



**The Sustainable Energy Forum Inc.**

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**Submission on the December 2019 discussion paper  
ACCELERATING RENEWABLE ENERGY AND ENERGY EFFICIENCY**

**The Sustainable Energy Forum Inc (SEF)** is an organisation of individuals and companies with an interest in a sustainable energy future for NZ. Current membership is about 100, including corporate and individual members ranging from staff in energy companies, regulation bodies, householders, students and retired people. All are energy consumers but many are strongly supportive of being energy self-sufficient. The objective of SEF is to “facilitate the use of energy for economic, environmental and social sustainability”.

SEF publishes a magazine “EnergyWatch” (see [www.energywatch.org.nz](http://www.energywatch.org.nz)) and there are approximately 100 people on our email newsgroup “SEFnews”, including current ‘guests’ and people from some corporate organisations. Many SEF members are active in small-scale sustainable energy supply and energy efficiency commercial activities.

This submission relates to matters raised, and matters not raised, in the December 2019 MBIE discussion document “Accelerating Renewable Energy and Energy Efficiency”.

**OUR SUBMISSION**

This submission concludes that **the MBIE discussion paper only considers energy supply for industry and bulk electricity generation. It does little to support or encourage the growth of direct renewable energy use and energy efficiency in New Zealand and ignores energy use initiatives at the small consumer level.**

The discussion paper’s executive summary begins with Government’s “aspirational goal of 100% renewable electricity”. It does not mention the qualifier “in a normal hydro year”, nor the fact that the six or more peaking stations in MBIE’s electricity scenarios require an assurance of gas supply, which in turn requires a separate base-load user, on long-term contract, to keep gas flowing through the gas processing facility. The “100% renewable” claim is simply false.

New Zealand's "Renewable Energy Strategy" and work programme has eight elements: Renewable Electricity Generation, Process Heat, Green Hydrogen, Resource Strategy, Just Transition work, Electricity Price Review, Gas Act changes, and Backing Emerging Technologies. The MBIE discussion document covers only the first two elements.

New Zealand no longer has an energy policy to provide a useful framework for this discussion. The Ministry of Energy, a public service organisation with a focus on social, environmental and economic benefits, has been replaced by the Ministry of Business Innovation and Employment, effectively driven by the business sector, and focussed only on economic benefits. The dominant policy focus of MBIE is deregulation and big business profit – expressed today as "industry self-regulation".

Essential energy services are provided by profit-maximising entities whose shareholders demand growth. The direct consequence of this single-minded approach is that energy prices rise to whatever the market will bear, regardless of affordability. Environmental protection is reduced to the minimum statutory requirement.

Many residential electricity consumers who can afford to invest in energy efficiency and/or solar are doing so. With the industry proposed removal of "low-user tariff" and a new \$2/day electricity fixed charges for network services, many more consumers will add their own large batteries to their PV systems and disconnect from the grid, as this will become economic for them to do so. This will be to the detriment of the shared electricity supply model that benefits everyone. Meantime, many of those who are less affluent must choose between "heat or eat".

Industrial electricity prices are typically half residential prices, with so-called "export-exposed" industries receiving the biggest discounts. A prime example is the aluminium smelter. Huge increases in residential electricity prices have created high profits for the energy companies on the pretext that they are needed for the funding of new centralised power stations, despite minimal electricity demand growth since 2007.

Transpower crystallised the electricity industry's vision in its recent report *Te Mauri Hiko*, of doubling New Zealand's generating capacity by 2050. This current MBIE discussion document is single-mindedly designed to support that electricity industry growth path vision.

SEF considers that New Zealand needs real regulation to replace today's industry self-regulation, which is supposedly overseen by the Electricity Authority, and constrained by the Commerce Commission. A Ministry of Energy, or preferably an independent Energy Commission, is needed to create a new framework to analyse investment and pricing, including the introduction of new technologies, to meet New Zealand's energy needs efficiently while minimising environmental consequences and excessive costs to householders. Its analysis of demand and supply scenarios must be fully transparent and open to public consultation.

Such analysis would facilitate distributed energy supply and energy efficiency providers to offer their energy services into the market place, with corporate electricity and gas suppliers required to co-operate rather than compete to minimise their costs.

Today small-scale energy businesses cannot compete because of predatory pricing, where the corporates segment the markets so as to maximise the revenues from those consumers who have little choice. Strong regulation would identify and sanction such strategies.

Several models of electricity regulation adapted for different ownership and regulatory regimes have been devised by the Regulatory Assistance Project (RAP), who advise many US regulators, and now advise several European countries, China and India. A special issue of the Electricity Journal edited by RAP gives a comprehensive picture of regulation to optimise an energy economy. Unfortunately, the document lies behind a big paywall. An outline of each of the papers is given in RAP's link to a lengthy webinar (free) discussing the articles and giving a link to the abstract of each article:

<https://www.raponline.org/blog/clean-flexible-and-efficient-a-recipe-for-energy-optimization/>

SEF members attended a recent Bioenergy Association workshop which identified further evidence to support the more extensive use of wood energy:

- Ministry for the Environment reports that the emissions budget requires 13 million tonnes abatement over 5 years. They note that the lowest-cost option is energy efficiency, followed by fuel switching to biomass. Waikato University puts abatement costs of biomass at around \$50-\$100/tonne CO<sub>2</sub>, compared to electricity for steam or direct heat >\$150/tonne CO<sub>2</sub>.
- Scion has updated its wood resource inventory; using conservative assumptions they have identified wood energy could supply over 20 PJ/year. Complaints by some in the energy industry that wood supply is unreliable are unjustified given the extensive development by the Bioenergy Association on standardising wood fuel supply and supply chains.
- Pellets are the most reliable fuel for smaller heat requirements, costing in order of 7c/kWh in bulk, or a mere 12c/kWh in bags for household use – around half the cost of electricity. Further diffusion of biomass in heat-using facilities is a key means to reducing carbon emissions for New Zealand.
- The National Environmental Standard on Air Quality (NESAQ) is a major barrier to use of wood energy in homes, industry, and especially education facilities and hospitals. NESAQ must control PM<sub>2.5</sub> instead of PM<sub>10</sub> which has much less health impact. It must control annual not daily pollutant levels, as the cumulative impact on health is greater than acute impact. European air quality standards are far more effective than New Zealand's. Evidence from Christchurch shows that hospital admissions increased, not decreased, as PM<sub>10</sub> levels decreased following implementation of the Air Plan; in fact the admissions closely tracked the use of diesel vehicles in the city.

SEF recommends that:-

- 1) The blinkered approach to grounding energy policy on the mechanisms of the competitive electricity market should be rejected.
- 2) A change in philosophy and a new holistic regulatory system is needed, designed to minimise climate-changing consequences of energy choices while also minimising energy supply costs to small consumers.
- 3) Employment and economic well-being should be sought through the necessary transitions to efficient use of renewable energy in New Zealand.

- 4) Wood quantities are sufficient for a major expansion in wood for process heat.
- 5) SEF supports option 3.1 in the discussion paper: “Expand EECA’s grants for technology diffusion and capability-building.”, with a particular focus on bioenergy.
- 6) The National Environmental Standard on Air Quality is a severe obstacle to wood energy: it must be revised to align with European standards.

Submitted on behalf of the Sustainable Forum Inc. by



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Privacy of natural persons