Statistics New Zealand
TATAURANGA AOTEAROA

Key Findings

on New Zealand's Progress Using a Sustainable Development Approach: 2008

16 key indicators to measure progress

The focus of Statistics New Zealand's 2009 report *Measuring New Zealand's Progress Using a Sustainable Development Approach: 2008* was to answer the question 'How is New Zealand progressing towards or away from sustainable development?'.

This brochure presents key findings from that report. It addresses the issue of sustainable development using four main questions, which are answered by the results of 16 key indicators.

Trends in the indicators over the 20 years to 2008 (or over the time period available) illustrate positive or negative changes in relation to sustainable development.

The 16 key indicators illustrated in this brochure were selected as being representative of the indicators used in the report, and because there was adequate data available to assess changes over a reasonable period of time. Readers are likely to have their own views as to which indicators could be selected as key indicators. Accordingly, Statistics NZ welcomes feedback on the indicators currently included. See contact details on the back page.

The full report, *Measuring New Zealand's Progress Using a Sustainable Development Approach: 2008*, along with the full set of indicators and principles of sustainable development, can be found at: www.stats.govt.nz/sustainabledevelopment.

What is
sustainable development?

The definition of sustainable development used in *Measuring New Zealand's Progress Using a Sustainable Development Approach: 2008* was based on that adopted by the World Commission on Environment and Development in 1987, commonly referred to as the Brundtland definition:

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Central ideas associated with the concept of sustainable development that arise from the Brundtland definition are:

- meeting needs and maintaining options – the concept of well-being is used, as it is a term that is familiar in the New Zealand context
- principle of fairness between present and future generations
- limits of the environment.

Based on these concepts, the definition used in the report is:

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
>
> Sustainable development means ensuring that well-being is at least maintained over time. The principle of fairness within and between present and future generations should be taken into account in the use of environmental, economic, and social resources.
>
> Putting these needs into practice requires living within the limits of the natural environment.

Main concepts of sustainable development

In order to assess whether New Zealand is moving towards or away from sustainable development, we need to ask four main questions, based around four important concepts:

- **Meeting needs – How well do we live?**
  Everyone is entitled to meet their needs through the accumulation and use of resources.
- **Fairness – How well are resources distributed?**
  Everyone is entitled to a fair share of, and access to, resources such as income, education, health, and clean air.
- **Efficiency – How efficiently are we using our resources?**
  Managing our production and consumption of resources in a way that minimises the impact on the environment.
- **Preserving resources – What are we leaving behind for our children?**
  Preserving environmental, economic, and social resources not only for the present generation but also for future generations.

The summary of our progress towards sustainable development on page 5 groups the 16 key indicators according to these four questions. The trends for each indicator show either a positive, negative, or neutral change in relation to sustainable development, and are identified by one of the following symbols:

Symbol	Explanation
	Upward target trend.
	Downward target trend.
	The result is in line with the target trend (towards sustainable development).
	The result is opposite to the target trend (away from sustainable development).
	There is no overall trend (in terms of sustainable development the result is neutral).

A red cross, for example, does not mean that the result is unsustainable. Rather, it shows that there has been negative change over the time period in relation to the relevant sustainable development principles.

Progress towards
sustainable development

Meeting needs – How well do we live?

Indicator	Target trend	Assessment	Page
Unemployment rate	↓	≈	6
Real gross national disposable income per person	↑	✓	7
Health expectancy at birth	↑	✓	8
Rate of death from assault	↓	✓	9

Fairness – How well are resources distributed?

Indicator	Target trend	Assessment	Page
Access to early childhood education, by ethnicity	↑	✓	10
Income inequality	↓	✗	11
Population with low incomes	↓	✗	12

Efficiency – How efficiently are we using our resources?

Indicator	Target trend	Assessment	Page
Greenhouse gas intensity of the economy	↓	✓	13
Energy intensity of the economy	↓	✓	14
Labour productivity	↑	✓	15

Preserving resources – What are we leaving behind for our children?

Indicator	Target trend	Assessment	Page
Distribution of selected native species	↑	✗	16
Net greenhouse gas emissions	↓	✗	17
Nitrogen in rivers and streams	↓	✗	18
Educational attainment of the adult population	↑	✓	19
Real net stock of total assets per person	↑	✓	20
Speakers of te reo Māori	↑	≈	21

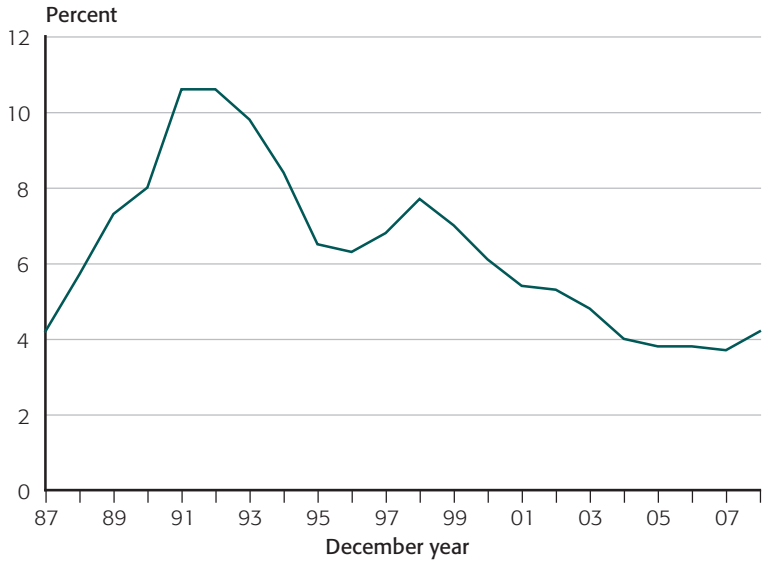
Unemployment rate

Annual rate is little changed from 1987.

