

Education for a Sustainable Future



Education for a rapidly changing world

Education is an investment in a future with improved social and economic prosperity. We want today's generations to thrive while safeguarding natural capital for future generations. New Zealand is facing growing global and local challenges such as financial instability, climate change, fresh-water scarcity, and loss of cultural and biological diversity.

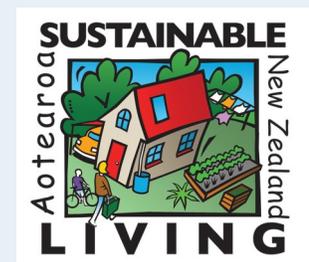
Business leaders, communities and governments around the world are calling for a 'green economy.' Leaders can see new opportunities for employment, better health and also the consequences for our economy and society if we don't look after our environment.

Growing incomes can lead to growing environmental impacts, but this doesn't have to happen (Royal Society 2013a). With new knowledge and ways to take action, we can make different choices, seeking a social and economic system that recognises inter-dependence, operating within planetary and local environmental limits. Sustainability education is a response to these challenges and a key part of modern life-long learning. It helps people face the challenging times ahead with vision and optimism.

Policy priorities for candidates in the 2014 New Zealand General Election and for an incoming Government

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“We need to learn why it is important to live within nature's limits, and to understand the many factors that contribute to unsustainable practices and lifestyles. This learning needs to be deeply embedded in all our formal and informal education streams, and to be a core part of learning across society.”

Morgan Williams, Parliamentary Commissioner for the Environment 2004 (from his preface to report *See Change*)

“I’m not the only one pushing for action. The scientific evidence for climate change just keeps getting stronger. New Zealand started off well but has fallen behind, partly as we weaken our own response and partly as other nations strengthen theirs.”

Jan Wright, Parliamentary Commissioner for the Environment, 12 Dec. 2012, NZ Herald

“International benchmarks and recent media coverage overseas have exposed a gap between New Zealand’s clean, green rhetoric and reality... we simply can’t afford to let our reputation and consequently our exporters, suffer because of a lack of environmental leadership.” Pure Advantage chairman Rob Morrison.

Help New Zealand thrive

Sustainability education takes place throughout all sectors of society and involves people of all ages and contexts (PCE 2004). The policy framework outlined in this document recognises this holistic approach incorporating both the formal education system, from early childhood to tertiary, in both English and Māori medium settings, and non-formal and informal community education for all citizens, moving beyond the classroom into media, workplace training, life skills, leisure interests and other non-vocational areas.

Sustainability education already exists within formal education (Brignall-Thayer, et al 2009; Eames, et al 2009) but must become a stronger part of the Government’s wider vision.

Government needs to recognise that sustainability is essential for New Zealand’s future and thus needs to part of every young person’s and adult’s education. We urge the Government to show leadership for sustainability by prioritising the following four policies, each of equal importance:

1: Instigate a working group or national council for lifelong sustainability learning, to explore and promote emerging formal, non-formal and informal education models and how these could contribute to sustainability literacy.

2: Support teaching for sustainability in the formal education sector, including kura (Māori-language immersion schools), schools, kohanga and early childhood education (ECE), by ensuring that sustainability education is a part of all teacher education courses, by funding professional development in sustainability, and establishing a Sustainability Education Fund to support community and non-government organisations (NGOs) working with the formal education sector.

3: Make sustainability a priority in tertiary education via the Tertiary Education Commission, so that graduates can participate in, and contribute to, green business opportunities, whatever their profession or trade. This would include support for in-service training for employees within Government agencies and the business sector.

4: Support learning of future living skills for sustainability across the wider population, through non-vocational community education. Delivered via adult and community education, local government and relevant NGOs, this would, for example, empower citizens to act for themselves, each other and the environment, promote conservation and sustainable resource use, health and wellbeing, and aid community adaptation to impacts of climate change, enhancing resilience to environmental and geophysical hazards.

