

# The Volunteer Culture

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Engineers Without Borders ensures this project remains sustainable by training local plumbers to maintain the water schemes, whilst providing them with a valuable skill set and steady income.  
Photo: Mike Syred EWBNZ.

**Engineers Without Borders New Zealand (EWBNZ) is an organisation of engineering professionals and students who work alongside disadvantaged communities in New Zealand and the Pacific. They gift their time and expertise to help provide appropriate sustainable energy, clean drinking water and sanitation.**

"There's a strong culture in New Zealand where engineering students and young professionals want to get involved in volunteer projects and the delivery of humanitarian engineering to communities," Andrew Scott, Executive Director of EWBNZ, says. "We want to attract more members, particularly professionals, as senior professional engineers are needed to mentor, manage and provide peer reviews for many of our initiatives.

"We are fortunate to be supported by a few key engineering businesses that have well developed policies for social responsibility and community engagement. We'd like to attract more as partners."

The goals of EWBNZ are partly achieved through sponsors' Corporate Social Responsibility (CSR) activities. A corporate can engage their staff's and organisation's capabilities to provide financial support, technical peer reviews, pro bono work, mentoring or risk reduction.

Mr Scott says awareness of humanitarian engineering, which aims to improve the quality of life for disadvantaged communities by delivering infrastructure

to meet basic needs, is being raised by EWBNZ. To achieve desired results, CSR is proving invaluable.

Gold – and primary EWBNZ sponsor – Sinclair Knight Merz (SKM), has been involved for almost four years. "They have been committed to helping with cash and *pro bono* work, and they also sponsor the Odyssey Design Challenge (ODC)," Mr Scott says. "We have a bronze sponsor AECOM. Other primary sponsors who contribute are Beca, Fulton Hogan, and the Christchurch branch of MWH. In addition, many other individuals and organisations contribute time, money and resources."

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Alastair Brookes, Chair of SKM's NZCSR Committee, says, "We chose to work with EWBNZ as it is well-aligned to SKM. Our corporate purpose is to deliver an enduring impact on the world. We give back to the communities in which we work by funding CSR activities. Globally, EWB is a core partner for us. It gives staff opportunities to get involved in things beyond their usual work. It can broaden the view of younger engineers while long serving staff enjoy working with students. For many of our people, going to work means much more than just bringing home a pay cheque."

Through CSR, employees can help by supplying professional and technical support during work time: setting up systems and processes, undertaking risk assessments and security planning for overseas activities. Senior engineers provide guidance and technical checks for those designing, planning and working in the field. They also mentor students on the design challenge. SKM believes its involvement in EWBNZ offers the right mix of financial and human resources. Scott Henderson, SKM's Regional Client Manager for Power Generation, says, "I took the opportunity to get involved with EWBNZ for the ODC last year as a coach for one of the teams. The ODC is an annual event which gives university students the opportunity to solve real engineering problems which are presented by EWBNZ's partner community.



Students testing the functionality of the water filter model they built at the EWB NZ workshop. Photo: EWB NZ.

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This year’s ODC challenge was to scope and design a sustainable, community energy generation system for three isolated, rural Eastern Bay of Plenty *hapu*. The aim is to install a system capable of supplying power to 500 residents and to sell excess power into the grid. The project will create jobs, retain capital in the community and reduce environmental impact. The top three teams present their ideas to the community and support can be provided to take the preferred approach from concept to reality.

“As a coach, my role was to assist the team in their thought process, act as a sounding board for ideas and to help them apply practicality and real-world tests to their naturally innovative approach,” Mr Henderson says. “The team I worked with visited me in the office for our coaching sessions which made it easy for me and they seemed to appreciate having a look around a working engineering office. On a personal level, I found this very rewarding and it provided an interesting change to my day-to-day work.

“This year I took the plunge to become more involved and volunteered to judge the event. This involved doing critical assessment of interim reports, final reports, posters and presentations. The time commitment was greater, with the judging role, but so was the feeling of contribution. Much of the critical approach that we, as consulting engineers apply to our tasks on a daily basis was relevant, and it is exactly this which is missing from a purely academic approach. This is the value we can provide to EWB NZ.

“SKM supports EWB with time and I undertook the roles as an ambassador of

the company. I would strongly encourage anyone contemplating involvement in this, to give it a go.”

In Samoa, EWB NZ has been working with the Independent Water Schemes Association. The engineers have given technical support to create a gravity fed water supply system, making a significant impact for a large proportion of the population. Part of the project involved training to up-skill local plumbers so the system can be maintained, providing a sustainable long-term outcome. A project in North-East Amrym, Vanuatu, involves a similar system. The goal is to provide 300 people with improved drinking water by capturing an elevated groundwater spring.

Many parties are involved in the project. EWB NZ organised field volunteers to undertake initial scoping, land surveying and preliminary design to assess feasibility. EWB NZ will also assist local contractors and consultants in surveying, designing and constructing the extension to the system, and provide management and maintenance training.

The call for assistance in North-East Amrym was initiated by the Wawan Fonhal Development Council, a local community volunteer group run solely by women, responsible for managing community issues. Other community organisations now involved are the Rotary Clubs of Heirisson, Western Australia, and Port Vila, Vanuatu; the Vanuatu Department of Geology, Mines and Water Resources, and Lou Cochrane, In-Country Manager for Austraining International. Each organisation has a role: from funding, accommodation for volunteers, assisting in management of local procurement of

materials, to provision of tools or working space.

In schools, EWB NZ has an outreach programme with classroom sessions for Years 9 and 10 pupils delivered by engineering students and professionals. The main programme is called Clean Water For Life and works with science classes, offering practical lessons in engineering projects and challenges faced by disadvantaged communities. Part of this includes teaching the pupils to build a water filter using the basic items of charcoal, sand and plastic bottles.

“It helps them understand engineering principles and that engineers are behind so much of our tangible world. We hope it sparks their interest and may get them to consider engineering as their career. It also connects engineering companies with the delivery of aid. Young people may not have seen that link before,” Mr Scott says. “The children benefit from these sessions and it provides an opportunity for the student volunteer facilitators to develop their communication and presentation skills.”

Mike Syred, who is a civil engineer and water supply consultant, has worked on many EWB projects around the globe. “This assistance is demand-driven rather than supply-driven. The Pacific is right on our doorstep.

“I’m currently in Samoa meeting with different organisations to determine their need as our work’s all community-driven. We find partner organisations and try to improve the situation as we work alongside them. Mostly we go for the lowest tech solution possible to get the job done as it’s the easiest for the local community to maintain. It’s pretty fulfilling work.”