Accelerating renewable energy and energy efficiency: discussion document by MBIE

Submission: Molly Melhuish, Privacy of natural persons Feb 28 2020

The discussion document addresses part of Government's strategy for reducing carbon emissions from the electricity sector. This strategy is compromised by a little-known constraint to a fully-renewable electricity system. The six to eight gas-fired peaking stations present in all MBIE's Electricity Generation and Supply Scenarios (EDGS) cannot be supplied with gas in the absence of a separate base-load gas user[1]. The peakers' demand must be incremental to the steady gas use needed to keep the gas processing facilities operating, through to 2050 and beyond. The base-load user (probably petrochemical and/ or hydrogen) will require long-term gas contracts; this keeps New Zealand committed to continuing gas exploration and development.

In a word, the Minister's promise of "100% renewable electricity by 2035" is simply untrue. She seldom mentions the qualification "in a normal hydro year", and never mentions the need for fossil generation for peaks, for dry years and for when the wind doesn't blow.

In my view a truly 100% renewable electricity sector could be achieved by phasing out gas and coal generators instead of adding new peaking generators. This would require constraining the proposed growth in electricity demand by eliminating subsidies to the smelter and to electrified process heat in industry. Energy efficiency is typically half the cost of new electricity generation, and biomass for process heat is generally cheaper than electrified process heat except in the case of low-temperature heat.

Though excluded from this discussion document, electrified transport would be far better suppled from local solar energy – there is more than sufficient rooftop area on houses and commercial buildings to supply any credible electric vehicle demand.

New Zealand should decarbonise its energy economy through policies that overcome barriers to investment in energy efficiency and local renewable energy, thus creating jobs, warming houses, and realising many environmental benefits. Submissions to the Productivity Commission's Low Carbon Economy provide a massive evidence base for this.

---

[1] revealed to me in an answer to an official information request to MBIE on their Electricity Demand and Supply Scenarios (EDGS2019), MBIE file no, 1920-0274, received from Ed Ptilidi on 8 October 2019: "**The role of gas peakers and coal in underpinning the affordable development of renewables is critical** and needs to be genuinely cost reflective. **Gas does not turn on and off unfortunately, we require enough petrochemical or thermal (less likely) baseload to underpin any upstream investment,** without upstream investment the current developed supply won't meet demand earlier than any of the dates in your scenarios."