



Certification Case Study – Toyota NZ Ltd
Global Vision, with extra Kiwi Drive

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EXECUTIVE SUMMARY

Toyota NZ was an early adopter of the carboNZero^{Cert™} programme and is the first car company to achieve this certification in New Zealand. It has been carboNZero certified since 2006, and CEMARS® (Certified Emissions Measurement And Reduction Scheme) certified since 2009. These steps have been taken partly in support of its parent company's global commitment to environmental leadership, but have been driven largely by local management, initiative and enthusiasm.

In cost savings alone, CEMARS and carboNZero certification would have paid for itself many times over. In particular, the quest for emission reductions led to energy audits and other initiatives which resulted in significant cost savings.

Certification led directly to energy savings in excess of \$200,000 and triggered a search for other efficiencies, leading to savings of over \$2 million to date in travel costs alone.

Benefits also include significant sales, achieved for example through tendering processes, and the ability to provide tangible evidence of leadership in corporate environmental responsibility that many have come to expect of the company.

But certification has also provided other benefits which are harder to measure. It is preparing the company well for a future in which carbon issues will challenge us all, and the automotive industry in particular.

CASE STUDY

About the Toyota Motor Corporation

The Toyota Motor Corporation (TMC) has its Head Office in Nagoya, Japan. It is now the largest automotive company in the world, both in units sold and in revenue (its annual revenue considerably exceeds New Zealand's GDP). It has an enviable reputation for its global commitment to environmental leadership.



It published the Toyota Earth Charter in 1992 and placed 'sustainable mobility' and environmental management as company priorities. Among other things, the Charter challenges the company to 'Take on the challenge of achieving zero emissions at all stages, i.e. production, utilization and disposal' throughout all areas of business activities.

This has inspired Toyota to invest heavily in the research and development of a range of 'green technologies' which reduce a vehicle's impact throughout its life-cycle, including designing for recycling and easy disassembly; light-weight materials with a high recyclable content; and improved fuel efficiency. This efficiency has been achieved particularly through the development and mass production of hybrid petrol-electric cars, of which the Prius is the best known example.

Toyota's environmental focus includes vehicle manufacture at a new generation of advanced plants, logistics and distribution to markets, the material inputs and the activities of its suppliers. Detailed environmental plans are reported from all countries around the world where its vehicles are manufactured or sold, and kaizen ('continuous improvement') goals are set annually. Accurate measurement and reduction of greenhouse gas (GHG) emissions are a top priority.

Road transportation accounts for about 10% of global carbon emissions, and these are growing rapidly. In New Zealand 22% of new vehicle sales, and 25% of all cars on the roads, are Toyotas. Clearly, action taken by Toyota globally and locally can have a major influence on emission levels.

About Toyota NZ

Toyota NZ (TNZ) is a wholly-owned subsidiary of TMC, and distributes Toyota and Lexus vehicles in New Zealand. It has its headquarters and National Customer Centre in Palmerston North, a corporate sales office, a port of entry facility (where imported vehicles are received and prepared for delivery), a storage and processing facility in Auckland, and a used vehicle refurbishment plant in Thames. TNZ has 221 employees.

It has led the market in sales in New Zealand for 23 consecutive years. This success is underpinned by innovation, product and service quality, and environmental leadership. Although to some extent this leadership follows the parent company's global lead, there has been very strong commitment to this from local management.

TNZ is the first and so far only New Zealand car company to be CEMARS and carboNZero certified. It is also the first company to have held a carboNZero certified new car launch (of the third generation Prius in 2009).

Globally Toyota has sold 3 million hybrids to February 2011 and estimates that cumulatively these have reduced CO₂e emissions by about 18 million tonnes, compared to petrol vehicles of similar size and power.

As quoted, for example, in "The Hot Topic", Gabrielle Walker and Sir David King: Transport 'makes up 13% of global greenhouse emissions, and after power generation it is by far the fastest growing... Three quarters of all transport emissions come from road vehicles... [There may be] more than a billion vehicles on the roads by 2030, and a billion more again by 2050.'



