

New Zealand's Future Energy Leaders (FEL)

Nathan Bittle, MBIE
Jenny Lackey, EECA
Sheena Thomas, Z Energy

FUTURE ENERGY LEADERS' PROGRAMME
22ND WORLD ENERGY CONGRESS
Daegu 2013

The NZ FELs

Nathan Bittle (Ministry of Business Innovation and Employment)

- FEL from 2010 (Montreal edition)
- Member of Future Energy Leaders Advisory Board
- Working Group Leader – Future of Alternative Transport Fuels
- I wanted to *“increase technical understanding of alternative transport fuels and improve professional skill set”*

Jenny Lackey (Energy Efficiency and Conservation Authority (EECA))

- New to WEC Future Energy Leaders programme
- Member of the Successful Energy Projects through Acceptance working group
- Looking for new ways to influence investors, consumers and government to act

Sheena Thomas (Z Energy)

- Also new to the Future Energy Leaders programme
- Member of the Future of Alternative Transport Fuels Working Group
- Wanted insights into what will drive the energy industry in future
- Bring this context back to NZ to inform local conversations and company strategy

Future Energy Leaders Programme

Built on FELP from 2010 – balance in FEL sessions and focus on producing tangible outputs.

2013 FELs consisted of 100 young professionals representing 44 countries:

- contributed to 10 energy topics to develop initiatives and tools that they will continue to roll out between now and the next World Energy Congress in 2016.
- attended main plenary sessions and attended exclusive sessions with speakers including:
 - Fatih Birol, Chief Economist, IEA;
 - Christiana Figueres, Executive Secretary, UNFCCC, Germany;
 - Sanjit Bunker Roy, Founder, Barefoot College; and
 - Michael Valocchi, IBM Global Business Services.
- presented a high-level declaration to the main Congress urging the global community to:
 - **Embrace change.** Adapt. We see a future where possibilities are everywhere.
 - **Recognise there are no “one size fits all” solutions.** The ability to recognize appropriate (unique) solutions for each region is essential.

Highlights from FELP

- Fatih Birol, Chief Economist of the IEA, on the four key things to observe over the next few years:
 - Foundations of the global energy system is shifting
 - Climate change has been slipping down the policy agenda despite the risks going up
 - Energy efficiency remains largely untapped
 - Access to modern energy remains a serious problem
- Marie-José Nadeau
 - Incoming Chair of the WEC
 - Diversity in the WEC is important
 - Energy not isolated from geo-political and economic realities – food, water, population growth, climate change
 - Need to embrace the complexity
- Bunker Roy, Founder of the Barefoot College
 - Practical and passionate approach to solving energy poverty was inspiring.
 - Plan to provide sustainable electricity (not just from sustainable sources) by training those members of society with a long-standing interest in the community - grandmothers - to install and maintain solar electrical equipment.

The FELs and Bunker Roy



Acceptance of clean energy projects

- A decision –support tool for commissioning large-scale energy projects
- Real time delivery, real time change assessment
- Tailored to suit the local conditions and policy settings
- Based on the PESTE model, with five different elements to consider
- (Political, Economic, Social, Technical and Environmental)
- Acceptance criteria for each pillar set by the project manager/investor, agreed with stakeholders
- Challenge: “green on green” – how to weigh up the impacts of one renewable project against climate change?

Acceptance of clean energy projects



POLITICAL

National policy
Relevant national laws
Geopolitical stability
International law
Multilateral and common international law



ECONOMIC

National net benefit
Investor's IRR



SOCIAL

Property rights
Cultural significance
Use of resources
Visual pollution
Employment / economical development



TECHNICAL

Mature technology
Reliable energy supply
Meet energy demand
Durable overtime
Base load



ENVIRONMENTAL

Lifecycle of species
Lifecycle carbon emissions
Remediable
Waste level
Byproducts
Renewable input resources

FOR EVERY PROJECT

Energy needs

- What are the needs to be met?