As well as providing income, employment has a positive impact on individual satisfaction and happiness. It also increases participation in society and the productive capacity of the economy. Unemployment increases the risk of poverty and consequent social exclusion.

Annual unemployment rate

1987–2008



Source: Statistics New Zealand

- After peaking at 10.6 percent in 1992 and at 7.7 percent in 1998, the unemployment rate fell to a 20-year low of 3.7 percent in 2007.
- With declining economic activity throughout 2008, there has been an increase in unemployment, with an annual rate of 4.2 percent at December 2008.

Because there are always new people entering the labour force and others changing jobs, the unemployment rate is not expected to ever fall to zero as there is always some level of unemployment.

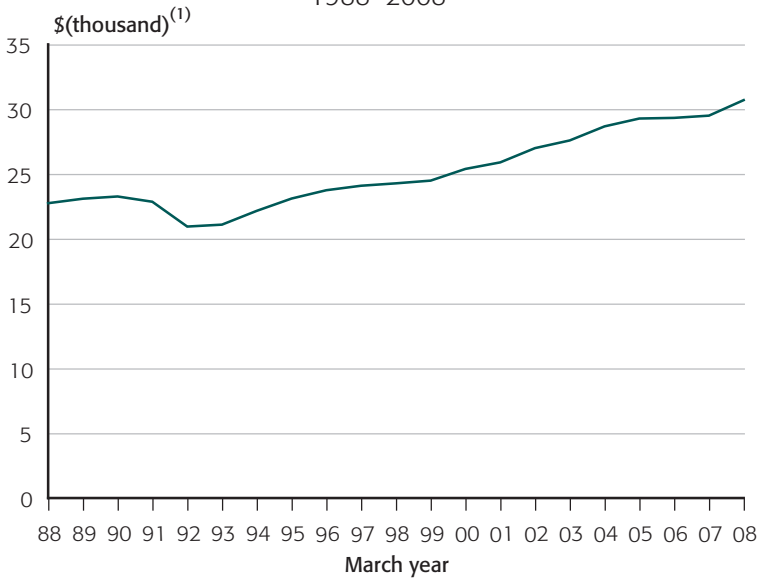
Real gross national disposable income per person

Since 1992, average income has steadily increased.

Real gross national disposable income (RGNDI) per person measures the average income available to New Zealanders. A nation with a rising RGNDI per person will have a greater capacity to deliver a better quality of life and standard of living to the population.

Real gross national disposable income per person

1988–2008



Source: Statistics New Zealand

(1) 1995/96 prices.

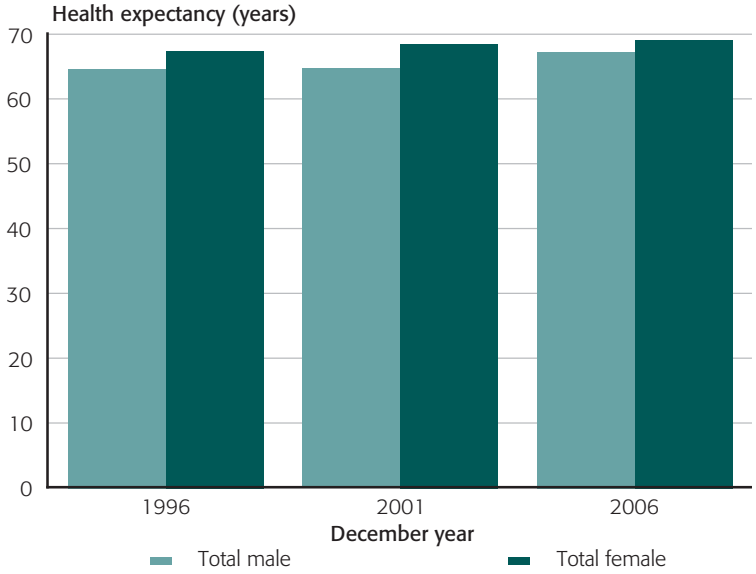
- New Zealand's RGNDI per person increased 35 percent between 1988 and 2008.
- The level of increase has been relatively constant over the period, apart from falls in 1991 and 1992.

Health expectancy at birth

Between 1996 and 2006, health expectancy at birth increased.

A good standard of health contributes to quality of life and enables people to participate in society and the economy. Health expectancy is an estimate of the average number of years a person will live without requiring assistance with everyday activities.

Health expectancy[(1)] at birth, by sex
1996, 2001, and 2006



Source: Ministry of Health

(1) An estimate of the average number of years a person will live without requiring assistance with everyday activities.

- Health expectancy at birth increased steadily for all females between 1996 and 2006, from 67.5 years to 69.2 years.
- Health expectancy for all males increased over the same period, from 64.7 years to 67.4 years, closing the gender gap most rapidly between 2001 and 2006.

