National Energy Research Institute

20 October 2023

Comments from NERI[1] on:

Ban On New Fossil-Fuel Baseload Electricity

Introduction

The proposals in this discussion document suffer from poor regulatory design and will not meet Cabinet's requirements for regulatory proposals[2].

At the most basic, the problem hasn't been clearly defined, all options considered, and the various costs and benefits assessed. Had this been done it is highly unlikely that banning new fossil fuelled generation would have been recommended, and a much more direct focus on the GHG emissions would have been explored, along with the interactions with the ETS and other existing relevant interventions.

Our submission is this proposal should not be proceeded with.

Q1: Do you agree that there is a low likelihood of new fossil-fuel baseload electricity generation plant being built?

Yes. Consequently the case for any ban is not made, and the suite of interventions discussed in the balance of the paper are not justified in the absence of a much more compelling cost benefit analysis of the options.

[1] The National Energy Research Institute (NERI) is a Charitable Trust incorporated in New Zealand (NZ). Its primary purpose is to enhance NZ's sustainability and to benefit the NZ community by stimulating, promoting, co-ordinating and supporting high-quality energy research and education within NZ. Its research members are GNS Science, Scion, University of Canterbury, University of Otago and the Western Institute of Technology at Taranaki, and its industry association members are the Bioenergy Association of NZ, BusinessNZ Energy Council, the Carbon and Energy Professionals New Zealand, Gas NZ, the New Zealand Geothermal Association, the New Zealand Wind Energy Association, la Ara Aotearoa Transporting New Zealand, and Tourism Industry Aotearoa.

[2] https://www.treasury.govt.nz/information-and-services/regulation/impact-analysis-requirements-regulatory-proposals

There is also the issue that a baseload thermal plant can be run on clean fuels or with CCUS, so it isn't the plant per se that is the problem it is the emissions, and this is what should be what is regulated. Regulating the plant instead of emissions leads to all kinds of avoidable regulatory costs.

If despite all odds (ETS, uncertain NG futures, planning/environmental law etc) it looks as though investor start thinking it is worth the risk to make 30+year commitments to fossil fuelled baseload generation then would be the time to consider regulation.

Q2: Do you agree that it is preferable for investors looking to build a new fossil fuel non-base load generation plant not to have to apply for an exemption.

Yes. Similarly for non-fossil fuel baseload (e.g., geothermal). These kinds of requirements represent a real and unnecessary cost in terms of the flexibility of investment in a growing generation system seeking to best service uncertain demand.

Q3: What size of new fossil-fuel baseload generation plant should be in scope of the ban?

The need to start worrying about these issues is another example of the costs associated with an unnecessary regulation. If necessary, any regulation could target the emissions directly, as already happens with other pollutants under discharges to air provisions of regional plans.

Q4: Do you think that there should be an exemption for the replacement of existing baseload fossil-fuelled electricity generation with new fossil-fuel baseload plant of a prescribed efficiency and emissions standard?

If new plant, regardless of how it is fuelled, will meet the emission standards prescribed throughout its life; service the increasing costs of fuels; and there are investors willing to take the risk that these might change, it is hard to see a case to ban these.

Q5: Do you think that there should be an exemption for new baseload electricity generation plant that uses blended fuels (i.e., a mix of fossil-fuel and renewable fuel)?

Again, this only arises as an issue because the proposal targets the wrong thing. It isn't the plant; it is the emissions. Another cost of poor regulation.

Q6: Do you think that there should be an exemption for new fossil-fuelled co-generation plants?

Again, the costs of fuels will be increasing; discharges to air are regulated; and incentives to cut fossil fuels in co-gen plants exist. If current settings aren't seen as sufficient these could be reviewed in preference to targeting the specific plants, but there is no evidence this is a problem.

Q7: Do you think there should be an exemption for new fossil fuel baseload electricity generation pant with CCUS?

If the target is to reduce net emissions, it is hard to see the case for regulating fossil fuels base load with CCUS.

Q8: Do you agree that an exemption to relax restrictions on non-baseload fossil-fuel plant in a security of supply event is necessary?

Q9: Do you think there should be an exemption for the construction of new fossil-fuel baseload generation plants, based on security of supply reasons?

In these circumstances the price of electricity emissions will no doubt cover the cost of any GHG emissions involved in a temporary situation, but as noted above and in the discussion paper a permanent investment looks most unlikely and could be more efficiently dealt with at the time it arises.

Q10: What impact do you think a ban on new fossil-fuel baseload electricity generation will have on fossil gas field development?

If the assessment is that new plant won't be built anyway, the answer is none.

Q11: What other issues or problems do you see in the implementation of a legislative ban on new fossil-fuel baseload electricity generation?

There are significant problems with regulating GHG emissions from base load electricity generation by banning new plants. Some examples:

- The overhead and cost of the regulation and the various boundary issues that arise;
- The potential loss of innovation, a well know consequence of poorly targeted interventions;
- There are the issues with the interactions with existing mechanisms used to regulate emissions from industrial plants (including electricity generators);
- In particular the ETS will work against any GHG reductions.

Simon Arnold
Chief Executive