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Accelerating Renewable Energy and Energy Efficiency Consultation,
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28 February 2020

Submitted by email

Submission on:

Accelerating Renewable Energy and Energy Efficiency

By Carbon and Energy Professionals New Zealand



1. INTRODUCTION

- 1.1 CEP welcomes the opportunity to comment on the Ministry's consultation on accelerating renewable energy and energy efficiency. These two areas are the most important, non-agricultural or transport factors that will enable New Zealand to achieve its objective of carbon neutrality. They are also critical factors in delivering other outputs of national importance, most notably the achievement of international commitments on emissions reductions, i.e. Paris 2030 targets. Failure to act strongly and swiftly in both these areas will lead to extremely high Paris compliance costs through the need to purchase credits on international markets at unpredictable prices. This is a major financial risk but one that can still be mitigated. The consultation document quotes an estimated overrun of 200 Mt CO₂e. At current international prices (around €25-26 per tonne, NZ\$45) that is equivalent to NZ\$9bn. However, carbon prices are expected to rise significantly over the next decade and estimates of US\$100 by 2030 are not unreasonable¹. Consequently, every tonne of CO₂e saved at realistic cost will be to the national benefit.
- 1.2 We note that throughout the document there is reference to the NZ Emissions Trading Scheme. An effective ETS will be an essential part of transitioning to a low emissions economy. However, the existence of an ETS, in itself, will not deliver the carbon emissions reductions we need to see as a nation. Reliance on the ETS, even if prices were to increase significantly over the next decade, will not deliver the emissions reductions we need to see as a nation. Additional activities will be required and we applaud MBIE for acknowledging this and exploring opportunities in accelerating renewables and energy efficiency.
- 1.3 We also note the statement in the consultation document: "*Delayed action on emissions reduction could require us to make steeper reductions in the future, which could increase the costs of transitioning to a low emissions economy and make it harder to meet our climate goals.*"² We concur with the sentiment of this statement but not the detail of its wording. Specifically, the indefinite "could" should be replaced by the more accurate "will" in both cases, i.e. Delayed action on emissions reduction will require us to make steeper reductions in the future, which will increase the costs of transitioning to a low emissions economy and make it harder to meet our climate goals.
- 1.4 Further, we note the six bullet points that follow this statement and their order³. It is refreshing to see efficiency listed among potential actions. It is essential, however, that it should be listed and acted on as a priority for action rather than an option for possible action.
- 1.5 Energy efficiency is, arguably, the poor cousin of renewables. There is much interest in, and media coverage of, potential technologies that are low emission, such as the use of hydrogen for vehicle transport and high temperature industrial needs, the proliferation of PV solar projects, even at household level, interest in biofuels and even the possible advent of electric aircraft. Many of these will have their part to play.

¹ Carbon Pricing Leadership Coalition, International Bank for Reconstruction and Development and International Development Association/The World Bank, 2017, Report of the High-Level Commission on Carbon Prices

² MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 11

³ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 11

Nevertheless, there will be enormous economic wastage in pursuing these solutions without first determining what energy is really needed, rather than what gets used. These are very different beasts. Making sure our households, transport, buildings and industrial and commercial processes are energy efficient is a more critical and urgent factor in accelerating towards net zero and Paris targets than alternative fuels.