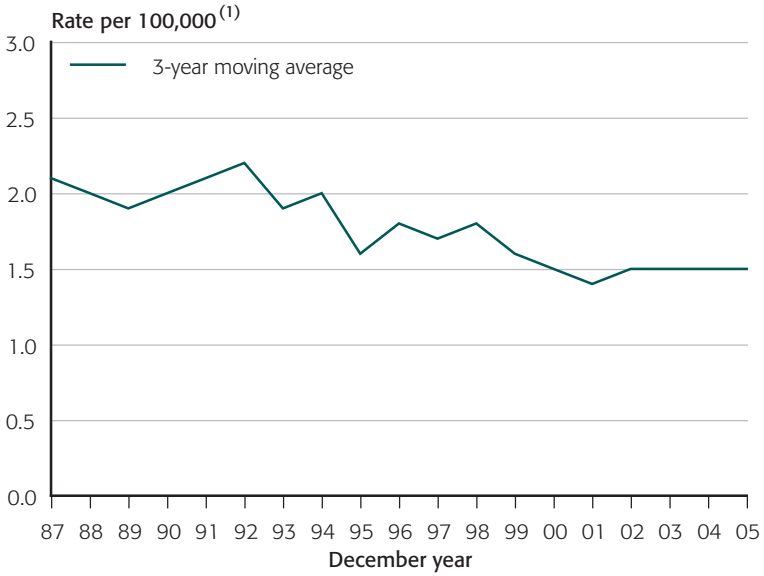
Rate of death from assault

Between 1987 and 2005, the rate of death from assault per 100,000 people decreased.

Safety and security affect people's well-being, their ability and desire to interact with others, and to take part in social and economic life. Death from assault represents the extreme end of violent offences. People's perceptions of crime are also important and differ from actual levels of crime.

Rate of death by assault

1987–2005



Source: Ministry of Health (1) Rates are age-standardised.

- Between 1987 and 2005, the overall trend for the rate of death from assault decreased 29 percent.
- The rate of death fluctuated over the period, peaking in the early 1990s.

Access to early childhood education, by ethnicity

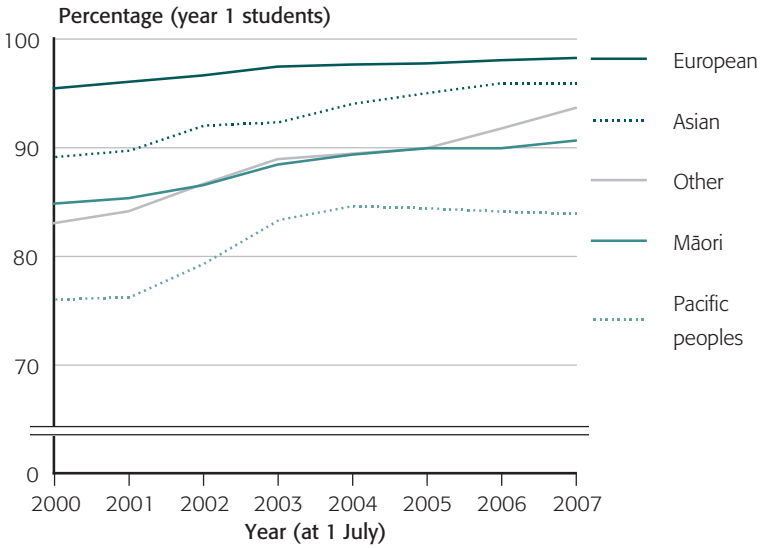
Since 2000, the gap in participation rates in early childhood education for different ethnic groups has narrowed.

As education contributes to individual economic and social well-being, equal access to education is an important indicator of equity. As early childhood education is not compulsory in New Zealand, different rates of participation among ethnic groups can indicate differing access to education.

Early childhood education participation of year 1 students

By ethnic group

2000–07



Source: Ministry of Education

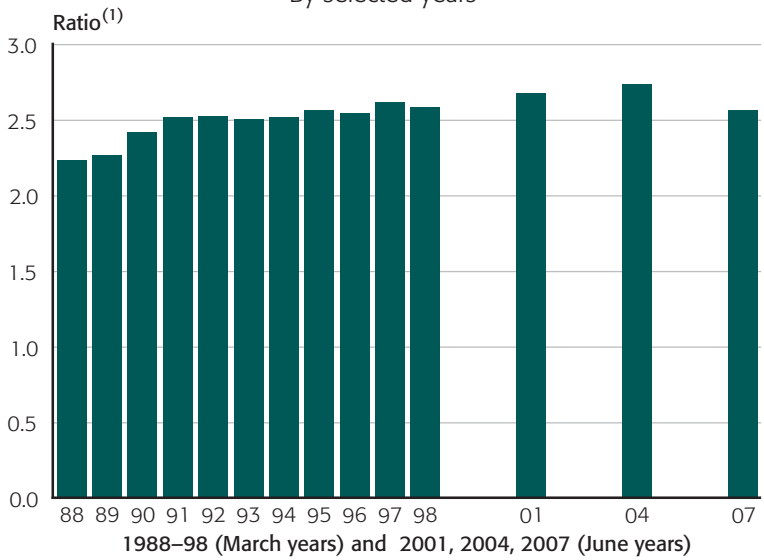
- Early childhood education participation rates increased for all ethnic groups between 2000 and 2007.
- Participation rates for New Zealand European children are the highest. From 2000 to 2004, rates for both Māori and Pacific ethnic groups increased faster than the rate for New Zealand European students, lessening the difference between the groups.

