

EMAN 410 Seminar Series

18 September 2009

***If money is the problem,
why is it also the solution?***

Dr John Peet



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Embracing the Future - Times of Great Change (1)

A complex sequence of global changes has *already begun* that will take *human civilisation outside the range of prior experience* in terms of magnitude, speed of arrival and simultaneity. All are subject to uncertainty.

These changes are *structural*, not cyclical, and will cause *abrupt and radical shifts in human living, work and recreation*.

They are all being caused by people - globally and locally - being unable to live in harmony with ecological systems and with each other.

The drivers of these changes are here now, and will strengthen, whether or not humans are ready to cope with them.



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Embracing the Future - Times of Great Change (2)

Further changes will be caused by governments as they try to mitigate the effects of these changes - with mediocre results at best.

Yet further change will come as civil society becomes sufficiently engaged and presses for more vigorous societal shifts towards sustainability.

These statements should not be interpreted as alarmist. They are soundly based in science. Hence, it is better to regard them as a challenge to become prepared and as an invitation to face the future with *the required knowledge and skills, and with both hope and resilience*.

Our question for you is: facing as we do these times of great change, what are the future roles for scientists and engineers involved in adult and community education?



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Impacts in New Zealand

Environmental degradation of waterways and lakes will become extreme, with impacts on agricultural production and processing, manufacturing industry, human consumption, and recreation

Degradation of soils will worsen

Climate change and severe weather events will have deep impacts, but less than in many other countries, making NZ a 'relatively safe haven'

Rising prices of oil will have huge effects on the costs of exporting and importing, and on the financial viability of many sectors

International geopolitical conflicts and international economic disruptions will seriously isolate NZ



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Likely New Zealand Responses

Major shifts in rural land use and patterns of production, and in manufacturing, with consequent effects on communities

Reduced reliance on international trade

Increased local food production

Changes in urban living, of two kinds - more concentration in CBDs, and also shifts to semi-rural village environments

Very low tolerance for pollution and waste

Increased emphasis on national and local self-sufficiency in renewable energy

Greatly strengthened sense of community and rising preferences for community living

Substantial changes in governance



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Education that Prepares People for Unprecedented Change (1)

These changes will not come easily. Some will arrive abruptly and powerfully. They will place great stress on human living and work, governance processes, and communities.

Dysfunctional institutions will be reluctant to give way, leading to civic and political disruptions.

Scientists and engineers involved in adult and community education have a major role in preparing people properly for a future of this kind.

Priorities should emphasise the requirement of change, and hence away from 'business as usual' programmes that will increasingly become obsolete.



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Education that Prepares People for Unprecedented Change (2)

Five new learning experiences could be introduced:

1. Acquiring sound personal understanding of why the world is changing, and skills in anticipating change
2. Developing capabilities to think through and formulate responses to anticipated changes, often at short notice, and without useful historical experience to call upon
3. Developing skills and confidence in decision-making and taking action in stressful circumstances
4. Strengthening mental and emotional resilience
5. Providing ways of achieving interpersonal cooperation, a sense of community, and trust and respect for others.



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Education that Prepares People for Unprecedented Change (3)

These essential new programmes should be meshed with those traditional programmes that remain relevant.

These innovations will enable people to address daunting and sometimes painful change with *purpose and hope*, rather than regarding themselves as victims, facing their futures with anxiety and fear.



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Education that Equips People for the Shift to a Strongly Sustainable New Zealand

Coping with global change will be challenging and tough, but it will not be enough.

People in civil society will question with increasing strength the underlying reasons for the progressive failure of civilisation as we know it.

They will conclude that the main culprit is the way we run our economies - production, distribution, and consumption - globally and in New Zealand. (The other major reason is population growth, but we leave that aside from this discussion.)



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The true meaning of being sustainable

"Doing good for the environment" is not enough to be sustainable.

We must not think that taking steps to mitigate climate change will make New Zealand sustainable. Much more is required.

Sustaining the ecosystems on which we depend requires a systemic approach to change that goes far beyond limiting emissions, controlling effluents, or managing solid waste.



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The weakness of New Zealand environmental policy and practice

Most New Zealand environmental policy and practice is based on the Triple Bottom Line (TBL) model of “weak sustainability”.

This model allows the causes of unsustainability to remain in place even while good things are done for the environment.

It is dangerously inadequate because it deals with the symptoms of unsustainability and not its root causes.