- 1.6 Internationally, energy efficiency is often cited as the fifth fuel⁴. In reality, it is more significant than this. There is little logic in building an energy capacity greater than is needed (notwithstanding security of supply). Accelerating the adoption of energy efficient processes will reduce emissions now, mitigate against Paris shortfalls and accelerate NZ's progress towards becoming 100% renewable and do this in the most cost effective way.
- 1.7 The conclusion is that, yes, fuel switching is critical but first we need to understand demand and reduce demand to the volume that is needed rather than assuming a status quo on efficiency. Electricity demand is expected to increase. This will be driven by a growing economy, population growth and electrification. Renewables will be needed to satisfy this demand. However, actions to curtail this growth through efficiency improvements will mean less renewable capacity will need to be built, improved prospects of achieving the Government's 100% renewables target, lower costs to meet Paris commitments and a more productive economy.
- 1.8 The New Zealand Government should be putting in place measures to drive efficiency as a priority and allocating resources to support efficiency measures as a matter of urgency and should be following the lead of more progressive countries⁵ in assessing opportunities for mitigation using a shadow carbon price of at least NZ\$100 per tonne.
- 1.9 We note the online consultation process requests comment on specifically worded Options and Questions. We believe this consultation is of such importance that fuller commentary is warranted and so have provided this outside the constraints of the online instrument.
- 1.10 CEP is alarmed that MBIE, twice in the consultation document, referred to payback as a means of assessing investment proposals⁶. Payback is a clumsy, unsophisticated and commonly misleading assessment instrument that can easily lead to sub-optimal investment decisions. In the case of efficiency technologies, for example, assessment by payback could easily lead to the optimal, longer term technology solution being relegated in attractiveness rankings on the grounds of longer payback. While acknowledging that payback continues to receive undue emphasis in corporate investment decisions in New Zealand, MBIE should be encouraging the use of instruments that deliver more informed intelligence on investing. CEP would welcome discussions with MBIE on initiating measures to improve efficiency investment decision making across industries.
- 1.11 We invite MBIE to engage with CEP directly if it wishes to clarify any comments in this submission or explore further some of the comments made or opportunities discussed.

⁴ See, for example: <https://www.economist.com/special-report/2015/01/15/invisible-fuel>

⁵ World Bank, 2018, State and Trends of Carbon Pricing 2018, Sweden (US\$139), Switzerland (US\$101), Finland (US\$77), Norway (US\$64)

⁶ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 46, 77

2. Part A: Encouraging energy efficiency and the uptake of renewable fuels in industry

- 2.1 We note and applaud the expressed interest in capability building as a critical aspect of early adoption of efficiency measures⁷. This is an area that is easily overlooked in the pursuit of quick wins and magic bullets as returns on investment are low-key and enduring rather than high profile. However, this should not deflect from the fact these returns are long lived and provide the foundation for other initiatives to flourish.
- 2.2 We note also, this section contains a factual error related to market operations in energy efficiency. Page 22 of the document states that EECA “undertakes energy audits”⁸. Energy audits in New Zealand are not undertaken by EECA, they are undertaken by market consultants, the majority of whom are CEP members and are accredited by CEP as competent energy auditors. EECA supports this activity financially, however, the technical knowledge required to undertake these audits lies outside EECA.
- 2.3 We also wish to clarify the nature of an energy audit. An energy audit undertaken to the AS/NZS 3598:2014 Standard differs from, for example, financial or carbon audits. Financial audits are retrospective, sample based analyses of accounting journals. They provide reassurance that accounting procedures are being adhered to but provide no comment on the efficiency or performance of an organisation or recommendations on organisational performance improvement, other than possibly in bookkeeping procedures. Carbon audits provide a cross-sectional, point in time analysis of carbon emissions, which may lead to the identification of areas of improvement but do not, in themselves, deliver recommendations for performance improvement. An energy audit conducted to the AS/NZS 3598:2014 Standard not only assesses current energy use but also identifies areas of potential saving and recommends actions to deliver improved energy efficiency.

3. Part A, Section 1: Addressing Information Failures

- 3.1 We agree with the Consultation Document’s conclusion that much can be done to reduce information failures, however we posit of even more importance is the need to stimulate action to improve efficiency.
- 3.2 Option 1.1⁹ has merit, although requiring an organisation to publish a plan is very different from encouraging them to include substantial change in it or to adhere to it once published. New Zealand needs to adopt a scheme of this type but one that encourages action as well as reporting.
- 3.3 The requirement for regular energy audits is supported.
- 3.4 The example of Germany on encouraging energy efficiency in large organisations warrants reference. Germany is the largest adopter of ISO50001. It became