Income inequality

Between 1988 and 2007, income inequality between households with high incomes and those with low incomes widened.

The degree of income inequality is often regarded as an indicator of the fairness of the society we live in. Households with low incomes have fewer options for meeting economic needs than those with relatively high incomes. This indicator measures income inequality by comparing the ratio of high-income households to low-income households. The higher the ratio, the greater the level of inequality.

Income inequality
By selected years



Source: Statistics New Zealand and Ministry of Social Development
(1) High-income households to low-income households.

- Between 1988 and 2007, the income inequality ratio increased from 2.24 to 2.57.

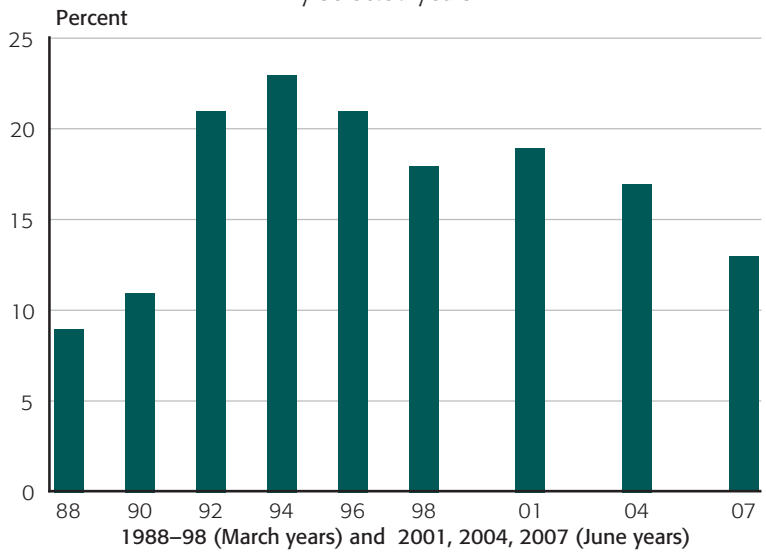
Population with low incomes

The proportion of the population recognised as having low incomes has risen since the late 1980s.

The proportion of the population with low disposable income provides an indicator of the fairness of a society. Households with low incomes have fewer options for meeting economic needs than households with relatively high incomes.

Proportion of population with low household incomes(1)

By selected years



Source: Statistics New Zealand and Ministry of Social Development

(1) Household income (net of housing costs) below 60 percent of median income.

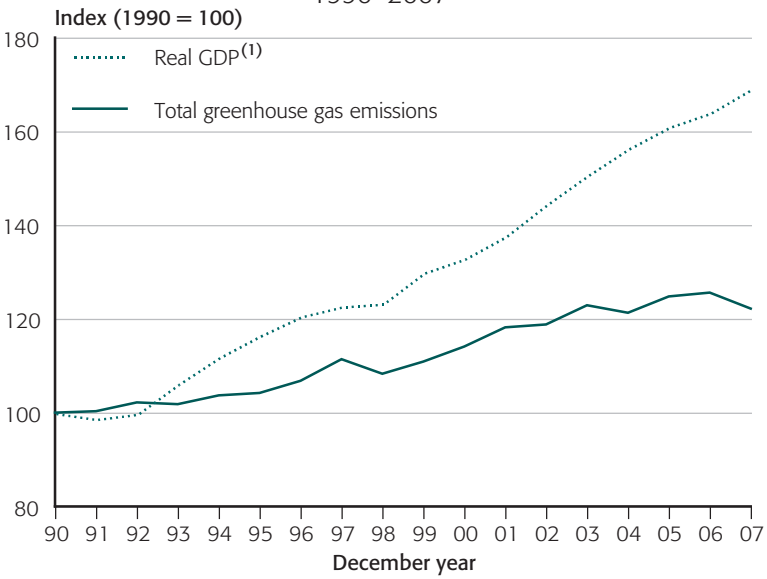
- The proportion of the population with low disposable incomes rose slightly, from 9 percent in 1988 to 13 percent in 2007.
- There was some variability during that time. The proportion peaked at 23 percent in 1994 and has decreased since then.

Greenhouse gas intensity of the economy

Although total emissions have increased, the intensity of emissions in relation to the economy has decreased.

This indicator compares production in the economy (as measured by real GDP) with total greenhouse gas emissions. This measures whether emissions have grown or decreased faster or slower than growth in the economy.

Intensity of greenhouse gas emissions
1990–2007



Source: Statistics New Zealand, using data from Ministry for the Environment

(1) For the nearest March year.

