

From: Norman Smith [mailto:norman@rminz.org.nz]
Sent: Thursday, 4 February 2016 7:20 p.m.
To: John Irving; 'Molly Melhuish'
Cc: 'Smart Grid Forum'; 'gareth wilson'; Nick Russ; SEFnews@yahoo.com
Subject: Re: [SEFnews] RE: Comcom emerging technology forum

I'm somewhat out of my depth here so bear with me.

The current high profit made by lines companies are based on their right to achieve a certain level of return on investment, based on the value of their assets.

Fundamental to these profits is the value of the assets being set very high because they have always been a natural monopoly.

But rapidly emerging disruptive technologies means they are no longer a natural monopoly and will be subject to increasing competition which will take away their business.

A new methodology which takes this into account would drop their value and therefore the amount of profit they can make, at the same time as their cash flow falls away anyway.

If this is one of, or *the*, principal paradigm shifts in the NZ power industry business models which John talks about then no wonder they are in panic mode.

<http://www.cam.ac.uk/research/news/the-rise-and-fall-of-kodaks-moment>.

Norman

On 4/02/2016 5:28 p.m., 'John Irving' JRIrving@xtra.co.nz [SEFnews] wrote:

I agree with Molly. Moreover I believe that unless there are real opportunities for DG suppliers and operators to be heard this will be yet another foot-dragging exercise to support the status quo in NZ. Sooner or later we must join the rest of the world and embrace new technologies even if it requires a paradigm change in the NZ power industry business models. In your deliberations please take into account information from reputable overseas organisations like:

(a) EPRI: Electricity Energy Storage Technology Options A White Paper Primer on Applications, Costs, and Benefits 1020676 Technical Update, December 2010
Electric Power Research Institute;

(b) IRENA: BATTERY STORAGE FOR RENEWABLES: MARKET STATUS AND TECHNOLOGY

OUTLOOK - International Renewable Energy Agency January 2015;

(c) NREL: The Value of Energy Storage for Grid Applications Paul Denholm, Jennie Jorgenson, Marissa Hummon, Thomas Jenkin, and David Palchak May 2013
National Renewable Energy Laboratory; (d)SUF: Utility Scale Energy Storage Systems Benefits, Applications, and Technologies Rachel Carnegie Douglas Gotham David Nderitu Paul V. Preckel State Utility Forecasting Group June 2013;

(d) AEREA: ENERGY STORAGE STUDY FUNDING AND KNOWLEDGE SHARING PRIORITIES;

AECOM Prepared for Australian Renewable Energy Agency 13 July 2015;

(e) World Energy Council: E-storage: Shifting from cost to value Wind and Solar Applications 2016

(f) Rock Mountain Institute: THE ECONOMICS OF BATTERY ENERGY STORAGE HOW

MULTI-USE, CUSTOMER-SITED BATTERIES DELIVER THE MOST SERVICES AND VALUE TO CUSTOMERS AND THE GRID

John Irving
Consulting Engineer
World Bank

-----Original Message-----

From: Molly Melhuish [<mailto:melhuish@xtra.co.nz>]
Sent: Thursday, February 4, 2016 4:59 PM
To: Nick Russ
Cc: Smart Grid Forum; gareth wilson
Subject: Comcom emerging technology forum

Nick, also John and Gareth

I was disappointed to learn only yesterday of ComCom's continuing Emerging Technology consultation; I cannot monitor Comcom's extensive website regularly.

In previous submissions on Input Methodology, I referred to RMI's several documents on integrating emerging technologies into the grid. My submission on the Electricity Authority's consultation on emerging technologies applies RMI's principles and recommendations as far as possible to the New Zealand context.

Competition from evolving technologies threatens to strand some assets of most distributors. The EA describes investors in rooftop solar and consumer-owned batteries as "cross-subsidising", because the resulting power bill will be reduced requiring the bills of others to increase. But that is perhaps only true if Input Methodologies allow recovery of their own investment costs for assets that may become less used and useful.

In skim-reading your consultation document I find little reference to "used and useful", nor does an even briefer perusal of the transcript of the December workshop suggest this as an important consideration in regulation. Perhaps it is, and is disguised by the rather arcane descriptions of regulatory initiatives.

As argued in this attached submission, I believe "emerging technology" should include household energy retrofits (carefully tailored to each house, through a vibrant home energy advisory system). Today home insulation and double glazing are probably the most important in reducing both kWh and kW demands. Rooftop solar cuts summer kWh demand, and adding batteries where appropriate cuts summer evening peaks. But in New Zealand, critical peaks are still in winter, and emerging technology in wood burning promises major opportunities to reduce peaks especially at critical times. This however requires a change to National Environmental Standards for Air Quality - which may or may not happen.

New Zealand keeps its regulation in silos; this must change. The Smart Grid Forum seems the proper place for a continuing discussion of these issues, but that would require its transformation to a Smart Energy Forum and include genuine representation from consumers and sustainable energy providers.

Regards

Molly

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<https://www.avast.com/antivirus>

Posted by: "John Irving" <JRIrving@xtra.co.nz>

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