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New Zealand Productivity Commission
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Water New Zealand Submission on Technological Change and the Future of Work

Background Information

Water New Zealand

Water New Zealand is a national not-for-profit sector organisation comprising approximately 1900 corporate and individual members in New Zealand and overseas. Water New Zealand is the principal voice for the water sector, focusing on the sustainable management and promotion of the water environment and encompassing the three waters (drinking water, wastewater and stormwater).

A key pillar of Water New Zealand's strategy is capability development through education and training. It is to this pillar that this submission relates.

The water sector is relatively small, and like many small sectors has not been served particularly well by the formal education sector. At the time of writing there are only three training programmes provided to the water sector by the Infrastructure Training Organisation (trading as 'Connexis').

In addition (to fill gaps in the current training provision) Water New Zealand has implemented a continuing professional development and registration programme known as the 'Water Industry Professionals Association' (WIPA) in conjunction with the Water Industry Operators Group (WIOG) to support short-course development and ongoing professional development across the sector.

Three Waters Reform

This submission is being made at a time of considerable change in water regulation, governance and management. Among other changes, at the time of writing submissions on the Taumata Arowai-the Water Services Regulator Bill, that proposes establishing a regulator. One of the operating principles of Taumata Arowai is proposed to be *"developing sector capability, by promoting collaboration, education and training"*.

Purpose and Summary

Water New Zealand has prepared this submission on behalf of its members as the water industry is subject to many of the changes outlined in the Commission's draft reports; draft report three in particular. The adoption of technical solutions to monitor, sense and resolve issues as they arise is changing all aspects of water and environmental management. As stated, training to enable industry staff to maximise the opportunities technology provides is critical to the water sector, but it must be noted that:

1. Based on our sector's experience to date, we anticipate that formal qualifications (i.e. NZQA approved) will not be the only vehicle for technology focused training in our sector.
2. That the types of technology and knowledge required to use this technology lends itself well to a blend of qualifications, certifications and (where applicable) technique or technology centric micro-credentials.

The submission is structured in line with the 'recommendations' and 'questions' in each of the draft reports. Comments have only been made if the recommendation or question is relevant to water sector.

Submission

Draft Report 1 – New Zealand Technology and Productivity

There are no recommendations or questions in this report.

Draft Report 2 – Employment, Labour Markets and Income

Question 5.1 Does figure 5.1 fully capture the factors that influence the technology adoption decisions of New Zealand firms? Which factors are the most influential, and why?

The initial findings of the three waters review raised broader questions about the effectiveness of the regulatory regime for three waters, and the capability and sustainability of water service providers – mostly regional and unitary authorities.

In terms of Figure 5.1 The two biggest influences in terms of technology adoption are:

1. Market scale and access to capital. One of the challenges identified in the three waters review was the replace ageing infrastructure or fund and manage new infrastructure (by local authorities but also for rural communities including marae and papakāinga). This challenge provides the opportunity to use technology to manage infrastructure in a manner more aligned to community expectations, but this won't happen if there isn't the capital available.
2. In addition, there is significant variability in the ability of different local authorities to attract and retain technically skilled staff. Consolidation in urban centres (WaterCare in Auckland and Wellington Water in the Wellington area) have created the economies of scale required to attract skilled staff. But this is not the case in many smaller centres and in rural communities.

Question 5.2 What adjustment costs discourage firms from adopting technology? How relevant are they in a New Zealand setting?

'Adjustment costs' refers to changing the mix of skills related to technology adoption. These are not significant in the water industry at this stage given the mix of business and operating models inherent in all forms of infrastructure management in New Zealand. At present water assets are owned by local authorities, but the assets and the water are managed using internal labour (including via Council Controlled Organisations such as Water Care and Wellington Water), external contractors and consultants.

Question 5.3 How difficult and expensive is it for New Zealand firms to adjust their workforces when adopting technology? More specifically, how does employment protection legislation affect their ability to: upskill existing workers? hire new workers? change the work performed by existing workers? make existing workers redundant?

As stated in Question 5.2, the New Zealand water sector currently operates using a blend of business and operating models, and adjustment and restructuring costs for the purposes of technology adoption aren't significant.