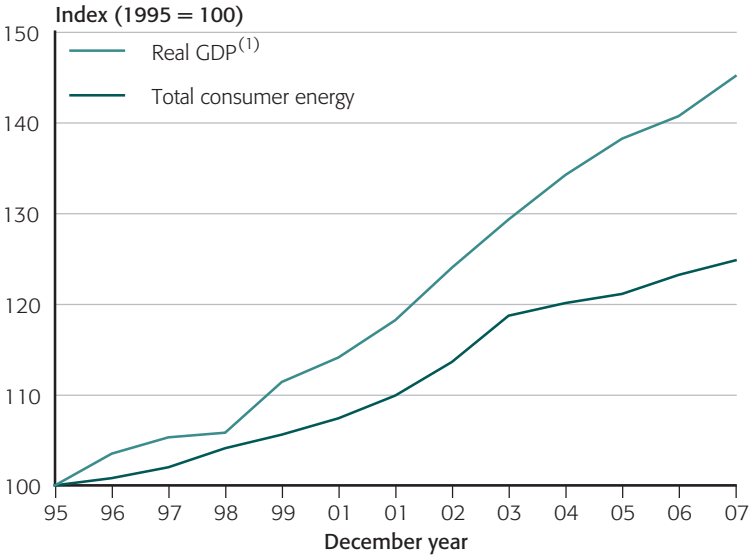
- The ratio of total greenhouse gas emissions to GDP, which takes into account production and consumption levels, has fallen since 1990. This means fewer emissions are produced per unit of GDP.
- Possible reasons include changes in the composition of the economy, for example the growth of the service sector, which produces relatively fewer greenhouse gases compared with other sectors.

Energy intensity of the economy

The energy intensity of the economy has decreased since 1995.

This indicator compares production in the economy (as measured by real GDP) with total energy demand (as measured by total consumer energy). This determines whether reliance on energy to generate economic growth is increasing or decreasing.

Energy intensity of the economy
1995–2007



Source: Ministry of Economic Development (1) For the nearest March year.

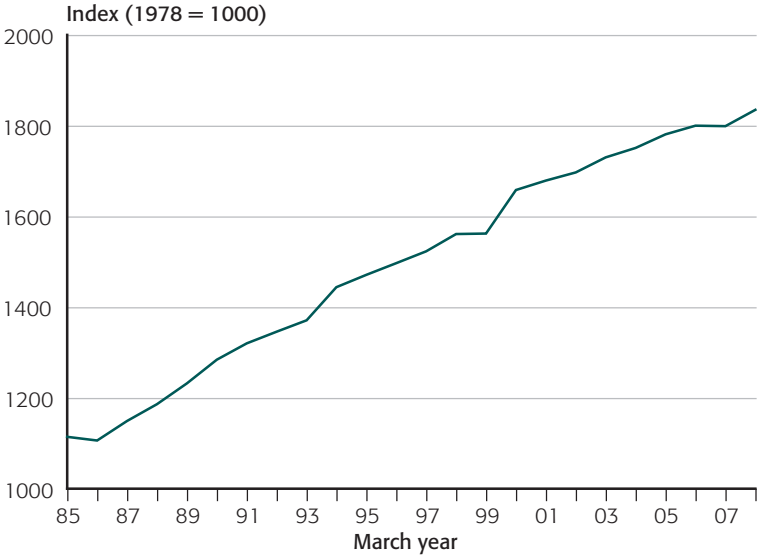
- Since 1995, GDP has increased at a greater rate than total consumer energy. As a result, the energy intensity of the economy fell 14 percent, with less energy required for each unit of value added to the economy.
- A structural factor contributing to the reduction in energy intensity in New Zealand is the growth of service industries, which are less energy-intensive than industries such as manufacturing.

Labour productivity

Since 1985, labour productivity has increased an average of 2.2% per year.

Labour productivity is a measure of the efficiency of the labour force (that is, output per worker). Growth in labour productivity implies an increase in the efficiency and competitiveness of the economy.

Labour productivity
1985–2008



Source: Statistics New Zealand

- Between 1985 and 2008, average annual growth in labour productivity was 2.2 percent. This was the result of output (as measured by GDP) growing 2.7 percent a year, and labour input 0.5 percent a year.
- The 1.3 percent annual growth rate for the latest business growth cycle (2000–08) is lower than for previous cycles. However, 2000–08 period is not a complete cycle, so any comparison should be cautious.

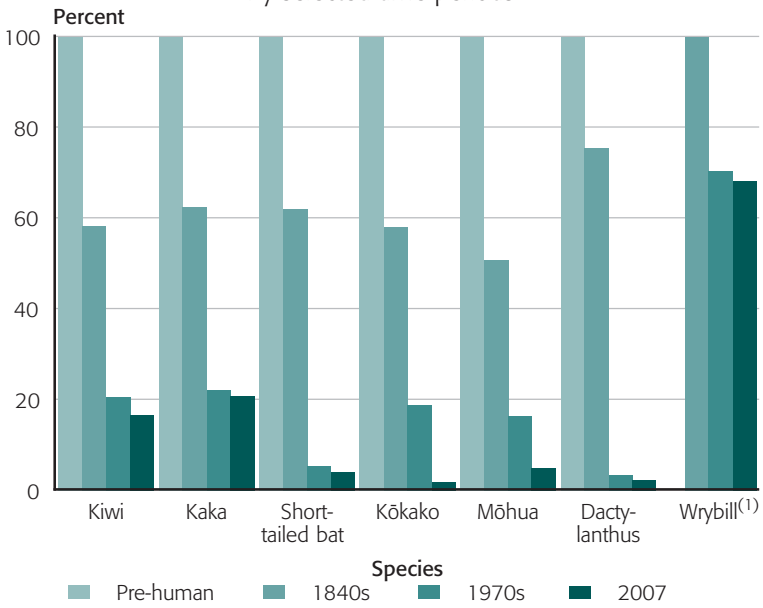
Distribution of selected native species

Since the 1970s, the distribution of all seven indicator species has continued to decline.