We need to act now

New Zealand’s unique ecosystems and crucial ecological services are being challenged by our demands for development, impacting human quality of life, endangering economic benefits and limiting options for the future.

For example, pollution of lowland waterways affects drinking water quality as well as farming, recreational activities and biodiversity.

Aotearoa New Zealand faces an aging population supported by relatively fewer workers, a widening gap between affluent, conspicuous consumers and those who are poor, with a quarter of children currently in poverty. Environmental issues such as urban air and water pollution affect our health, as do physical inactivity, damp homes and poor diet.

Evidence is growing

There is scientific recognition of New Zealand approaching limits, in terms of a 'carrying capacity' (Royal Society 2013a). Our ecological and resource consumption footprint per person is very large compared to most other developed countries (Lawton 2013, PCE 2007). A sustainable future has to be fair to all people and to other life sharing this planet, be health promoting, and value quality of life over quantity of goods possessed (SANZ 2009). The 'Wise Response: call for a Risk Assessment' petition to NZ Parliament in April 2014 by scientists and public, is a recent illustration of this more integrated thinking (www.wiseresponse.org.nz).

NZ's economic future depends on sustainability education

Our economic wealth is based on the distinctive qualities of our natural capital and on people's abilities to innovate. We are exporters, and seek visiting tourists; yet international markets are challenging our environmental credentials. We can no longer claim to be *clean and green*, or *100% Pure*, without substantiating it. We need to improve our environmental stewardship, boost our sustainability reporting and take advantage of emerging green business opportunities. Education for all age-groups will play an essential role in these endeavours.

Sustainability education is quality education that benefits all people

Sustainability education brings out the full potential of people by making learning personal, relevant and action-oriented. At its best, it fosters creativity, critical inquiry, imagination and 'futures thinking' to help create novel solutions. This education grows empathy, equity, ecological awareness and community involvement. It respects indigenous knowledge alongside other forms of knowledge. It combines the understanding and practical skills that people need to sustain life and to be future-ready.

New Zealand policy needs to catch up

We have completed the United Nations Decade of Education for Sustainable Development, 2005-2014. Many countries have developed strategies and action plans for sustainability education. In the latter half of this decade New Zealand has lagged behind our contemporaries in the UK, Sweden, South Korea and Australia.

For example, in 2009, the Australian Government produced *Living Sustainably: a National Action Plan* for use in the formal education sector,

"The Wise Response petition calls on Parliament as a whole to see funds allocated for an assessment of NZ's critical risks, in five areas:

A. Economic / Financial Security: the risk of a sudden, deepening, or prolonged financial crisis.

B. Energy and Climate Security: the risk of continuing our heavy dependence on fossil fuels.

C. Business Continuity: the risk exposure of all New Zealand business, including farming, to a lower carbon economy.

D. Ecological / Environmental Security: the risks in failing to genuinely protect both land-based and marine ecosystems and their natural processes.

E. Genuine Well-Being: the risk of persisting with a subsidised, debt-based inequitable economy, preoccupied with maximising consumption and GDP."

Wise Response 2014

"All the best opportunities for us in the global economy lie in the rapid shifts to resource efficiency, clean technology, renewable energy, environmental integrity and brand authenticity. Those attributes underpin the most sought-after consumer goods, drive the fastest technology changes, earn the biggest price premiums and deliver all the other benefits of a low carbon economy. Unfortunately, we're stuck playing the old game."

Rod Oram, 8 June 2014

Business Day column (Fairfax)

<http://www.stuff.co.nz/>

“Education for sustainability is about learning to think and act in ways that will safeguard the future wellbeing of people and our planet. Experience shows that cooperative, inquiry and experiential learning along with reflective practice leads to high-quality teaching and learning in education for sustainability. These approaches support the development of effective pedagogy as outlined in the NZ Curriculum and student action competence in education for sustainability.”
<http://efs.tki.org.nz/Efs-in-the-curriculum/Effective-pedagogy>

“Findings show that Efs initiatives are empowering students to become strongly engaged in their learning and to think critically about issues; and (empowering) the development of sustainable practices in schools and their communities.”