About CEMARS and carboNZero certification

carboNZero certification offers robust tools for organisations, individuals, products, services and events to measure, manage and mitigate their GHG emissions (carbon footprint), with the highest level of credibility and integrity. It was developed in 2001 from over 15 years expert scientific research on greenhouse emissions measurement, management and reporting at Landcare Research New Zealand Limited, one of New Zealand's leading Crown Research Institutes.

It is the first GHG certification scheme in the world to be internationally accredited to ISO 14065 through the Joint Accreditation System of Australia and New Zealand. The programme is recognised in over fifty economies and can be applied as a best practice standard across businesses operations, by ensuring consistency of emissions measurement, credibility of reduction and offsetting activity and independent verification of carbon neutral claims.

CEMARS certification is essentially the first two steps of carboNZero certification, measurement and management. CEMARS allows companies to measure their GHG emissions; put in place plans to reduce them, and have both of these steps independently verified and certified. The scheme was developed for large organisations or large emitting industries for which offsetting is not a viable option, or they wish to take a measured approach and further gauge the costs and benefits of positioning their organisation and products/services in the carbon neutral market space. carboNZero certification is now offered in Australia, Chile, New Zealand, United Arab Emirates and the United Kingdom.

What is covered?

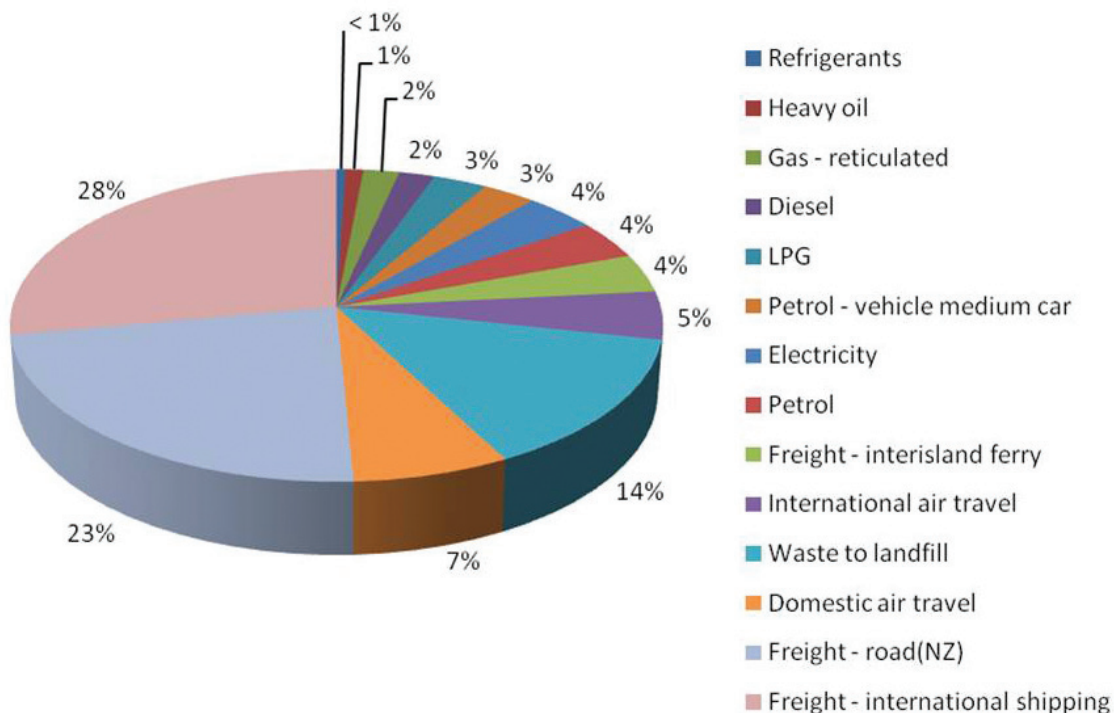
An organisation's impacts include emissions from 'Scope 1' (direct emissions from sources it owns or controls) and 'Scope 2' sources (emissions from off-site generation of electricity or other energy used), and some from 'Scope 3' sources (emissions that occur as a consequence of its activities, but from sources it does not own or control). For certification, an entity must measure emissions from all Scope 1 and 2 sources, and mandatory Scope 3 sources.