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The root cause of unsustainability
is our approach to economics



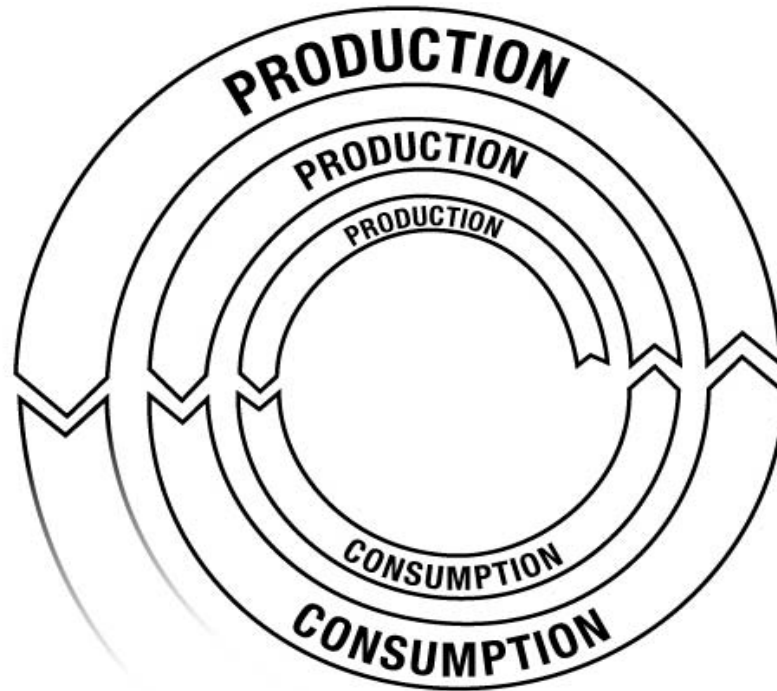
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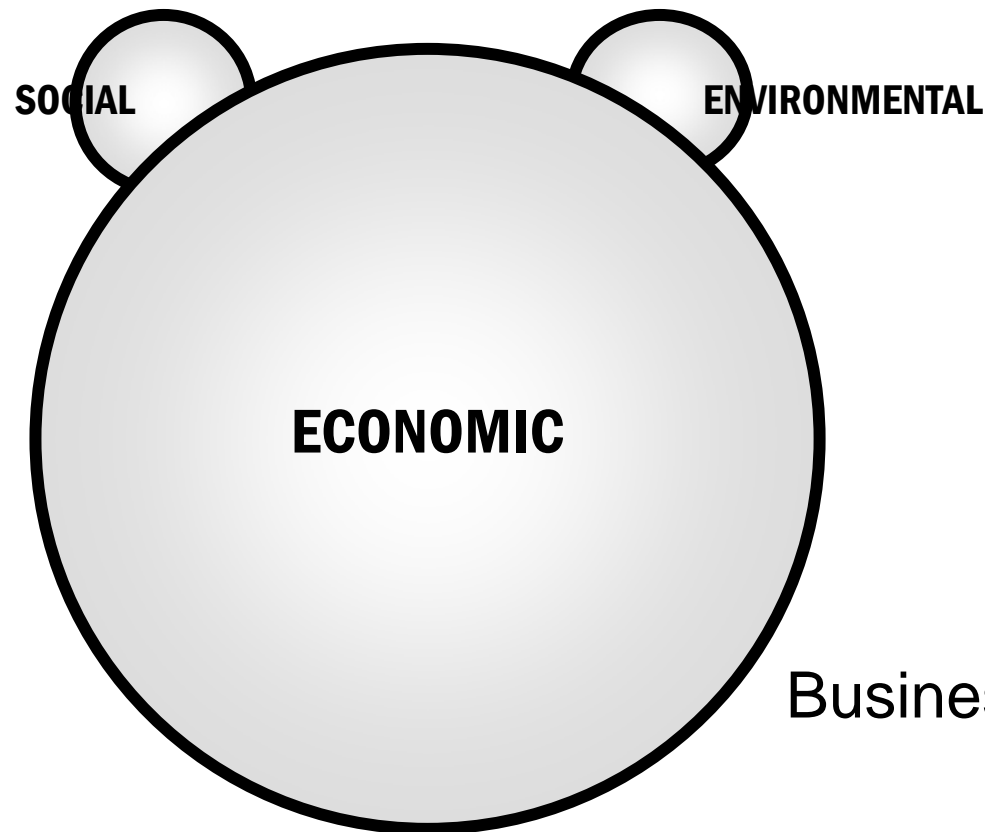


Standard (Growth) Economy Diagram (Daly, 1986)



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Mickey Mouse version of the Triple Bottom Line (Weak Sustainability) model



Business as usual



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Our approach to economics is based on a delusion

Ranking economic outcomes over ecosystem outcomes is a human delusion because it is the reverse of the way that Earth actually works.