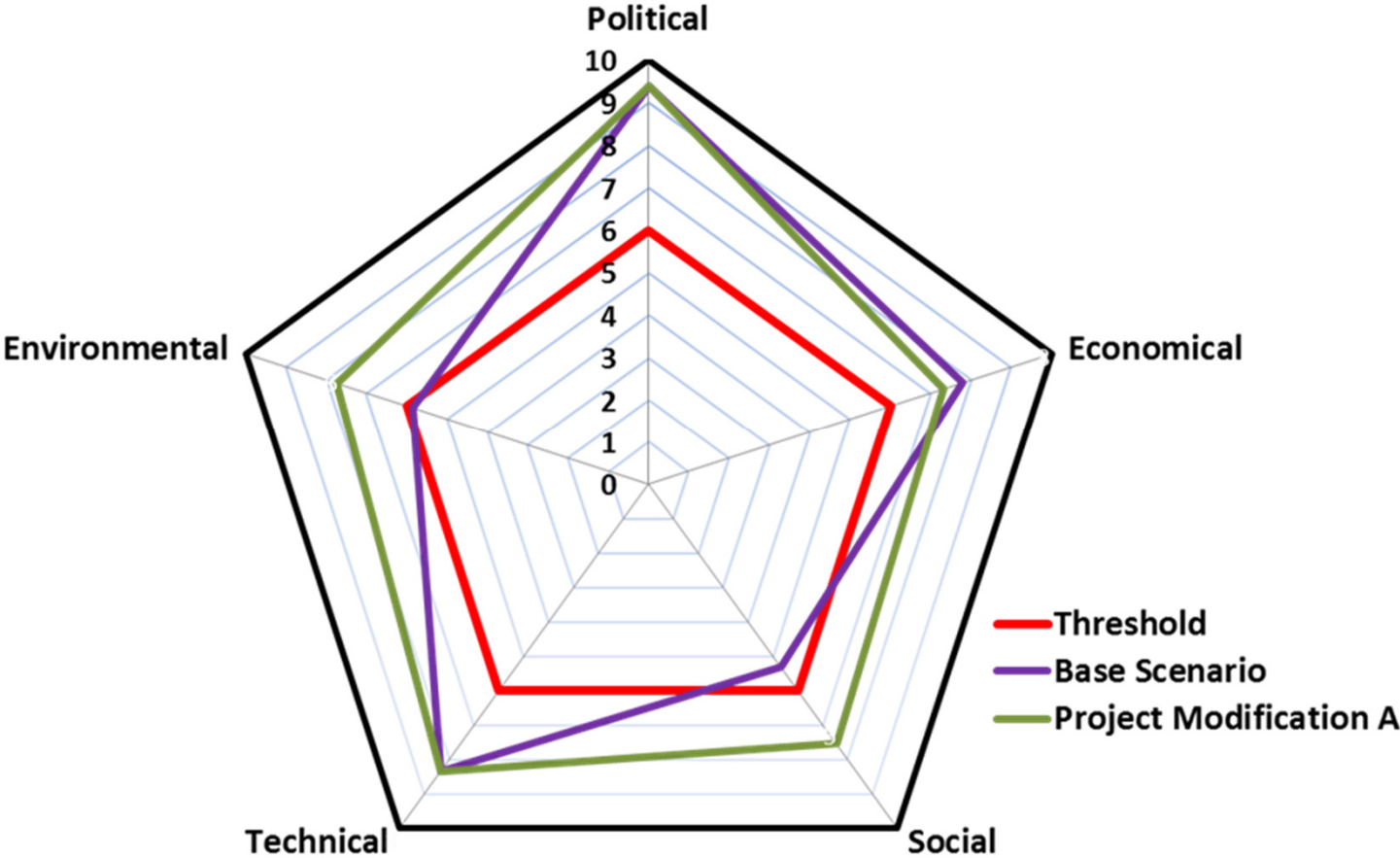
Identify criteria

- Criteria of importance to be set given the needs and conditions

Weigh criteria

- Give % weighting for each criteria, based on its importance for the given project

Acceptance of clean energy projects



The Alternative Transport Fuels Working Group



Findings

- There are problems and risks associated with the current transportation model, but not enough to unseat fossil fuels as the dominant transport fuel
- There is a need to broaden the transport fuel mix to include a greater share of renewables, not least because of environmental impact
- No one size fits all – biofuels in itself very diverse
- Solutions (regulatory or otherwise) need to be tailored to specific conditions of a country or region
- Public awareness and understanding of consumer sentiment major gaps
- Survey of consumer sentiment suggests real appetite for cleaner fuels in the 18 – 35 age bracket

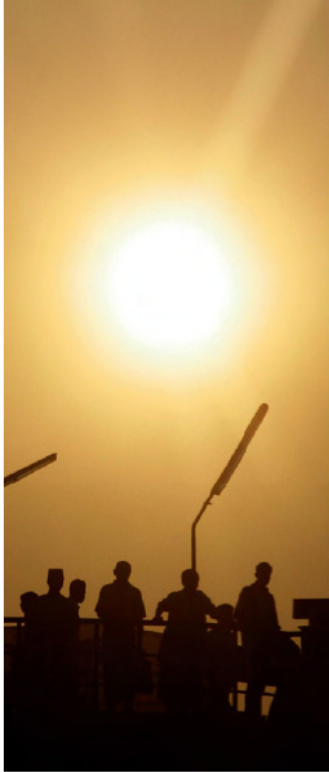
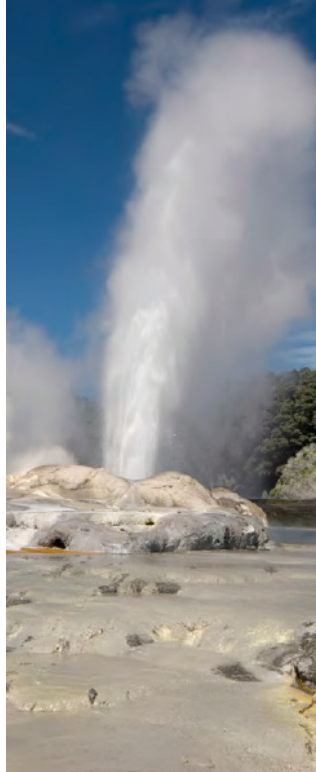


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Recommendations

Understand consumer sentiment



Updates on alternative fuel opportunities and readiness for adoption

Increase public awareness of alternative transport fuels

Increase the visibility of alternative transport fuel success stories so we can learn from them

New Zealand's legacy?

The WEC presents:

- a valuable opportunity to gain both technical and professional experience
- showcase New Zealand to the world (we're ranked 8th on energy sustainability)

FELP was a valuable experience

- Ability to learn from, and interact with, high-profile 'thought leaders'
- Excellent opportunity to interact with impressive set of peers
- Produced tangible outputs (FEL Insights, outputs from working groups)

New Zealand was visible at Congress

- Rob Whitney and John Carnegie were active participants – including input into headline publication *World Energy Scenarios*.
- FEL delegation were active contributors to the 2013 programme

We see merit in a bigger and broader WEC community in New Zealand

- More competition at a FEL level
- Greater representation at Istanbul 2016

Questions?

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