TNZ is certified in two ways. For its carboNZero certification, all fully-owned operations in New Zealand are included, but excludes separate companies such as Toyota Financial Services NZ Ltd and the franchised dealer network. Some minor, 'Scope 3' items, comprising less than 5% of the total footprint, are also excluded. TNZ has been carboNZero certified since 2006.

For CEMARS certification the same activities are covered, except that vehicle freight is included. The main effect of this is that although TNZ does not offset its vehicle freight emissions (as it would if these were included in its carboNZero certification) it is still obliged to manage and reduce these emissions under its CEMARS certification. TNZ has been CEMARS certified since 2009.

Specific details are included in the respective Disclosure Statements and in TNZ's summaries (see Notes 3 and 4).

The operational GHG emissions for TNZ by emissions source 2010/11



Commitment

Toyota believes climate change is a serious potential threat to a range of human and natural environments, and one in which businesses must play their part in addressing. TNZ's CEO Alistair Davis says, 'Toyota has a long-standing commitment to corporate sustainability. Science and common-sense dictates that climate change is a serious issue, and that cars are part of the problem. We had to decide what to do about it. Business can't succeed in a society that fails.'

He said that TMC had been active in this space, '...for as long as I can remember. This was mirrored by the passion for the environment in our senior management in New Zealand. As the science became more compelling, and we had an opportunity to move towards being carbon neutral, the question arose 'Isn't this what we should be doing?' The answer became obvious. There was no need to consult with TMC. We just did it.'

The next question was how best to go about this. TNZ Environmental Officer Tristan Lavender said that when the company was considering how to address its GHG emissions in 2004, carboNZero certification was the only credible scheme.

More recently some other carbon certification schemes have approached TNZ. But Lavender says, 'The rigorous scientific integrity behind the carboNZero programme continues to make it the logical choice and gives us the confidence to promote what we're doing, knowing that the programme is well respected around the world. And the requirement to not only offset the emissions TNZ is directly responsible for, but also to manage and reduce all of our emissions, means it delivers real and lasting change.'

Costs and Challenges

TNZ already had a reasonable understanding of its main sources of emissions, but the fully audited carboNZero certification process required a more detailed review.

Lavender says, 'Some businesses may find this level of enquiry demanding but we view it as helping us to understand our business and its impacts better. They asked us challenging questions which made us delve deeper into every corner of our organisation and unearth areas which weren't always immediately obvious to us. This has improved our accountability and transparency. Having now gone through the process a few times, we have the assurance that our actions are credible and will stand up to external scrutiny.'

There is an annual fee for certification, and an independent audit fee. Annual offset costs are significant. For 2009/2010 a total of 2757 tonnes carbon dioxide equivalents (CO₂e) were required to be offset. (At a market rate of \$25 a tonne, for example, these would cost the company almost \$70,000; in fact, TNZ's offset costs were lower than this).

However Lavender noted that any financial costs were very quickly recouped through solid cost savings (see 'Cost Savings', below)

Marketing Benefits

TNZ's certification has not been widely advertised. The company's attitude is that such initiatives are undertaken because they are the right thing to do, adding credibility to its claims of environmental leadership and responsibility. Its carboNZero certification status, Lavender says, 'is just what those who know Toyota would expect of us'.