The economy operates totally as part of the ecological systems of Earth.

Mainstream economic beliefs and practices have put humanity on a collision course with nature.



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Strong Sustainability for New Zealand



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THE LIMITS TO GROWTH

The headline-making report on the immortality of humanity—and what we can do about it—of the most important documents of our

DONELLA H. MEADOWS/DENNIS L.
JØRGEN RANDERS/WILLIAM
A POTOMAC ASSOCIATES

Sequel to the international bestseller



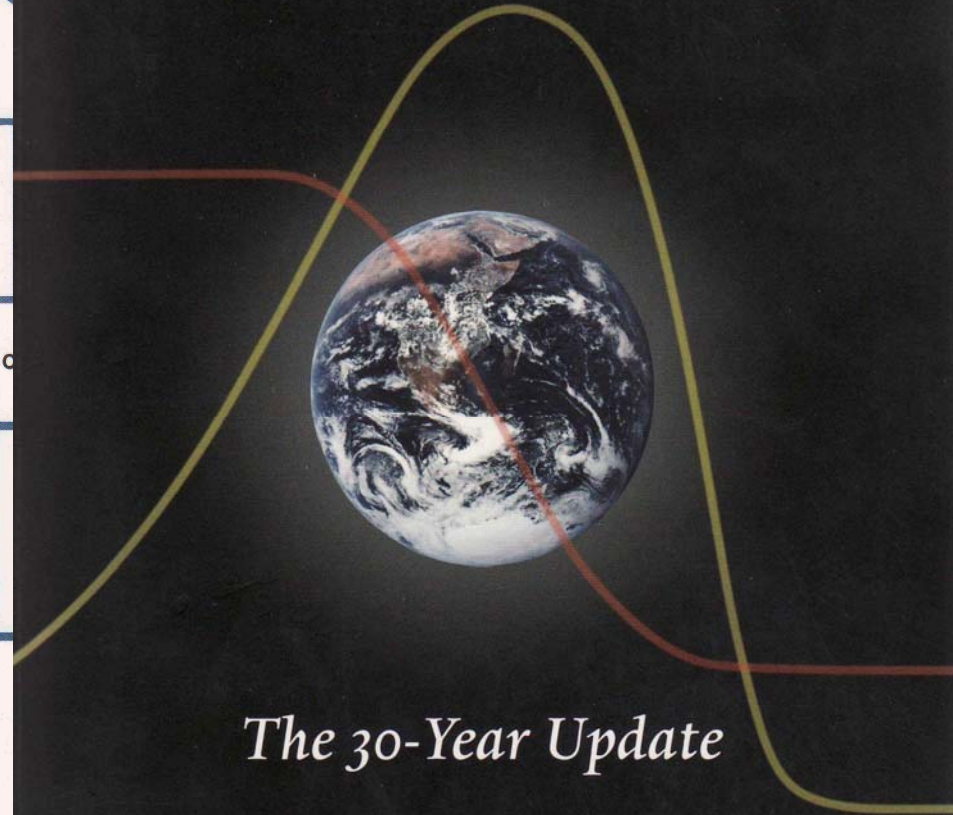
BEYOND



LIMITS

DONELLA H. MEADOWS, DENNIS L.