Biodiversity sustains the natural ecological processes on which life depends. It also underpins industries such as tourism and fishing. This indicator measures distribution changes of seven native species over time.

Distribution of selected native species as a proportion of pre-human range

By selected time periods



Source: Department of Conservation (1) Base is estimated range in 1900s.

- Four species – the short-tailed bat; dactylanthus (a flowering plant); and two bird species, the mōhua (yellowhead) and kōkako – are now found only in 5 percent or less of their pre-human range.
- The distribution of five species (kōkako, mōhua, dactylanthus, short-tailed bat, and kiwi) has further declined since the 1970s.

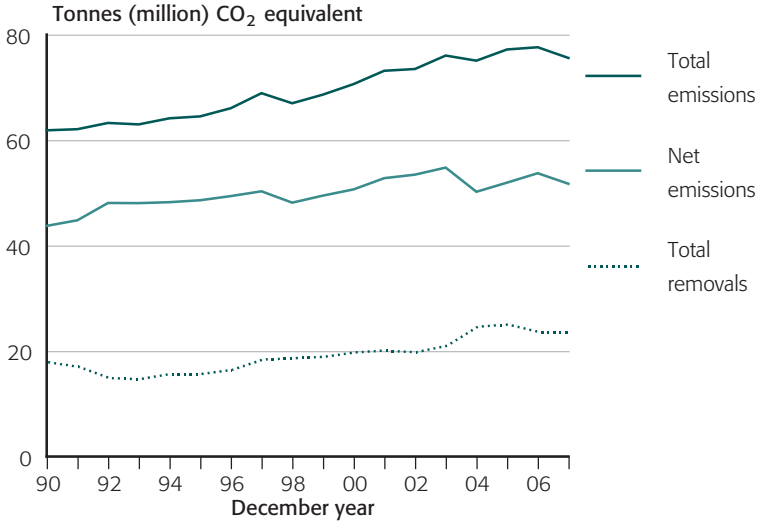
Net greenhouse gas emissions

New Zealand's net greenhouse gas emissions have grown since 1990.

There is convincing evidence that, due to industrial and other human activities, gases are being emitted in such quantities that the composition and dynamics of the atmosphere are changing. This indicator measures net annual emissions of greenhouse gases – the emissions resulting from human activity minus those removed, primarily by forests.

Greenhouse gas emissions and removals

1990–2007



Source: Ministry for the Environment

- New Zealand's net greenhouse gas emissions increased 18 percent between 1990 and 2007. Total emissions increased 22 percent.
- A total of 23.8 million tonnes of carbon dioxide equivalents was removed from the atmosphere in 2007, equivalent to 32 percent of New Zealand's total greenhouse gas emissions in that year. This represents a 31 percent increase in 'removals' since 1990.

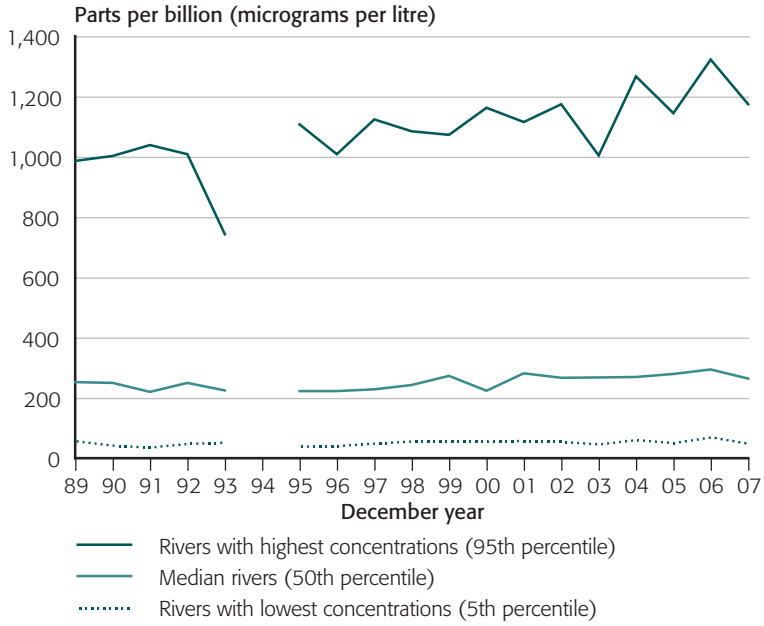
Nitrogen in rivers and streams

Levels of nitrogen at monitored sites in rivers and streams have increased since 1989.

Nutrients such as nitrogen occur naturally in fresh water and are needed by aquatic plants for growth. However, increased levels of nutrients caused by human activity can result in excessive growth and algae blooms. In urban waterways the main source of introduced nutrients is sewage, while in rural areas it is run-off of agricultural fertilisers, and stock manure and urine.

Nitrogen concentrations in rivers, by percentile group

1989–2007[(1)]



Source: Ministry for the Environment

(1) No data for 1994.