The company's reputation is supported by strong, positive customer feedback, despite this limited promotion. Each year, the Motor Industry Association (which represents the new car industry in New Zealand) carries out a survey of car buyers'

opinions. Every year since 2005, when the survey began, Toyota has ranked 'number 1' in the section which asks which manufacturer's brand 'cares most for the environment', and 'cares most for the community'.

And in a recent survey (Colmar Brunton, 'Better Business, Better World' March 2011), Toyota was named as one of the top five company brands in New Zealand for sustainability. Lavender notes: 'CEMARS and carboNZero certification and our wider environmental activities have helped establish this view in the minds of the New Zealand public.'

It is more difficult to determine exactly how this brand loyalty might translate into individual car purchases, as there is currently no way of measuring this. However, there are strong indications that it contributes to a number of large corporate, central and local government fleet purchases, areas in which TNZ is recognised for having sound sustainability credentials, and especially amongst businesses which share its philosophy.

EXAMPLE – Tendering

The Toyota NZ experience provides an excellent example of how certification can directly influence sales through tendering processes for corporate or central and local government supply contracts. Increasingly, tender documents are questioning a vehicle suppliers environmental credentials, sometimes in considerable detail, and are expressing a strong interest not just in the product but in the company behind it. These documents provide an opportunity for TNZ to state what is being done overseas and the specific, tangible steps being taken here in New Zealand.

Some sample local government tender documents were reviewed for this case study. For maximum points, information is required regarding an organisation's carbon footprint, with measurement of Scope 1, 2, and 3 emissions, using ISO 14064-1 (the international standard for measuring and reporting an organisation's GHG emissions) or GHG Protocol standards, with reports subject to audit. Further points were allocated for evidence of reducing corporate footprints, and for any carbon-neutral or low-impact products.

When responding to such questions, having certification with a well-known and respected programme (along with a quality product) puts TNZ at a clear advantage over its competitors. As a result, TNZ management is certain that CEMARS and carboNZero certification has helped the company win a number of significant tenders.

Cost Savings

Very large annual savings, flowing directly from TNZ's certification, have been identified.

Following its first year of certification, the company decided to take a more structured approach to GHG emissions. A dedicated company-wide 'Reduction Plan' was developed under four key themes: improving efficiency, investigating renewable energy options, offsetting core emissions, and raising the awareness of how employees could support these efforts. This was presented to senior management in 2007 and approved for action.

A major element of the Plan's first theme was commissioning energy audits at its main premises at Palmerston North and Thames, where emissions had been steadily rising.

Numerous changes were introduced as a result of the audits, including revising air-conditioning and security lighting with seasonal cycles, changing office and warehouse lighting, and lagging of hot water pipes. A substantial investment was made to install more efficient paint ovens at the Thames plant, which could be supported by the large savings in energy costs and carbon emissions and quality improvements.



Implementing these changes brought about immediate savings, which accelerated in following years despite increasing sales and production levels.

2008 was an all-time volume record for TNZ sales, yet total power consumption fell substantially in all premises, resulting in a 25% drop in kWh per vehicle compared with 2006. And despite expanding the size of the Parts Warehouse and Vehicle Workshop at the Head office by a third, total power consumption fell, with a reduction of 52% per m².

By the end of 2010 gas and electricity consumption and emissions had been cut by 35% compared to the 2006 base year, and total savings of over \$200,000 had been achieved in that period at the two main sites, with further savings of about \$5,000 at the smaller premises.

The initial successes prompted a wider enquiry into other opportunities for cutting costs and emissions. Results included a 28% reduction in business air travel since 2006, with cumulative savings to 2010 of more than \$2.1 million, compared with 'business as usual'. Air travel has been reduced, for example, through the use of on-line used vehicle auctions and teleconferences. And while it would be overstating the case to attribute all of the savings in air travel over those years to carboNZero certification, this was the factor that provided the early impetus and momentum.

A 24% drop in vehicle fleet fuel use was achieved in the same period. Consumption is progressively reduced by upgrading the company fleet and promotion of fuel-saving driving techniques. Smaller but significant savings of over \$20,000 came from reducing the number of rental cars used for business purposes.