LIMITS TO GROWTH



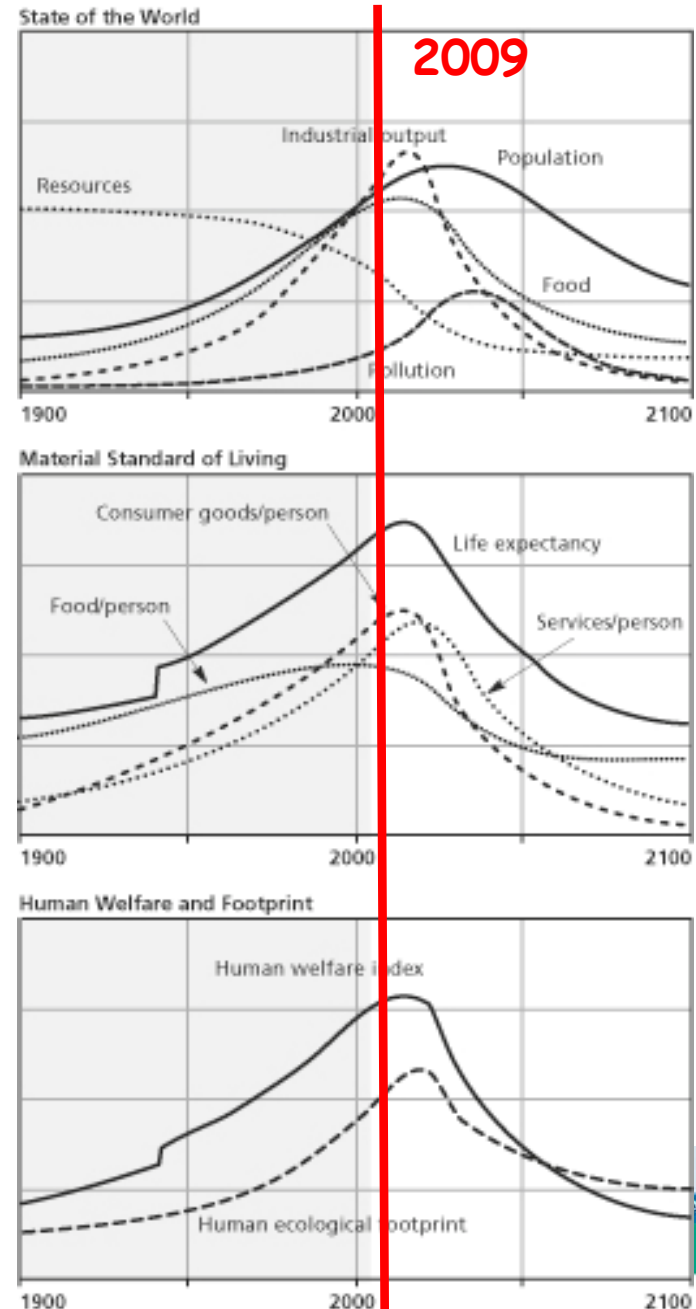
The 30-Year Update

DONELLA MEADOWS | JØRGEN RANDERS | DENNIS MEADOWS

Limits to Growth?

Meadows, Randers, Meadows
"Limits to Growth: The 30-year
Update",
Figure 4-11 Scenario1:
A Reference Point

(cf Figure 35 in (original) 1973
Edition)



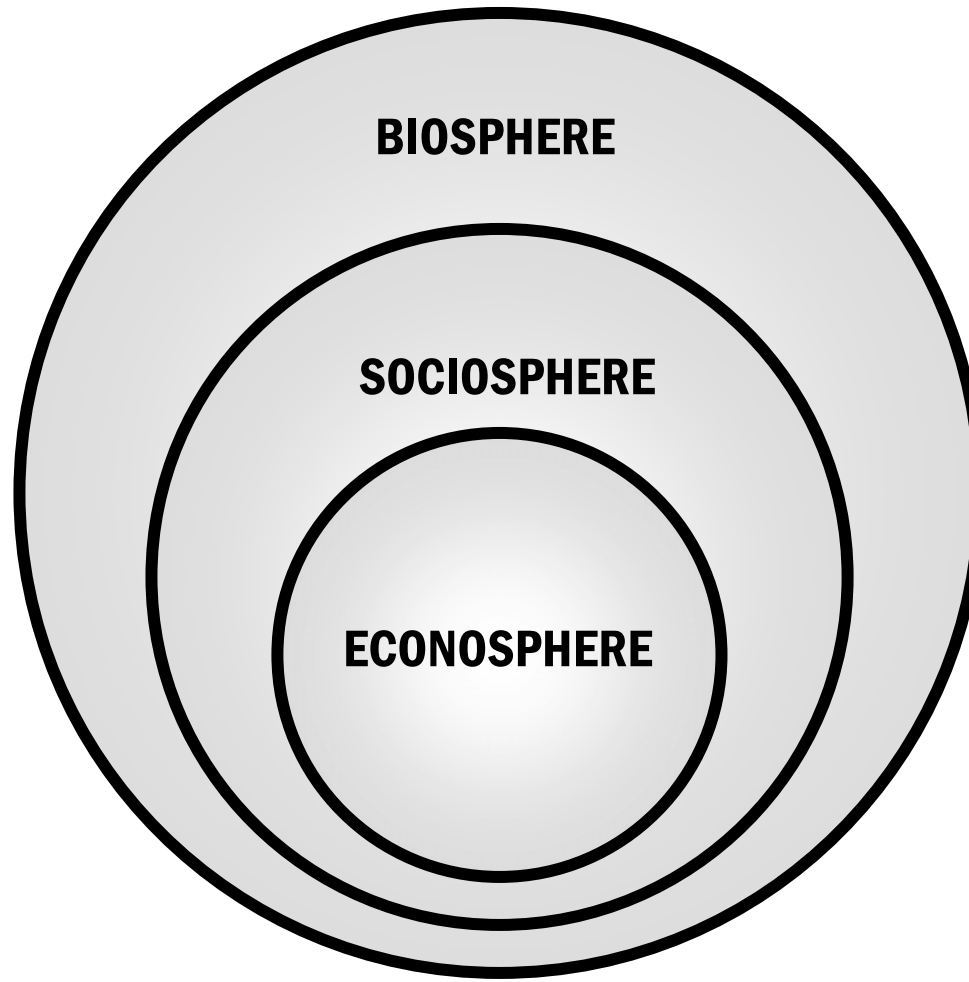
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Strong Sustainability model