Question 5.4 What influences the attitudes of New Zealand workers and the public towards technology adoption in the workplace?

It is noted in the report that a survey by the Institute of Directors found that 59% of employees are worried about job loss due to [a] lack of the necessary training and skills to get a good paying job; and 55% are worried about job loss due to automation and/or other innovations taking their job away.

A survey of this nature has not been undertaken by the water sector, and thus we can't accurately benchmark how workers in our sector would respond. Anecdotally we would suggest that this is not a significant concern to water industry staff.

Draft Report 3 – Training New Zealand's Workforce

Recommendation 3.1 In implementing its reforms of the vocational education and training system, the Government should widen access to work-based education and training to all people in the workforce and to volunteers, rather than restricting access based on employment status. Where apprenticeships or other training programmes need long-term ongoing relationships between trainees and their work-based supervisors, this should be specified in programme requirements, rather than through a legal definition of "trainee".

The water industry currently has one apprentice qualification, being the New Zealand Apprenticeship in Water Treatment (with stands in drinking-water and wastewater). It is our experience that the issue is not one of a legal definition of a trainee (as prescribed in Section 13D of the Industry Training and Apprenticeship Act 1992) or any programme requirements. Historically this has led to a deminimus approach where Industry Training Organisations and training providers have defaulted to four 'contacts' per annum.

We would propose that each individual trainee's training plan should include an agreed approach to the long-term and ongoing relationship (also known as "pastoral care") elements, and that this should be agreed on a case-by-case basis based through a triad relationship between:

1. The trainee
2. The employer
3. A training specialist (either a training provider, or an internal mentor or trade coach).

Recommendation 3.4 The Government should extend funding eligibility to providers for students who do not intend to pursue full qualifications and remove specifications that limit the provision of short courses. Summary of findings and recommendations.

Water New Zealand strongly supports this recommendation. As a small sector, with relatively low staff turnover, a re-consideration of the funding arrangements (through RoVE and any other mechanism) to support and promote short courses as a formal professional development mechanism is welcomed.

Recommendation 3.5 The Minister of Education should, under section 159L of the Education Act 1989, issue a determination of funding mechanisms for student achievement component funding that removes the 5% cap on the delivery of micro-credentials, subject to providers demonstrating sufficient resources, capability and internal processes.

The water industry does not currently use micro-credentials. We have been watching work done in other sectors (electricity for example) with interest, but it is our understanding that these are 'pilot' projects only. Again, we would support the promotion of micro-credentials as a formal professional development mechanism, but we don't yet have an opinion of how much (as a percentage) funding should be made available.

It should be noted that at present very little Student Achievement Component (SAC) funding is available for water industry training.

Recommendation 3.6 To encourage providers to offer recognition of prior learning, the Tertiary Education Commission should remove any reference to inputs (eg, learning hours) in its definition of an equivalent full-time student.

We are aware of the use of Recognition of Prior Learning (RPL) as a mechanism to help trainees enter into industry training. That said, we are not aware of any issue with RPL inputs for that water industry, although we do consider learning hours to be an important input in terms of competency attainment.

Recommendation 3.7 *To reduce duplication and improve accountability, the Government should clarify the roles and responsibilities of the various agencies and organisations in the new vocational education system.*

Water New Zealand strongly supports this recommendation.

Draft Report 4 – Educating New Zealand’s Workforce

Question 3.1 *This report identifies challenges and opportunities for reform to the education system in preparing young people for the future of work. What other constraints, issues, challenges and opportunities should the Commission consider?*

Draft Report Four highlights the declining rates of achievement in New Zealand schools, and a widening education gap relative to other industrialised countries. We note that the ‘Overview’ includes a quote from the New South Wales Department of Education and the “need to develop in individuals the capacity to adapt successfully to changing situations”. This may be true in our dynamic and fast-moving economic environment, but we mustn’t lose sight of the importance of:

1. Foundation skills, including literacy, numeracy and communications skills.
2. Basic science, technology, engineering and mathematics (in particular).
3. Environmental and social sciences.

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