Savings were achieved both in dollars and in GHG emissions, as well as in costs per unit and energy intensity. These initiatives continue to provide annual dividends. They have been achieved by setting targets, empowering staff, providing incentives and information about how to achieve reductions, and providing feedback on results.

Lavender says, 'Such large savings contradict the conventional view that carbon management lacks real benefits or is expensive to implement, as these savings easily absorb the cost of new investments, programme fees and the purchase of carbon credits.'

The emphasis on carbon management and operational efficiency also meant that TNZ was relatively well prepared for the recent downturn in economic activity, and for a climate of rising energy costs.

An Effective Tool - Staff Carbon Performance Bonus

An early challenge was to translate TNZ's high level management commitment to reducing its impacts into something that all employees could get involved in.

Significant reductions had been made through operational improvements, but if these were to have lasting momentum they had to be embraced and integrated across the company's workforce. Raising staff awareness and commitment is the glue which helps to embed the plan. And to achieve this, it was vital to scale the objective down into individual actions, to show staff how their individual efforts were making a difference.

The first step was to decide the key indicators to use as measures of progress. Three measures were chosen which staff directly influence: business air travel (reported in kilometres), power used in the main buildings (in kWh), and company car fuel use (litres), aggregating into a total CO2 equivalent. With good data collection systems already in place for carboNZero certification reporting, results could be shown against targets and the base year (2006/07) to show the total improvement to date.

Practical suggestions were made for what staff could do, from turning off lights and computers and using printers less, to reviewing their need to fly and adopting fuel-efficient driving techniques. These were communicated to staff in newsletters, emails and meetings.

Lavender says 'We're all busy people so it's important to keep it simple. We know that many of our staff expect businesses to be responsible these days, but we accept that not everyone does. Making it easy means everyone can play a part.'

As an added incentive, TNZ added this carbon progress measure to its annual team bonus, alongside sales performance targets. Progress is compared to targets regularly, and areas highlighted if they need more focus. If year-end targets are met, efforts are rewarded with some of the savings returned to all employees. And to ensure this remains an important objective and focus for the company, it is reported as a monthly 'Corporate Key Factor' to TNZ's senior management, and to the parent company in Japan.

The bonus scheme existed throughout the certification period described above, and undoubtedly contributed to these cost savings.

Other Benefits to the company

Improvements in internal reporting processes, following certification, have been effective and are continuing to be made (examples are included under 'Wider Benefits' and 'Plans', below).

There are also some definite positives for management and staff at all levels. TNZ is considered not just to be doing the right thing but, because it is supported by credible schemes and measurements, it is able to prove it.

Building Staff Commitment

TNZ's continued carbon and cost savings rely heavily on staff engagement with this goal. And with a consistent drop in total emissions over the past 5 years, there is evidence it is working.

Such an objective could be difficult to maintain in any organisation, as roles change and there is a natural turnover of personnel. But the company believes its efforts to involve staff in their environmental projects help to attract and retain people.

In the course of this study a survey was conducted as to whether carbon-neutrality or other environmental initiatives might have encouraged staff to join TNZ. Responses from 17 employees recruited in the past two years showed that 10 knew something of Toyota's environmental activities before joining (mainly relating to hybrids globally, and support for WWF in New Zealand), and five of these said this was a factor in their desire to work for TNZ, at least to some extent; some discussed it at their interview.

16 of the 17 considered it 'very important' or 'important' that businesses take responsibility for their environmental impacts (the other response supported this 'to some extent'). Some added notes to say they are now very pleased by TNZ's environmental activities. Interestingly though, none had known about its carboNZero certification at the time they had applied.

There was positive feedback from some who did not previously know much about the company's environmental focus. Two recent recruits said, 'Now that I am aware of what is done, I see this as an added bonus to working here.' and 'Great to work for TNZ knowing about these, and that they care for our future generations'.