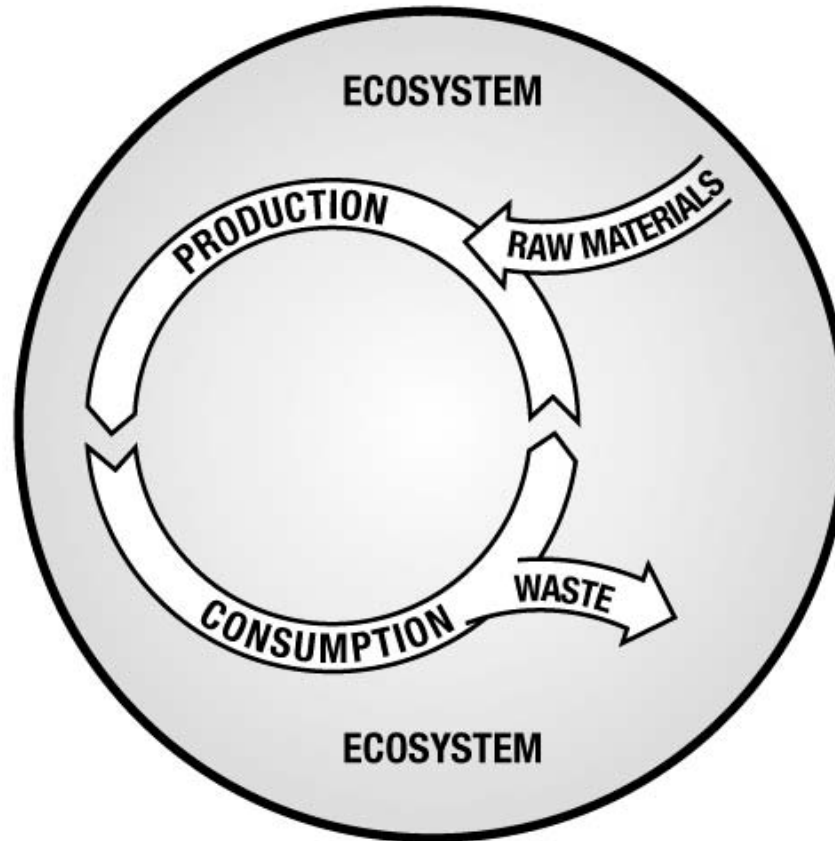
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Steady State Economy Diagram (Daly, 1986)



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Strong sustainability requires a major shift in ethics and values

(1 of 2)

A strongly sustainable human society will live and develop as part of the Earth's ecosystems.

Although human activity will influence these ecosystems, humans will do nothing that upsets their stability, or reduces their diversity and resilience.

We have called the needed changes 'strong sustainability' to distinguish them from ineffective 'weak sustainability'.