Ministry of Education Research Report 2010

local government and business. In the UK effective education for sustainability exists at all levels and in most learning contexts, with good teaching and enhanced learner outcomes, although “a wider adoption (of Efs) would result from the development of a strategic framework which puts it at the core of the education policy agenda.” (Martin et al. 2013. p1522)

But New Zealand policy is moving against this tide (SANZ 2009). Loss of funding for school sustainability education advisors and for school-based Adult and Community Education and proposed changes within the Resource Management Act have threatened the opportunities for adults to gain knowledge and skills and to be able to participate in working towards a sustainable future.

Yet there are positives. *The New Zealand Curriculum* (Ministry of Education, 2007) recognises sustainability as a principle in curriculum decision-making and a value to be encouraged, modelled and explored in school education. However, this recognition has not been followed through sufficiently with support for teachers. More needs to be done in pre-service teacher education, teacher professional development and the development and dissemination of resources to realise the goal of educating our young people for a sustainable future.

Achievement Standards for Education for Sustainability at levels 2 and 3 are available (NZQA 2014) and accepted as valid university entrance topics. Promotion of these standards is needed to aid teacher and student awareness to enable wider adoption in secondary schools from 2015. The early childhood education curriculum *Te Whāriki* (Ministry of Education 1996) provides a benchmark for quality education that embraces a drive for sustainability. This has opened the door to greatly increased interest in sustainability education within early childhood centres (at least in the public sector) where staff and parents see the benefits for their children.

High demand for sustainability education

Over 950 schools/kura (representing 30%), and kohanga/early childhood centres (3%) are involved in the Enviroschools/Te Aho Tū Roa programmes. Many more are attracted by the benefits these programmes show, including engaged students, improved physical surroundings, financial savings and greater community involvement. **The demand from schools and early childhood education to participate in education for sustainability exceeds the capacity to deliver.**

Rising demand in the tertiary sector has driven initiatives in recent years by polytechnics and universities, where new sustainability-focussed courses are being offered at all levels, in diverse areas from architecture to nursing, outdoor education to MBAs. Tertiary institutions across the country are increasingly recognising their obligations to their students to educate them for sustainability, signing international agreements such as the Talloires Declaration and the UN Commitment to Sustainable Practices in Higher Education Institutes, and embedding sustainability in their activities.

Sustainability and science literacy (Gluckman 2011) are becoming required in many professions. Future-focussed tertiary students demand the inclusion of social and ethical relevance within their training, knowing that they will have to work in a fast-changing social, physical and natural environment, more environmentally-stressed than that of their parents' days.

NZ as a global leader?

We have established programmes, professional networks and the experience ready to become a global leader in sustainability education. Many innovative programmes have been developed over the last decade.

Because sustainability is multi-faceted, no one person or agency can provide the total support needed for comprehensive education. Educators need support from a range of people and organisations. This is why many highly effective programmes in the formal education sector are delivered in collaboration with NGOs, local government, the Department of Conservation (DOC), Environment Centres and community groups.

Conservation education, led by DOC, the Royal Forest and Bird Protection Society (in over 40 locations), zoos and specialist NGOs, engages growing numbers of locals and overseas visitors. DOC has increased emphasis on delivery through partnerships, increasing the need for enhanced community education to facilitate effective and successful outcomes.

Local government plays a significant and valuable role. Around 62% of regional, unitary and local councils support sustainability education locally or regionally through EnviroSchools, as a tool to promote social, economic, cultural and environmental well-being. In addition, ten districts and cities collaboratively support the Sustainable Living Education Trust as a provider of community education materials for adults.

