

Capacity Development – a New Zealand perspective

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Malaysian International Water Convention

5 December 2023

Background



- 5.2 million people (2023).
- 72.6% born in NZ, 27.4% overseas (2018).
- Water is supplied by 67 Councils & Council Controlled Organisations.
- Significant investment in water infrastructure is required (~2x to 4x current annual investment for 30 years).
- Will need a larger workforce.
- Will need to increase skills and capability of workforce.

Transformation vision for the water sector



Full report is available www.waternz.org.nz/transformation

- During 2022 and 2023:
 - Held workshops,
 - Undertook a literature review,
 - Engaged with subject matter experts.
- Clear themes emerged.
- We need to value our water and change the way we think and manage water – Te Mana o te Wai.
- People are vital part of the transformation.

Capability and education: focus areas/2050



Photo courtesy of Veolia Australia and New Zealand

1. Increase awareness and interest in the sector.
2. Develop targeted education and training programmes.
3. Encourage diverse and inclusion.
4. Invest in research and innovation.
5. Offer competitive compensation and benefits.

Increase awareness & interest in the sector

Aspiration: Vocation of choice



Photo courtesy of Pirongia School

- Attendance at careers fairs.
- Promote water role models through school programmes.
- Water education in primary, secondary & tertiary institutions.
- Challenging and fun Science Technology Economics and Maths (STEM) events.
- Curriculum changes to reflect water challenges & stewardship.

House of Science, Water Analysis – Te Wai, www.houseofscience.nz
Wonder Project, www.wonderproject.nz
[Water New Zealand, Stormwater Guide for teachers](#)
[Water New Zealand, Te Wiki o te Reo Maori, Maori Language Week posters](#)

Develop targeted education & training programmes

Aspiration: Clear pathways & training opportunities



Photo courtesy of Rotorua Lakes District Council

- Gap analysis of required skills/capability to identify recruitment & training needs.
- Mentoring programmes.
- Apprenticeships widely available.
- Competency frameworks and pathways are available.
- Training is widely available
 - Technical/Hands-on.
 - Emergency management.

[Water NZ digital badge training](#): Drinking Water 101 & 201, Wastewater 101, Stormwater 101, Backflow 101, Sampling 101, Small Water Supplies 101, Rural Water Supplies 101 and School Water Suppliers 101

[Water NZ Competency frameworks](#)

[Connexis Water Qualifications pathway](#)

Encourage diversity and inclusion

Aspiration: Sector is inclusive and represents all of society



Photo courtesy of Veolia Australia and New Zealand

Background: 6% of operators are female; 27% water supply workers are female; and 1 in 7 apprentices are female. Proportion of people identifying as Māori in water workforce does not match population base.

- Minority groups are supported, empowered. Increasing diversity.
- Te Mana o te Wai training – shared vision across New Zealand.
- Clear pathways for Māori to enter workforce.
- Pathways for international labour.
- Scholarships available.
- Sharing of Mataranga Maori (indigenous knowledge) is funded.

Invest in research and innovation

Aspiration: Sector is world leading & collaborates internationally.



Photo courtesy of Watercare Services

Building Innovation Partnership, www.bipnz.org.nz

Innovative wastewater treatment intensification for stringent nitrogen and N₂) control:
[Naresh Singhal](#), University of Auckland

Towards accurate quantification of New Zealand's methane emissions from waste and agriculture, [Peter Sperlich](#), NIWA

- Collaboration between sector & research institutes.
- Funding for research & scholarships.
- New tertiary-based curriculum underpins water research & facilitates international collaboration.
- National water school/university.
- National centre of excellence established.

Offer competitive compensation and benefits

Aspiration: Sector has a resilient workforce, attracting & retaining necessary & skilled staff



Photo courtesy of Watercare Services

- Defined clear pathways.
- Remuneration & working conditions are matched to expertise.
- Continuing professional development accreditation/chartered status developed to foster a continuous learning environment.
- International secondments develop staff expertise, and support adoption of international best practice.

[CIWEM chartered membership](#)
[Engineering NZ – chartered professional engineer](#)
[Green Infrastructure Programme](#)

Regulatory developments



Photo courtesy of Veolia Australia and New Zealand

- [Cl 68, Water Services Act 2021](#):
A person must not operate a drinking water supply, a wastewater network, or a class of drinking water supply or wastewater network if—
(a) regulations require the operator to be authorised; and
(b) the person is not authorised in accordance with the regulations.
- Taumata Arowai (regulator) has begun to consult on the regulatory requirements.

The water sector must be visible, if we are to be a vocation of choice



Waiaroha, newly opened [Heretaunga Water Discovery Centre](#), Hastings, Hawkes Bay



Photo courtesy of Veolia Australia and New Zealand
Part of "[Our people our wai](#)" series