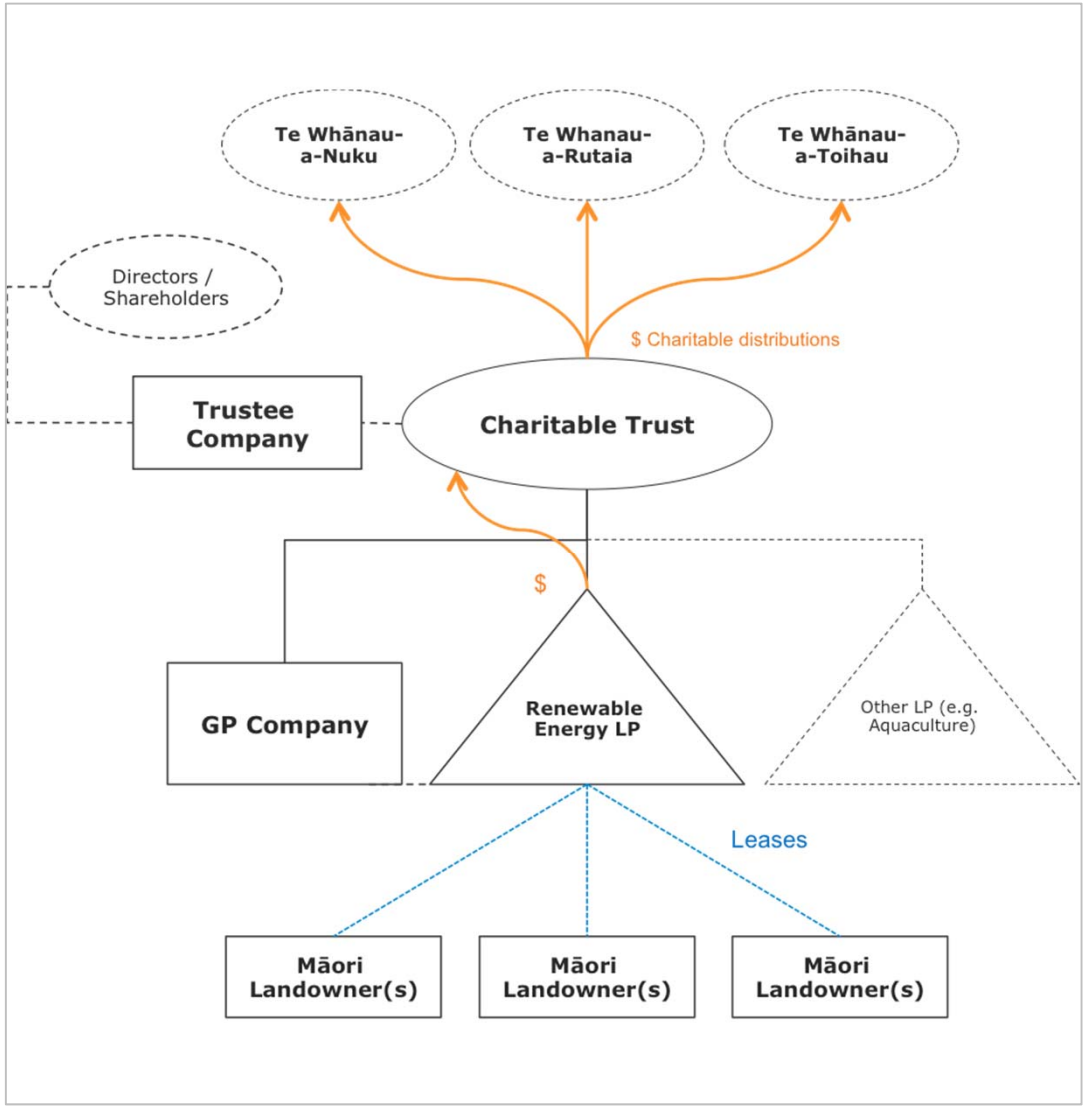
Preliminary structuring thinking …

Project goals (large energy generation projects)

- Cheap power for the whanau through an energy company owned/controlled by the hapu
- Energy security and a new revenue stream for the hapu
- New and real jobs.

Legal objectives

- Owned by marae
- Flexible to enable growth (new entities and other marae)
- Tax efficient
- Distributions back to marae



ging it all together .....

ergy (renewable) and Maori mmary

But, biggest oil discovery in 50 Years?

$20 trillion shale oil find surrounding Coober-Pedy 'can fuel Australia'

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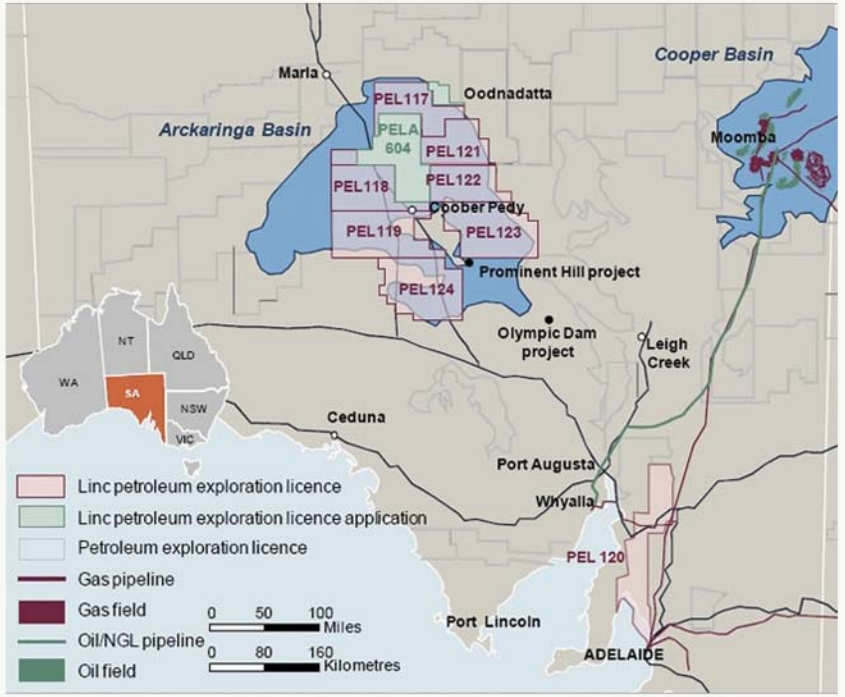

Source: Linc Energy: Released two reports in January 2013 with estimates ranging between 3.5 to 233 billion barrels. Linc aims to drill six horizontal wells (A$150-300m) to confirm its figures.

Summing up

- Iwi are major players in the New Zealand economy and growing rapidly and will likel continue to out-perform the NZ GDP growth rate
- Apply an intergenerational and holistic approach to investment decision making and will act together to create scale investment
- Have active engagement with government on climate change policy that is both fair equitable, takes a long term view and practically incentivizes behavior change
- Renewable energy fits well with our values of kaitiakitanga and provides the basis fo step up the value-chains
- What Iwi are seeking is not only good for Iwi, but good for all of New Zealand.
- Kia ora…