Prior to 2009, adult and community education was being offered in 212 high schools to thousands of people. Only 31 high schools continue any community education in 2014 (only 20 of these TEC funded), which has removed the main opportunity in most areas of New Zealand for people to gain community-based non-vocational education. Many community educators such as the Sustainable Living Education Trust continue to offer what they can but lack resources to effectively deliver the education needed in their communities.

Government priorities for progress

Central Government has a key role to play.

The Ministry for Environment currently supports EnviroSchools and Te Aho Tū Roa programmes, and some Environment Centres, with crucial core funding. However, demand and need for sustainability education is growing, whilst central government is failing to keep pace.

Below are four key priorities for central government to work on immediately, along with experienced and passionate sustainability educators.

Now is the time to invest!

“We could as a global community make the transition to green and inclusive economies which tackle inequality, advance development and arrest ecosystem degradation. That requires engaged citizens and bold leadership, willing and able to take on entrenched interests and leave behind failed models.”

Helen Clark, 2012 (former NZ Prime Minister, now Administrator, UN Development Programme)

“Sustainability is a critical issue for New Zealand – environmentally, economically, culturally, politically, and socially. We need to learn how to live smarter to reduce our impact on the environment so that our natural resources will be around for future generations.”

Education for Sustainability kete. <http://efs.tki.org.nz/> (Ministry of Education resources for NZ school curriculum)

“The principles and practical application of education for sustainability...have in recent years been recognised internationally as fundamentally important to addressing the critical global challenges we all face.”

Australian Government 2009.

Priority One: ***Instigate a working group or national council on lifelong sustainability education.***

Our current education system has many good qualities but has contributed to our currently unsustainable state. We need to rigorously critique how we have come to this untenable position, then collaboratively and creatively work towards change across all sectors: formal education, community education, government and business. To do this we must plan and implement an educational strategy that is well-informed, comprehensive and inclusive.

New Zealand needs people with strong adaptive and creative abilities to resolve the urgent and major social, economic and environmental challenges of our time. Leading educators agree on the need for people to develop their abilities as lifelong learners, who can collaborate well together. Employers want skilled staff; competent and innovative people with problem-solving abilities. We need an education system that puts just as much emphasis on how people learn as what people learn. These qualities are essential for sustainability.

(1) We urge Government to:

- Instigate a working group or national council to catalyse dialogue and recommend actions for a world-leading education system with sustainability at its core that develops the full potential of New Zealanders.
 - Ensure wide representation from communities, iwi, businesses, local and central government, the formal education sector, and NGOs with a diverse range of ideas, knowledge and experience.
 - Adequately resource the working group/council to explore best practice from New Zealand and around the world and identify how quality life-long education with sustainability at its core can contribute to key public goals.
 - Enable the working group/council to make recommendations about appropriate policy, and to make linkages with Government Departments and other Government-initiated groups, such as the Green Growth Advisory Group and National Science Challenges Panel.

Priority Two: ***Support teaching for sustainability in kura/schools, and kohanga/early childhood education centres.***

Sustainability has been a significant theme of the *New Zealand Curriculum* since 2007 and *Te Marautanga o Aotearoa* (the national curriculum for Māori-medium) since 2008. It is integral to the vision, principles, values and key competencies for students and provides an essential context across all learning areas. Sustainability also fits well with the holistic approach of Te Whāriki for the early childhood education sector (Duhn 2012).

Research commissioned by the Ministry of Education highlighted the educational benefits when teachers are well supported in education for

sustainability initiatives. However, because sustainability is a relatively recent addition to the Curriculum, most serving teachers are unfamiliar with its principles and practices. It was not part of their pre-service education and few in-service professional learning opportunities are available (Birdsall 2013).