⁷ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. Section 3

⁸ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 22

⁹ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 20

mandatory for organisations with demand greater than 10GWh/a in 2014 and for organisations with greater than 5GWh/a in 2015. However, before compulsion, generous tax incentives were offered for the adoption of ISO50001 from 2011, meaning relatively few organisations adopted the scheme as a result of compulsion, most already having begun their journey because of the incentives. In effect, Germany drove energy efficiency among large energy users through the tax system. The result of this programme has been a significant reduction in Germany's industrial carbon emissions¹⁰¹¹. Driving uptake of ISO50001 or an equivalent planning and reporting scheme through tax incentives is an option NZ should consider as it avoids regulation and related compliance costs.

- 3.5 Regardless of the terminology adopted, be it a Corporate Energy Transition Plan or an ISO certified Energy Management System, the pursuit of a scheme of this nature to drive energy efficiency is needed in New Zealand. This, however, raises the issue of who will be preparing and enacting these plans? ISO50001 is poorly understood in New Zealand. No organisations are certified to it and the number of people capable of preparing usable, quality plans to the standard is low. CEP offers training on developing plans to the ISO50001 Standard and is happy to discuss ways of increasing our national capacity to plan for a low emissions economy.
- 3.6 Similarly, we are not aware of any individuals in New Zealand qualified to undertake ISO50001 audits. We would welcome discussions with MBIE and/or EECA on developing this capability.
- 3.7 The thresholds for inclusion in such a scheme contained in Table 3¹² mostly look reasonable. We would suggest, however, that public reporting might usefully also include; the reporting of the coming financial year budget for efficiency measures and the estimated cost savings and productivity improvements that are expected to result.
- 3.8 Transport energy should be included in Corporate Energy Transition Plans.
- 3.9 The threshold for inclusion should be set by a simple set of criteria covering energy use (including transport fuels), turnover and staff numbers.
- 3.10 Consideration should also be given to required reporting for businesses that do not fall into the category of large energy users. While a focus on large energy users may have intuitive appeal as a method of delivering big-ticket savings, the transition to a low emissions economy is one that must be made across all sectors of the economy and households. Consideration should be given to a tiered reporting system that also encouraged medium sized businesses or medium users to report, plan to reduce and enact their plans. This would require a simplified reporting system but would deliver

¹⁰ For a summary, see Borst, D, German experience regarding the implantation of ISO 50001 and its results. http://www.abrinstal.org.br/eventos/realizados/docs/171121_7forum_apres04.pdf

¹¹ See also: Ali, M. (2015), Implementation Analysis of ISO 50001:2011 Energy Management System (EnMS) on a Small/Medium Enterprise, Technical Journal, University of Engineering and Technology (UET) Taxila, Pakistan Vol. 20(SI) No.II(S)-2015. https://www.researchgate.net/publication/305108862_Implementation_Analysis_of_ISO_500012011_Energy_Management_System_EnMS_on_a_SmallMedium_Enterprise

¹² MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 20

much wider results¹³. Again, this could be incentivised through the tax system with companies required to report their energy use through annual returns and tax incentives offered to those demonstrating improved energy productivity, i.e. energy expenditure/use relative to turnover. This would have the added benefit of incentivising efficiency among SME's, something that carbon pricing under the ETS is unlikely to impact materially. CEP would be happy to work with MBIE and/or EECA to investigate options for energy and carbon reporting and planning in the SME sector.