- The graph shows that nitrogen levels increased fastest in rivers which already had higher levels of nitrogen.
- Between 1989 and 2007, the median level of nitrogen in monitored rivers increased 4.6 percent (an average annual increase of 1.4 percent).

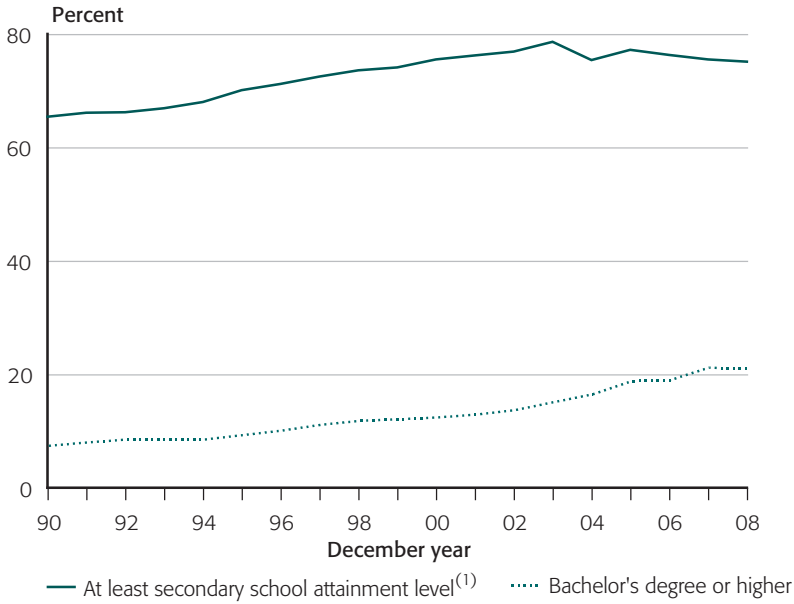
Educational attainment of the adult population

The proportion of adults with at least secondary qualifications has increased since 1990.

Educational attainment is an indirect measure of human capital. A higher level of human capital can improve economic efficiency by providing organisations and individuals with knowledge and skills for economic development. Educational attainment is also important for participation in society as well.

Proportion of the population aged 25–64 years with selected educational attainment levels

1990–2008



Source: Statistics New Zealand (1) Includes 'bachelor's degree or higher' category.

- The proportion of adults (aged 25–64) with at least secondary school-level qualifications increased steadily from 65 percent in 1990 to 75 percent in 2008. The proportion was above 78 percent in 2003.
- The number of adults with a bachelor's degree or higher rose from 8 percent in 1990 to 21 percent in 2008.

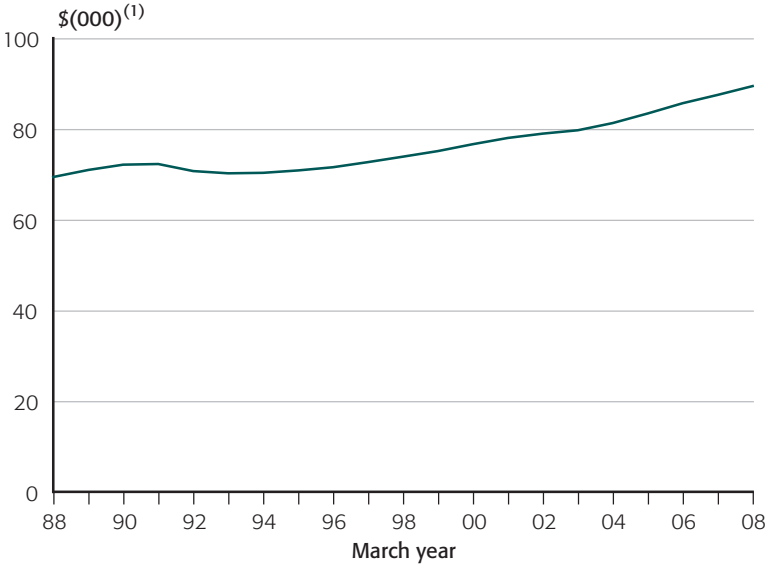
Real net stock of total assets per person

Net capital stock per person rose 29% from 1988–2008.

Real net stock of total assets is a measure of New Zealand's wealth through productive assets. This includes fixed assets such as machinery, equipment, buildings, and infrastructure that can be used continuously in the production process for more than one year. Ensuring that a broad base of assets is maintained can increase future options.

Real net capital stock per person

1988–2008



Source: Statistics New Zealand (1) 1995/96 prices.

- The volume of net capital stock rose 65 percent from 1988 to 2008.
- The increase per person, which takes into account the population increase over the same period, was 29 percent.