To fulfil the vision of New Zealand's curriculum documents, new and existing teachers need to be supported in making sustainability a core part of every student's education, from the early years as emerging citizens (Mackey 2011, Duhn 2012) through to the NCEA qualifications of school leavers (Eames et al. 2010). Many schools have yet to explore the ramifications of sustainability approaches for their daily operation and community role, as well as in their curriculum (Eames et al. 2009 and 2013)

(2) We urge Government to:

- Ensure all new teacher trainees have access to sustainability education by mandating it in Initial Teacher Education (ITE) and resourcing ITE providers to develop their capability to deliver education for sustainability.
- Provide professional development for existing teachers and whanau to deliver sustainability education—by resourcing a network of skilled sustainability advisors and programme initiatives to provide practical assistance. This could be delivered by a mix of tertiary education providers and NGOs to strengthen school leadership, teacher knowledge and pedagogy, and assessment. It should include whole school approaches to make sustainability a normal part of school life, action-learning to foster participative learners and should help teachers integrate sustainability education into their existing curriculum, particularly at secondary level (Eames, Roberts, Cooper & Hipkins, 2010).
- Establish a Sustainability Education Fund to support quality programmes led by NGOs such as the EnviroSchools and Te Aho Tū Roa Programmes and community groups linked with schools, which are demonstrating excellent results.
- Encourage schools, through the National Educational Goals, through updating of the Education Act, and Education Review Office visits, to develop programmes and practices for sustainability in their curriculum design, building construction and operations, their use of energy and other resources, purchasing policies and use of school grounds.

Priority Three: ***Make Sustainability a Priority in Tertiary Education.***

Government influences tertiary education through the Tertiary Education Commission funding and the New Zealand Tertiary Education Strategy. The Tertiary Education Strategy 2014-2019 (Ministry of Education, 2014) prioritises economic outcomes over social and environmental outcomes. This emphasises a business growth strategy and ignores the reality that the economy cannot function in the long-term without a healthy environment to provide us with resources and a just, equitable society. This current strategy puts a sustainable future at risk.

The challenges of sustainability are complex. People in all walks of life need to be equipped with knowledge of the broad issues, as well as specialised knowledge and skills relevant to their careers. Sustainability

“In many schools Education for Sustainability is fragmented and inconsistent, undermined by a lack of teacher knowledge of how to embed sustainability across the school. EfS is not helped by government and institutional policies and practices that have seen recent reductions and inconsistencies in the provision of pre-service and in-service support.”
Eames, Wilson-Hill and Barker 2013

“In between extreme weather and rising oil prices, countries around the world are making a shift towards renewable energy – but New Zealand is lagging behind. Tackling climate change for many Kiwis feels like an impossible task. But together, we can create the movement to change this and bring forth a thriving New Zealand we are proud to hand on to future generations.”
Generation Zero - *What's the Hold Up?* July 2013

“We will require new ways of thinking about how we live our lives – how we work, how we do business, how we eat, shop, travel and participate in our communities. We need to view resource use not as a linear process – turning raw materials into useful items, then disposing of them when they are no longer useful – but a cyclical process, where resources are instead reused indefinitely. That’s why University of Canterbury has made a commitment to sustainability, not just in terms of reducing our current impact but also in our role as educators preparing students for the future.”

University of Canterbury , Sustainability Office, 2012. http://www.sustain.canterbury.ac.nz/sustainability/whatis_sustain.shtml

“Our ability to learn, change and adapt to environmental demand makes learning a continuous practice, particularly when that learning impacts on the quality of life we experience. People must learn in order to survive....some learning will be incidental learning and some will be organised...for many people adult and community education (ACE) is what makes life-long learning possible.”

ACE Aotearoa 2013.

education is as applicable to a building apprenticeship and horticulture diploma as it is to an architecture or economics degree. Furthermore, an increasing number of students are finishing compulsory schooling having experienced some sustainability education. **These young people are actively seeking clear learning pathways that will value and extend their sustainability knowledge, and with encouragement into tertiary courses, will become the leaders who can ensure our sustainable future** (Packard 2010).