- 3.11 We see little unnecessary duplication between proposals on introducing TCFD requirements and Corporate Energy Transition Plans. TCFDs address corporate risk, Corporate Energy Transition Plans will address energy use and planned energy use. What little cross-over may exist will only help one process inform the other.
- 3.12 Option 1.2¹⁴ contains two proposals. An electrification information package will have limited value and is not supported. Business processes are sufficiently diverse that a generic information package will provide very little insight into the costs and benefits faced by a specific business. Electrification of industrial processes is not consistent with a one-size fits all approach. This is particularly significant when investment is required for electrification. Investors will not invest on the strength of generalities from an information pack. A business – regardless of size – would receive more insightful, directly relevant and practical assistance from being able to access the knowledge of a qualified energy auditor. The barrier to this is that smaller businesses can't afford the consultancy fees. Resources that might be spent on an information package would be better spent on bespoke, practical advice and audit findings and EECA should be directing resources towards enabling energy audits for targeted industries in the SME sector. This is consistent with the recommendations of the Productivity Commission¹⁵. Equally, for large energy users an information package would be so generic it would lack value. The consultation document indicates the cost for this package could be in the "hundreds of thousands of dollars"¹⁶. These resources can be more effectively applied through other channels, most notably through developing a cohort of advisors and supporting their engagement with SMEs.
- 3.13 Offering EECA business partners co-funded, low-emissions feasibility studies has more merit. This has the potential to improve understanding of the costs and benefits of lower emissions projects as well as tease out potential barriers to implementation and how to overcome them.
- 3.14 Option 1.3¹⁷ has some, but limited, merit. For the most part, food processing businesses will already have an understanding of whether they are performing well or poorly. More significantly, this will be determined by the age and effectiveness of their technologies and, therefore, not a day to day variable they can change overnight. Poorer performers will know they are using old equipment and when renewal is scheduled. Incurring the costs of telling them something they already know is questionable. A programme to make sure people are well informed about technology

¹³ For example, the UK's Streamlined Energy & Carbon Reporting system. For a summary, see: <https://www.carbontrust.com/news-and-events/insights/secr-explained-streamlined-energy-carbon-reporting-framework-for-uk>

¹⁴ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency. p. 23

¹⁵ Productivity Commission, 2018, Low-emissions economy, p. 435

¹⁶ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 24

¹⁷ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 25

developments so that, at renewal, they make efficiency driven decisions has value. This may also accelerate replacement, especially if combined with appropriate tax incentives for efficiency investment. Therefore, we believe the idea of convening learning networks to share best practice, identify savings opportunities and learn from experts has value and is to be supported.

- 3.15 Government is not best placed to operate such knowledge exchange, it is better left to industry associations or professional bodies. Government, however, does have a role to play in facilitating this through resource support. CEP is happy to discuss how it can help facilitate such knowledge exchange around energy efficiency.
- 3.16 The points in 3.14 above are not confined to food processing and apply equally to other industries.

4. Part A, Section 2: Developing markets for bioenergy and direct geothermal use

- 4.1 CEP supports the increased use of bioenergy and geothermal solutions where they are cost competitive. As stated previously, for government funded projects we believe cost comparisons should reflect a realistic, future carbon price of at least NZ\$100 per tonne. This would see some, currently marginal, projects become positive and accelerate the move to these alternative fuels.
- 4.2 The development of a users' guide on application of the National Environmental Standards for Air Quality to wood energy sounds reasonable although we question its worth if it will likely cost "hundreds of thousands of dollars"¹⁸ to develop. Also, the magnitude of reduction in regulatory barriers is unclear to us and so, while conceptually attractive, the economic benefits have not yet been demonstrated.
- 4.3 The key restrictor to the expansion of wood energy use lies in its supply chain. The energy intensity of the product relative to coal is such that transportation of the volumes required provide their own carbon challenge. The keys to increasing wood use in process heat lie much more in addressing the logistics of the supply chain and security of supply than in regulation. It is improved transport infrastructure and options around low emissions heavy transport that will be the key to boosting the use of wood energy in the industrial sector.
- 4.4 In principle, CEP supports initiatives to encourage the use of direct geothermal energy.