'This makes life easier', says Lavender. 'It means we have a lot of people who are receptive and willing to engage with our goals, and accept the challenge of doing business a little differently.'



Wider Benefits

At this stage TNZ is the only part of Toyota's international operations to be carbon neutral certified despite the global company's strong focus on GHG reduction; it will be interesting to see whether this is a lead that other parts of this multinational will choose to follow.

TNZ hopes that efforts to reduce emissions will also be taken up by some of its competitors. It considers that the seriousness of climate change requires an industry-wide response, and for other New Zealand companies to act locally, rather than just relying on actions their parent companies may be taking overseas. (See Box, Yokoten)

In addition suppliers and other businesses have been influenced or have benefited in a number of ways. Examples include:

- As an early adopter, the company gave feedback on some early versions of the measurement and reporting documents then being pioneered in the carboNZero programme, helping the certification procedure to be more streamlined and business-focused.
- For TNZ, embarking on certification required new information and internal reporting systems, sometimes with their own teething problems. For example, in 2006 the company asked its travel agency to provide data on the carbon emissions associated with business air travel and use of rental cars. This was the first time the agency had been asked for this and it took some weeks while TNZ worked with them to set up the new monthly data collection. The system has since benefited other companies following this lead, and the agency now provides this service to about 60 businesses.
- A similar challenge arose when TNZ extended its carbon measurement to the vehicle delivery logistics network in 2008. The freight company had never been asked to measure and supply this data before and it took some time to set up systems to capture the emissions data.
- TNZ is also finding ways to assist its (independently-owned) franchised dealers reduce their energy costs. The company commissioned an energy audit at a 'representative' Toyota dealer in 2008, collected power and fuel data from the dealer network, and provided advice on potential savings. This led to average savings of 6% in power and 12% in fuel usage for the network and one dealer has reduced his power use by over a third.
- TNZ contributes to many innovative local projects with social and environmental benefits. In its purchase of carbon credits, TNZ was keen to find offsets that would contribute to local communities, starting at the doorstep of its national headquarters. Between 2007 and 2010 these purchases have helped fund the Palmerston North City Council's 'Landfill to Gas' project, which generates renewable electricity from landfill waste, and powers the city's wastewater treatment system. Any surplus energy is sold to the national grid.

Yokoten – Sharing Best Practice

Kaizen is a well-known Japanese term meaning 'improvement' and has been introduced into a number of firms in Japan to encourage continuous improvement and business excellence. It is a key component of the Toyota Production System.

Less known is Yokoten which translates as 'across everywhere', and is used by Toyota to mean 'transfer of information and knowledge' or 'best practice sharing'. This has usually been applied within the organisation, encouraging the sharing of technological or organisational advances that will give others in the company a competitive advantage.

In environmental matters, Toyota has taken this further to include sharing information with other businesses, to provide benefits to society and promote environmental awareness. 'Working in cooperation with Society' is a central strand of

Toyota's Earth Charter. In the period following the release of the Stern Review, for example, TNZ shared its approach to carbon management and broader corporate responsibility with a number of other companies as they began to consider actions they could take.

Davis says the aim is to create a 'virtuous circle' in which environmental advances are shared with others – even competitors in the automotive industry - something that is in everyone's interests. 'The other companies will make their own decisions, but there won't be a planet to enjoy if we don't find solutions.'

TNZ's approach is reflected in its sustainability partnerships with several other organisations (see Note 6).

Plans

The company's 'Emissions Reduction Plan – 2009/10' lists over 80 'Activities' which are under way or planned, under such headings as 'Staff Awareness', 'Car Fleet/Fuel', 'Freight', 'Business Travel', 'Renewables', and 'Waste'. Targets are both 'absolute' ones, and 'GHG emissions intensity' targets, with progress towards these being tracked monthly. Reports show savings to date and provide a track record of achievements, and these in turn help to cultivate a mandate for further progress.