(3) We urge Government to:

- Show leadership for sustainability by revising the current Tertiary Education Strategy to clearly emphasise the importance of a healthy environment, an equitable and just society and a vibrant economy.
- Instruct the Tertiary Education Commission (TEC) to work with tertiary education organisations to include sustainability education within all degree, technical and vocational programmes.
- Support research and development in the sustainability performance of tertiary education organisations, including the courses offered, teaching impacts (Shephard et al, 2013), student support services, research and environmental sustainability practices on campuses, and course-embedded community projects (Shephard 2007).
- Encourage and support engagement in tertiary cross-institutional initiatives for sustainability education to enhance knowledge, experience and commitment such as the New Zealand Association for Environmental Education (NZAEE), Sustainable Tertiary Education in New Zealand (STENZ), Australasian Campuses Towards Sustainability (ACTS) network , Sustainable Aotearoa NZ (SANZ) and tertiary-community initiatives: such as the Science Wānanga (UNESCO, 2011).

Priority Four: *Support development of future living skills for sustainability within the wider population, through non-vocational community education.*

Sustainability education for the future provides enhancements to quality of life, related to housing, physical activity, food growing, relationships with nature, public understanding of science and opportunity for community engagement as citizens. It offers rich and relevant content for adult and community education, from the domestic skills of gardening, cooking, cleaning, house renovation and travel, to community projects such as nature conservation and urban amenity enhancement. This will support a nationwide need in coming decades to adapt our lifestyles and business practices to changes in resource availability and climate, plus responses to natural hazards, requiring adaptation and resilience skills.

Lifelong education can begin with children, outside school hours (e.g. Kiwi Conservation Club, Brownies, Cubs) and continue right through to learners in the fast-growing retired age group (e.g. University of the Third Age, Grey Power, Workers Educational Association.) Adult and community education also has an important informal role in preparing job-changers and returnees to the workplace, for example, after breaks for child care or illness or migration, or for new career directions, prior to formal tertiary or work-

place training (ACE Aotearoa, 2012).

Because it can use existing facilities such as community halls, churches, cafes, and also school or tertiary premises outside school hours, the community education sector has lower capital costs per student than other parts of tertiary education.

Many kura/schools already involved in the Enviroschools and Te Aho Tū Roa programmes enhance community sustainability through interacting with pupils' extended families, whanau and fono. The Environment and Sustainability Centres found in main towns are also valuable informal education and reference non-governmental information providers (Ministry for Environment, 2012).

(4) We urge Government to:

- Reinstating Ministry of Education/TEC funding of community education local coordination and on-site delivery of adult and community education classes at schools and Rural Education Programmes (REAP), as a cost-effective mechanism for community education for sustainability, especially in areas where there are no alternative providers.
- Use the proposed Sustainability Education Fund (see 2 above) to support provision and promotion of community education initiatives of NGOs and local government, beyond schools.
- Properly resource existing policies seeking community engagement partnerships by agencies such as DOC, to fund community education alongside the 'volunteer labour' which is sought, in order to motivate and upskill those volunteers, as a way to secure long-term high quality input.

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Peter Lyons, *NZ Herald* 11 June 2014.

Contact Details:

New Zealand Association for Environmental Education

Chris Eames
Co-chair
E: nzaeecontact@gmail.com
www.nzaee.org.nz

Royal Forest & Bird Protection Society

Tiff Stewart
Manager, Kiwi Conservation Club
E: t.stewart@forestandbird.org.nz
www.forestandbird.org.nz

Sustainable Living Education Trust

Rhys Taylor
National Coordinator
E: Rhys@sustainableliving.org.nz
p. 03 693 8726
www.sustainableliving.org.nz

The EnviroSchools Foundation

Heidi Mardon
Chief Executive
e. Heidi.mardon@enviroschools.org.nz
p. 07 959 7321
www.enviroschools.org.nz

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