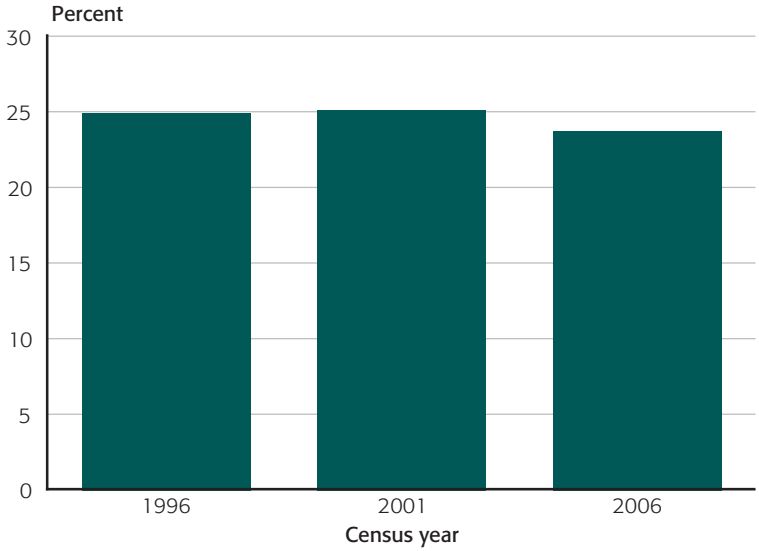
Speakers of te reo Māori

The proportion of Māori able to hold an everyday conversation in the Māori language decreased slightly between 1996 and 2006.

Language is intrinsic to expressing and sustaining culture as a means of communicating values, beliefs, and customs. As the indigenous culture of New Zealand, Māori culture is unique to New Zealand and forms a fundamental part of the national identity. Māori language is central to Māori culture and an important aspect of cultural participation and identity.

Proportion of Māori able to converse in te reo Māori

By census year



Source: Statistics New Zealand

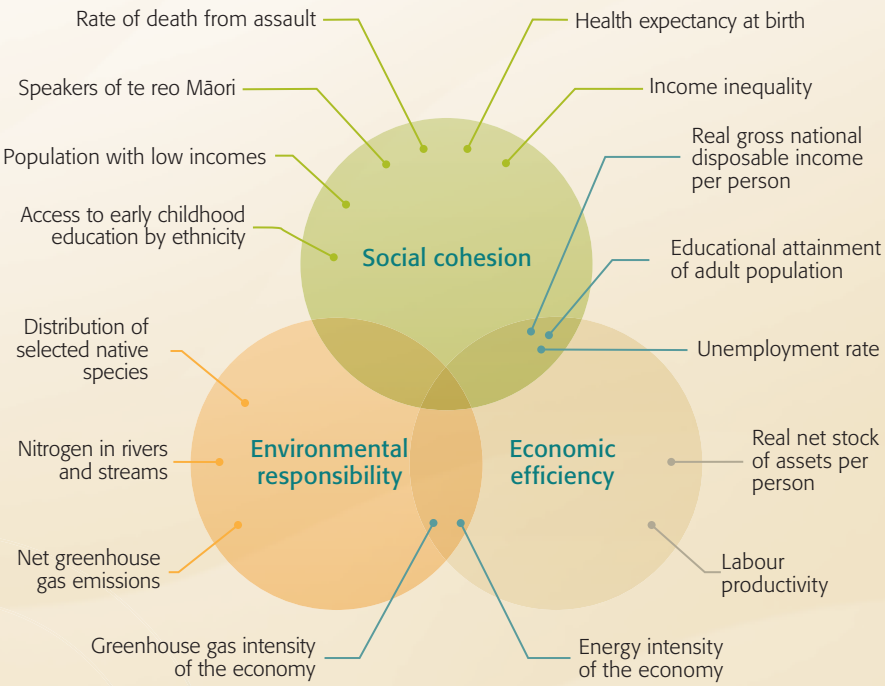
- Between 1996 and 2006, the proportion of the Māori population able to converse in Māori decreased from 25.0 percent to 23.7 percent.
- Although in 2006 there were more Māori speakers in younger age groups, the proportion of speakers in older age groups was much higher.

Further discussion on
sustainable development

Meeting needs of current and future generations, while taking into account considerations of fairness and limits of the environment, is a complex challenge. To represent this complexity three interrelated target dimensions are used. These are: environmental responsibility, economic efficiency, and social cohesion.

Each of the target dimensions has equal importance, reflecting that in the long term none of the dimensions can be achieved at the expense of any other. For example, economic development can only be sustainable if it is accompanied by healthy ecosystems and well-trained people. The target dimensions reflect the balancing act that needs to take place in order to ensure a development path is sustainable.

Relationship between target dimensions and key indicators



Additional information

Measuring New Zealand's Progress Using a Sustainable Development Approach: 2008 (www.stats.govt.nz/sustainabledevelopment)

Contact us

Email: sustainabledevelopment@stats.govt.nz
Phone toll-free: 0508 525 525

Citation
Statistics New Zealand (2009). *Key findings on New Zealand's progress using a sustainable development approach: 2008.* Wellington: Statistics New Zealand.

Printed on paper containing 50 percent recycled fibre and 50 percent New Zealand pulp. The paper is elemental chlorine free and process chlorine free, and is from a mill with a Forest Stewardship Council chain of custody certificate, and ISO 9001 and 1400a accreditation. The ink is 100 percent vegetable-based and mineral oil-free, and is based on 100 percent renewable resources.

Published in July 2009 by
Statistics New Zealand
Tatauranga Aotearoa
Wellington, New Zealand

ISBN: 978-0-478-31597-4 (print)
ISBN: 978-0-478-31596-7 (online)

www.stats.govt.nz

Contact us

Statistics New Zealand
Information Centre
P O Box 2922
Wellington 6140

Email: info@stats.govt.nz
Ph: 0508 525 525 toll-free
Ph: +64 4 931 4600

newzealand.govt.nz