5. Part A, Section 3: Innovating and building capability

- 5.1 Along with technology adoption and an effective carbon pricing mechanism, building workforce capacity is one of the three most significant factors that will allow NZ's non-agricultural economy to transition to low emissions.
- 5.2 Technology adoption and workforce capability are strongly linked. It is essential that New Zealand businesses have access to the best knowledge. We need experts that

¹⁸ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 31

understand best practice in processes and what potential improvements can be made through process improvement and/or technology. There is also an urgent need to improve capacity in auditing and analysis and in energy efficiency and carbon reduction planning.

- 5.3 New Zealand's energy efficiency engineers are among the best in the world but there are insufficient to satisfy the demands that will be asked of them over the next decade. We need to recruit more individuals into careers in energy efficiency, provide them with the best continuous professional development and support the energy services market so that all New Zealand businesses have access to their knowledge.
- 5.4 CEP leads these activities in New Zealand and works to foster knowledge sharing through activities such as training and an annual conference. CEP already has a strong working relationship with EECA and strongly supports the increasing of EECA's budget directed to capability building.
- 5.5 Expanding EECA's grants for technology diffusion is also supported. As stated in the Consultation Document¹⁹, this will help knowledge sharing and perceived risks around new technologies.
- 5.6 We note, however, that the slant of Section 3 of the Consultation Document is focused on knowledge and knowledge sharing around technologies and engineering capability. It is equally essential that understanding of potential improvements, how and where to access technical expertise and planning for carbon reductions are available to businesses. These, more general skill sets are an equally critical component of a transition as the technical engineering skills required to assess and improve processes. The capacity building programme should, therefore, include the building of capability around low emissions planning and the development of a career pathway in energy efficiency and carbon management. These are essential requirements for delivering a low emissions economy.
- 5.7 De-risking and diffusing commercially viable low emission technologies should be an aspect of Government support and EECA should play an important role in this.
- 5.8 There is a role for EECA in supporting knowledge sharing, however, this should be delivered through organisations such as CEP, who have international connections with overseas experts and better access into the energy engineering community.
- 5.9 The analysis around Option 3.2 correctly identifies several cost areas, including resourcing for a secretariat to coordinate the development of papers, roadmaps and engagement schemes. CEP would welcome further discussions on the most cost effective means of delivering these coordination services.

¹⁹ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, Section 3

6. Part A, Section 4: Phasing out fossil fuels in process heat

- 6.1 This section proposes two, statute based solutions to accelerate the phasing out of coal fired boilers, a ban on new coal fired boilers for lower heat requirements and a 10 year phasing out of existing boilers for applications less than 100°C.
- 6.2 CEP agrees that the purchase of new coal fired boilers for low and medium heat should be discouraged and that replacement of existing boilers with low emissions alternatives should be encouraged. There are, however, alternatives to outright bans whose effects will be more widespread, i.e. will extend beyond coal fired plant, and may be perceived as more equitable than an outright ban on coal fired boilers.
- 6.3 The corporate taxation system could be used to encourage switching, either through a direct tax incentive (tax credit or lower tax rate for low emissions businesses) for switching out of coal or through adjustment of depreciation rates.
- 6.4 Adoption of low emissions technologies could be encouraged through accelerated depreciation for plant based on electrification of processes where possible, or substitution of coal by bioenergy sources where electrification is unviable.
- 6.5 This measure could be extended beyond coal to encourage, for example, substitution out of gas and it will have impact across businesses of all sizes. Being applied to gas as well as coal avoids potential regional distortions from a lack of networked gas in the South Island. Incentivising a switch away from fossil fuels can be applied equitably across both islands and mitigates potential switching from coal to bottled gas or networked gas where it is available. Incentivising electrification will deliver switching across sectors and business sizes. For example, vehicle body shops tend to be smaller businesses running ovens, which can be heated by gas or electricity. Most currently run gas and, if being replaced now would likely be replaced by a gas fuelled oven on the basis of lower running costs. If depreciation rates on the two options differed sufficiently to make the electric oven more financially attractive than the gas oven, switching would occur as replacement was needed without the need for regulated bans. The same logic would apply to large, energy intensive businesses who could be discouraged from fossil fuel alternatives through a simple business case. This solution would carry relatively low cost for government to introduce needing little more than recategorisation of depreciation rates and dissemination of information on the changes.