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Strong sustainability requires a major shift in ethics and values

(2 of 2)

Because most of the ecological systems upon which humans depend are in the commons, they are ignored by market mechanisms.

Hence, markets offer no guidance for the utilisation and maintenance of these essential ecological services, which are therefore misused by an economic system that is blind to their value to human society.

This flaw in economics threatens the survival of human society.



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Shifting New Zealand from its unsustainable path

Analysis - mainly resourced by science and engineering - shows that it is possible for New Zealand to shift from its unsustainable path.

However, the period available for doing this is very short. The longer we delay the needed changes, the greater the hardship that lies in New Zealand's future.

If the delay is too long the shift will become impossible.



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A Suggested Role for Adult and Community Education

Scientists and engineers, working in adult and community education have a crucial role in the processes by which civil society will recognise and adopt the principles of strong sustainability. We suggest two key programmes:

1. Providing practical understanding of how and why our current approach to economics is fatally flawed.
2. Guiding and assisting people to shift their personal and societal ethics and values along the lines that we have suggested.

These topics may seem 'risky territory' because economics seems a little political, and ethics are seen as personal matters best left to families and churches. We urge you to see past these beliefs because survival of human civilisation is at stake.



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Conclusion: The Challenge for Adult and Community Education? (1)

We suggest seven initiatives.

Five aim to prepare people for unprecedented change:

1. Acquiring sound personal understanding of why the world is changing, and skills in anticipating change
2. Developing capabilities to think through and formulate responses to anticipated changes, often at short notice, and without useful historical experience to call upon
3. Developing skills and confidence in decision-making and taking action in stressful circumstances
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Conclusion: The Challenge for Adult and Community Education? (2)

The other two contribute to the pathway to strong sustainability:

1. Providing practical understanding of how and why our current approach to economics is fatally flawed.
2. Guiding and assisting people to shift their personal and societal ethics and values along the lines that we have suggested.



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A GUIDE TO

WHAT'S WRONG WITH ECONOMICS

EDITED BY
EDWARD FULLBROOK

THE ENVIRONMENTAL ENDGAME



MAINSTREAM ECONOMICS, ECOLOGICAL
DISASTER, AND HUMAN SURVIVAL

ROBERT L. NADEAU

The project

- The report is the result of a project conducted by SANZ as part of New Zealand's ongoing contribution to UNESCO's 'UN Decade of Education for Sustainable Development' programme.
- The project involved more than 100 people - 30 in a think tank session and 70 who reviewed preliminary findings from the think tank.
- A core group of 12 wrote the paper, which was then reviewed by eight external experts, including Jonathon Porritt.



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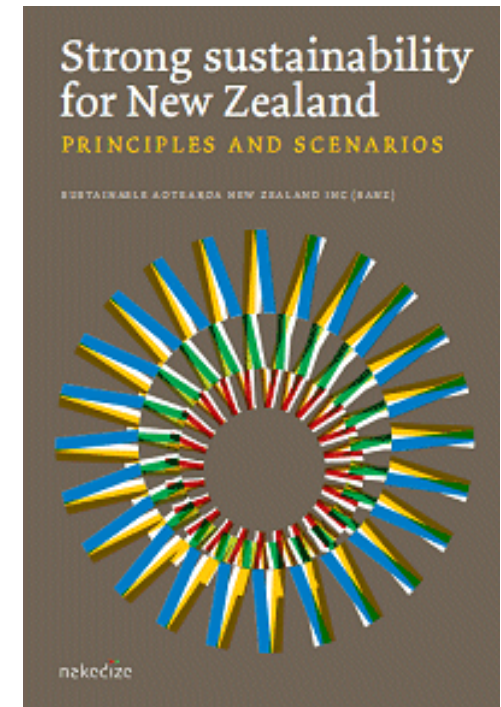


Report published last week

Booklet contains:

- Definition of strong sustainability
- Conditions required for achievement
- Scenario of transition
- Scenario of achievement

New Zealand National Commission for UNESCO, publisher (Nakedize) and SANZ have donated copies to each member state of UN.



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- The root cause of unsustainability is our approach to economics. The assumption that economic growth can continue indefinitely is false, as has been shown conclusively by science and engineering.
- Monetary issues are a symptom, not a cause
- Our values and ethics must change and our economic system must be redesigned.
- Mitigation and adaptation are not enough.
- SANZ web site: www.phase2.org

Thank you



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