

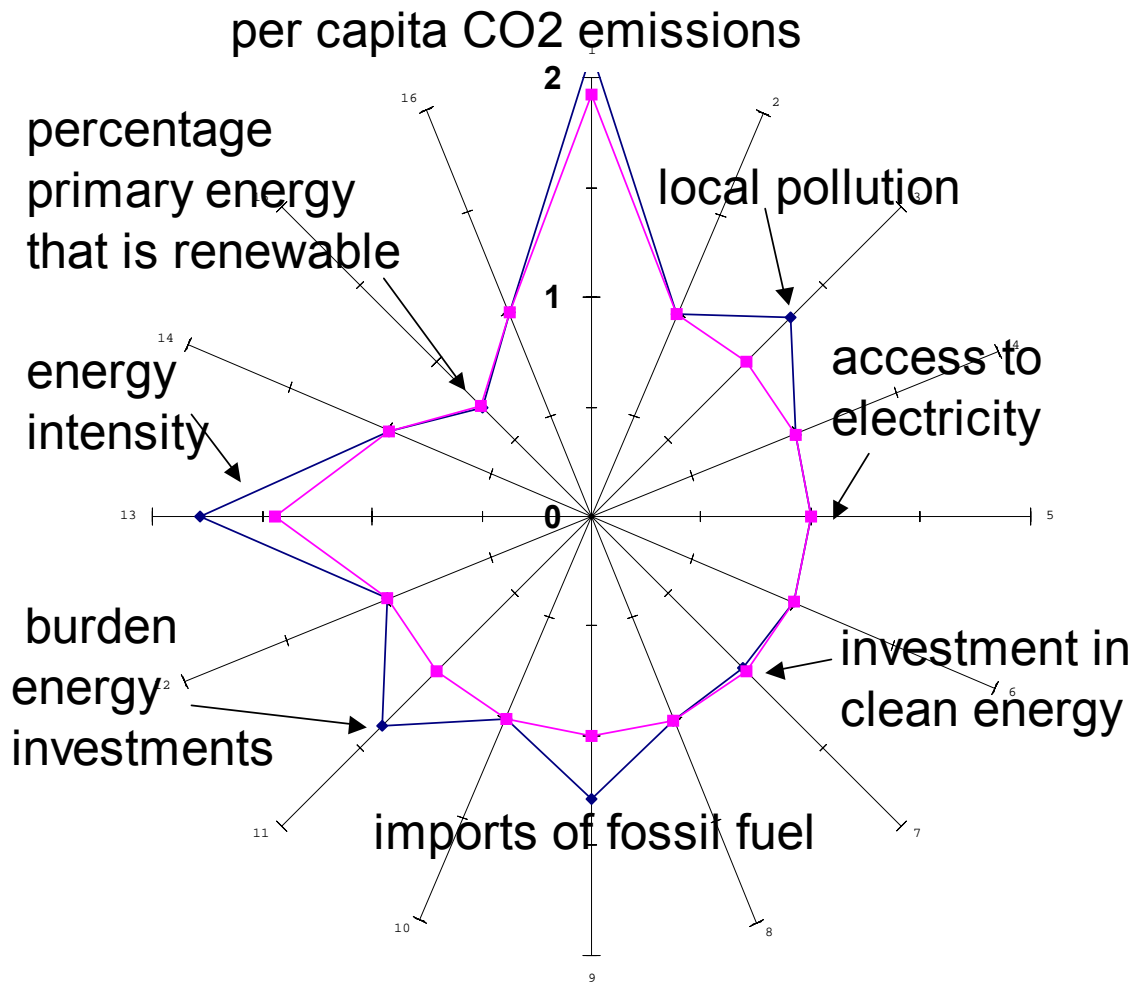
HELIO indicators

Each of the eight indicators are worked up into a measure of progress towards (or away from) a chosen sustainability target, by comparing the indicator value in the year 2000 with that in 1990. The results are shown in the table below.

indicator	NZ value in yr 2000, 1990		comments	Helio indicator 2000 1990	
	2015	1860			
CO2 emissions, kg C/capita	2015	1860	emissions depend strongly on hydro input to electricity and growth in electricity demand which is now met mainly by gas.	2,12	1.92
local emissions, days WHO standard exceeded	34	27,1	mainly from domestic solid fuel in winter; affect basins subject to temperature inversions -	1,28	1
access to electricity	100%	100%	rural reticulation is complete; some is uneconomic	1	1
investment in clean energy, million NZ\$	825	453	Investment in 'new renewables' increased rapidly in mid to late 1990s, but is now stalled	0,978	1
fraction fossil fuel sourced from imports	0,42	0,33	driven recently by increasing transport demand; future local oil production uncertain after giant Maui gas field closes in 2007	1,29	1
burden of energy investments, mNZ\$	1040	950	defined as profits going to overseas owners of NZ energy businesses; variable but definite increasing trend	1,51	1
energy intensity, MJ/\$NZ	0,783	0,89	decreasing as new equipment increases energy efficiency	1.44	1.78
% renewable energy, PJ/yr	145	123	has been increasing but future depends on whether more gas/oil is found and if so whether energy prices are driven downwards	0,704	0,718

►The “HELIO Star” for the year 2000

Each of eight indicators is graphed on a star-shaped diagram. The centre represents a goal considered achievable by the HELIO team. The value “1” represents the value of each indicator in 1990, either a global average (for per capita CO2 emissions and energy intensity), or the actual local value in 1990 (the other indicators).



The lighter line is the 1990 value; the darker one is the 2000 value.

You will see that NZ’s CO2 emissions are about twice the world global average, and getting worse. The chosen local pollution indicator (particulate emissions in Christchurch) was also getting worse, as are imports of fossil fuel, burden of debt, and energy intensity.

► Events subsequent

Since this report was completed, further decisions have been made relevant to New Zealand's energy sustainability.

- The Commerce Commission has provisionally declined the proposed electricity governance arrangements, saying that generators have too much market power, and consumers have too little say.
- The Commission has proposed a means to implement the "threat of regulation" of electricity network companies - on an economic model that explicitly promotes growth in electricity sales.
- Government released its greenhouse policy - to ratify the Kyoto protocol but defer any mandatory or market implementation for a further five years. It also exempts any industry whose competitiveness is at risk.
- Government's new policy on renewable uses a commercially oriented model, as was used for lines regulation:

"Unlike the energy efficiency side ... the investment climate for renewables is less certain and the return on renewable energy investments is less assured. Because most renewable energy technologies require large, up-front capital investments the risks are considerable in pushing investment in renewable energy too fast, too soon. If we get it wrong it could be costly for energy users, for taxpayers and for the economy as a whole."⁴⁸

It proposes mostly extremely modest targets, with no sanctions if targets are not met. On the positive side, the target for domestic solar water heaters is 10,000 per year, six times the rate of installation today. Government will commit some funding towards purchase, and also facilitate development of industry standards, and promotion of the technology.

These moves, taken as a group, reinforce this report's conclusion - that New Zealand's progress towards energy sustainability will remain slow in the absence of real policy change.

⁴⁸ "Renewable Energy" consultation document - foreword by the Minister of Energy.