7. Part A, Section 5: Boosting investment in energy efficiency and renewable energy technology

- 7.1 The ETS, in itself, will be woefully inadequate in accelerating substantial investment in energy efficiency. The current carbon price and price that can be expected in the near future will have little impact on investment aimed at reducing emissions. Other pressures, such as marketing advantages driven by client and consumer expectations will be a much stronger force in the near term. However, even this will not deliver the speed of investment required to see New Zealand make the transition that is required to meet 2030 and 2050 targets.

- 7.2 Regulation and/or financial incentives are required to drive the transition to low emissions and an appropriate mix will deliver the most societally cost effective solution. Regulations that control investment strategies or dictate fuel use (such as a ban on coal boilers) will be poorly received by business as business owners, rightly, believe they should be permitted to run their operations as they see best. Regulations on reporting requirements will be less controversial. Notwithstanding the compliance costs that may be incurred, such regulation will not be seen as draconian or dictatorial in respect of business operations. CEP supports the introduction of regulations around planning and auditing as proffered in Option 1.1.
- 7.3 This reporting regime should be supported by financial incentives supporting energy efficiency improvements. Specifically, CEP supports the use of the taxation system to incentivise investments in energy efficiency. The introduction of favourable depreciation rates for energy efficient investments will shift the economic benefits even further in favour of efficiency and provide an immediate, material incentive to adopt energy efficient technologies at times of replacement. In tandem with increasing carbon prices, this will also bring forward the economic replacement point of older technologies.
- 7.4 The biggest barrier to investment in clean technologies²⁰ is neither competition for capital nor access to capital. Of course, these factors are relevant but the biggest barrier is one of inertia. It is intuitively unattractive to replace an item of plant before the end of its operating life, it carries a sense of wastage. Incentives will need to overcome this by being sufficient to deliver clear economic benefit, even in the short term.
- 7.5 It was encouraging to see the consultation document refer to opportunities in Energy Savings Performance Contracts²¹. This is an area that has enjoyed weak uptake in New Zealand and one which CEP is keen to educate the market on opportunities in²². CEP would welcome further discussions with MBIE and/or EECA on how the market could be encouraged and developed.

8. Part A, Section 6: Cost recovery mechanisms

- 8.1 A levy on consumers of coal would, arguably, bring the coal supply chain into line with electricity, engine fuels and gas. However, a levy of this nature is unlikely to provide the resources required to pursue a low carbon transition with reasonable expectations of success. Market transformation of the magnitude required will demand substantial resources, way in excess of what is likely to be provided by a levy on coal use. Further, as coal use falls, receipts from such a levy would fall correspondingly, whereas the resource needed for driving efficiency would likely continue.
- 8.2 The level of Government expenditure likely needed to support the level of market transformation required will mean resources will have to be applied from the wider Government budget.

²⁰ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, Q. 5.3

²¹ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 77

²² CEP is currently working with MFAT on developing the ESPC market in the Pacific region.

PART B: ACCELERATING RENEWABLE ELECTRICITY GENERATION AND INFRASTRUCTURE

9. Part B, Section 7: Enabling development of renewable energy under the Resource Management Act 1991

9.1 CEP supports the proposal to amend the National Policy Statement for Renewable Electricity Generation for the reasons stated on the consultation document and as outlined by the Productivity Commission²³.

10. Part B, Section 8: Supporting renewable electricity generation investment

10.1 Intervention in the area of Power Purchase Agreements will add little incremental benefit in supporting renewable generation. Investment in wind generation has not previously been restricted by the lack of a common platform, rather, it is the historic level of wholesale prices that have held back the construction of previously consented wind farms. Recent months have seen a step up in average prices and with a general movement towards increasing renewables in the generation sector, announcements of new wind farms have followed. The cited example of the MEUG undertaking a PPA investigation without Government intervention²⁴ merely confirms a centralised platform is not required or, at best, will add little value.

10.2 Demand response offers some potential for improving efficiencies but this should not be overweighted. Demand response for larger facilities can deliver benefits to the grid system and has the potential to reduce costs for businesses. However, in itself, it will not deliver more efficient processes or reduce consumption and its impact on reducing emissions will be limited. Rather, it is a tool to control overall electricity cost and defer network infrastructure investment through shifting the daily demand profile. Demand response will only have an emissions benefit if it changes the timing of demand to allow a higher proportion of renewables in the overall generation mix. This may materialise in the industrial sector if production can be time-shifted but with modern production facilities running optimally – often over a 24 hour period and with firm deadlines under JIT systems - the real scope for this may be limited.

10.3 Behaviour change at the household level is to be encouraged and while some household consumers are now taking an interest in the amount and timing of their use, the typical household consumer switches a device on when they feel they need it without regard for price differentials over a 24 hour period. That behaviour will be difficult to amend. Often in households, it is the bill payer only that takes an interest in use. At the household level, demand response benefits will only become material when households are equipped with AI appliances that can monitor prices and switch off and on automatically, for example in vehicle charging. Having a critical mass of such devices live in the domestic market remains some way off.

10.4 The consultation document is accurate in its statement that: “*The consideration of this option should however be weighed against other policy priorities since DR markets*

²³ Productivity Commission, 2018, Low-emissions economy, F13.4

²⁴ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 70

alone will not deliver significant growth in renewables nor encourage demand-side electrification at scale."²⁵

- 10.5 Energy efficiency obligations are an interesting opportunity that are worth further investigation and CEP sees two areas particularly worthy of further investigation. These relate to the SME sector and households suffering energy hardship.
- 10.6 The SME sector will be a difficult area to penetrate for energy efficiency initiatives. As well as limited resources, they often lack information on abatement and efficiency opportunities and operate processes that are often long-established and inert. However, with 97% of New Zealand businesses being small businesses generating 26% of GDP and employing 29% of the workforce²⁶, ignoring this sector in transitioning to a low emissions economy would be folly. There is scope to trial an SME energy efficiency drive that would provide advisory services in efficiency and carbon abatement to SMEs. Critically, this initiative does not, in itself, require an energy efficiency obligation, the source of its funding could be through other avenues, such as EECA. CEP would be happy to discuss further opportunities to improve energy efficiency among SMEs through the provision of subsidised, simplified energy audits funded through an energy efficiency obligation or, alternatively, as part of EECA's ongoing activities to drive efficiency.
- 10.7 Combatting energy hardship is a critical, societal issue that extends beyond the debate on renewables and the energy industry. The most effective means of combatting energy hardship is through energy efficiency. If use is reduced materially, the importance of price to the overall cost a household pays is significantly reduced. Efficiency also delivers long term benefits to the household, rather than the temporary relief of lower pricing. This is the approach adopted in numerous European countries²⁷. As in the case of SMEs, the benefits of household efficiency are not determined by the source of the funding and the introduction of schemes in these areas is not dependent on an energy efficiency obligation.
- 10.8 If an energy efficiency obligation were to be introduced, supporting efficiency in SMEs and households enduring energy hardship would be an effective and efficient application of the resources involved. However, support for such initiatives should not be taken as support for an energy efficiency obligation, rather an urgent call for resources to be applied to these issues.
- 10.9 Offshore wind has received considerable interest overseas and the costs of offshore wind are continuing to fall. New Zealand should be open to offshore wind developments at suitable sites.
- 10.10 The introduction of renewable electricity certificates is unnecessary. While they may have a place in overseas markets where penetration of renewables lags New Zealand and organisations may wish to convey they are pursuing sustainable strategies, given the high proportion of renewables in the current NZ generation mix, the fact that we are still increasing the proportion of renewables through the national grid and that any electricity taken from the grid is mixed in source results in them carrying little, practical

²⁵ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 75

²⁶ Statistics New Zealand, February 2019, website

²⁷ See, for example, Energiesprong, <https://energiesprong.org/>

meaning. There is little public benefit in providing a national scheme in these circumstances.

- 10.11 Equally, with the shift we see towards renewables, driven by both public sentiment and economic arguments, there seems little public benefit in setting a series of Renewable Portfolio Standards for electricity generators. On the demand side, a quota system for electricity purchase for renewables may cause inequities from access to renewables. As with certificates, given the proportion of renewables making up power in the national grid system, dictating minimum levels of renewables in an organisation's electricity mix will only add to compliance and policing burden. While CEP does not have detailed information on costs for such a system, it is difficult to see it passing even a rudimentary cost-benefit analysis.
- 10.12 Strategic reserve is a cornerstone of a robust electricity system. Clearly, the questions here are around how much reserve is required, over what time periods and what is available to provide it. Phasing down thermal baseload will be a positive step although, as the consultation document states, expectations are of a withdrawal under BAU anyway²⁸. The real question, then, is whether this should be accelerated through positive intervention. Without more detail on the interventions proposed, it is difficult to express a view on their attractiveness. We do, however, urge that consideration is given to this proposal and options are assessed using a relatively high shadow carbon price.
- 10.13 One of the most effective means of accelerating new renewables coming on line would be through tax incentives.

11. Part B, Section 9: Facilitating local and community engagement in renewable energy and energy efficiency

- 11.1 The consultation document offers up several possible definitions of community when referring to community energy projects. A distinction needs to be made between geographically based projects that have implications for physical energy flows and wider interest groups whose interest will be around purchasing and trading. Geographically based community groups involved in generation, storage, demand management and local trading have the potential to accelerate a transition to renewables.
- 11.2 The barriers to local, community energy projects appear well recognised and the EA work in these areas is, to date, addressing these adequately.
- 11.3 As the consultation acknowledges²⁹, there are several pros and cons to community energy projects. The Government needs to be minded of the risks of cost transfer associated with these projects and ensure network costs are fairly allocated across all users of networks.

²⁸ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, p 86

²⁹ MBIE, 2019, Discussion Document: Accelerating renewable energy and energy efficiency, Section 9

12. Part B, Section 10: Connecting to the national grid

- 12.1 There are clearly problems with the current cost allocation mechanisms for new connections, in particular relating to the first mover disadvantage problem. With large scale electrification a necessity for a national transition to low emissions, new network connections should be built that have capacity not only to cover immediate and short term needs but also to allow for expansion. The best solution, therefore, is to “build for growth”, even if full cost recovery is deferred. Option 10.3.2 is favoured for this to avoid contracted outcomes potentially inhibiting this “build for growth” philosophy.
- 12.2 Accessible data will, of course, facilitate feasibility investigations into new generation sites. However, the cost of providing extensive public data could easily exceed the public benefit. This extends to providing geospatial data, which while delivering private benefit to potential developers would deliver little attributable public benefit.
- 12.3 There is benefit in providing a database of expected demand by location and size. This would be particularly useful, if not required anyway, if Transpower is to “build for growth”. If such demand modelling is already being prepared, making it public would be at modest incremental cost and potentially of value to developers looking for investment opportunities.

13. Part B, Section 11: Local network connections and trading arrangements

- 13.1 As things stand, the EA has key issues related to local network connections and trading arrangements adequately in hand.

14. SUMMARY

CEP is excited by the opportunities that will emerge from New Zealand’s transition to a low emissions economy. International competitive advantages will emerge from developing sustainable supply chains that will serve to reinforce our national, clean green branding.

The benefits to transitioning to a low emissions economy will deliver significant economic rewards at a 2050 horizon through competitive advantages in tourism, agriculture and manufacturing, and at a 2030 horizon through a reduced emissions reduction shortfall.

We need to act now to make sure these opportunities and rewards are seized.



CEO
Carbon and Energy Professionals New Zealand