A recent improvement, in response to the new Emissions Trading Scheme legislation for NZ, has been to set up a new measurement system for voluntary disclosure of synthetic GHGs contained in imported vehicle air conditioning systems. Such internal reporting improvements are on-going.

Davis considers that some of the greatest carbon savings will be achieved in freight, as shipping and road freight now account for more than half of total emissions. These emissions are not offset because freight operators are independently owned and TNZ has less direct control of them. They are included under CEMARS reporting however, to ensure that accurate, audited information is collected and is used as the basis for seeking route and loading efficiencies. TNZ now measures all vehicle and parts road deliveries within New Zealand, including Cook Strait ferry crossings, as well as all imports of vehicles from Japan, Thailand, United Kingdom and Australia.

Davis says the search for efficiency involves reshaping and fine-tuning the way the company's logistics work, and reducing the number of steps required for a vehicle to reach the customer. This can mean taking the parts to the vehicle if minimal work is required, or moving the vehicle to the most appropriate site for the level of processing needed. For example, a recent change involved the fitting of specified parts at an earlier stage, and had reduced the need for about 4,000 vehicle movements per year, saving freight costs, time and emissions. He expected the project would bear fruit progressively over the next two years.

He says TNZ is also looking at better ways to use coastal shipping and rail to cut costs and emissions, but this is proving to be a longer process because some infrastructure is inadequate, such as railway tunnels which can accommodate cars but not vans or trucks. However, savings of about 6% per unit have been achieved initially and further savings are likely to come from improved freight, truck maintenance and driver training. The logistics of parts freight has since been studied for improvement.

Davis says that CEMARS and carboNZero certification has kept TNZ focused and disciplined in such matters. 'We get the facts and can see if we're making real progress.' He says that while TNZ's carbon neutral status might not be well-known, this is partly the company's way. 'The average Kiwi can spot a hypocrite a mile away. To us, it's important just to have the real facts.'

'Stern Review: The Economics of Climate Change', written by economist Sir Nicholas Stern for the British Government and released in October 2006.

What is CEMARS and carboNZero certification really worth to TNZ?

The following are the real benefits that the company has gained and are listed (in the writer's view, at least) in the order of their importance:

1. Outstanding preparation for a challenging future

The future is uncertain; the concept of making a company 'future-proof' is attractive but unattainable. But few things seem more certain than the likelihood that fuel prices will rise, and that there will be growing pressure on countries and companies to minimise, and offset where possible, their GHG emissions. Particularly strong pressure is likely to come on sources of rapidly increasing emissions, such as the automotive industry.

By successfully becoming certified, TNZ is unusually well placed to face such pressures. The company has built up knowledge, expertise, recording systems, operational efficiencies, leadership, and a forward-looking culture, and is continuing to do so. The company has a clear head-start in New Zealand, and is able to face such challenges head-on. And given TMC's commitment to sustainable mobility world-wide, its promotion and practice of kaizen (continuous improvement) and yokoten (best practice sharing), it is quite feasible that TNZ's example could be adopted elsewhere.

2. Supporting the Brand

Toyota is a leading brand internationally. The New Zealand company has not rested on those global laurels, but has chosen to act locally as well. In doing so, it has not just shown its alignment with 'The Toyota Way' but has taken some bold new steps of its own, in a uniquely 'New Zealand way'. It has demonstrated leadership and innovation, without major promotion, perhaps also in a typically kiwi way: 'It's just what those who know us would expect.'

3. A Forward-looking Culture

In achieving CEMARS and carboNZero certification, TNZ has been careful to ensure that management and staff have a good understanding of the reasons and benefits behind emissions reporting and reductions and of the ways they can support and contribute to this, with regular feedback on progress and positive reinforcement by way of bonuses. This has led to resilience, efficiencies and continuous improvement in emission levels.

4. Sales

Certification was not undertaken in order to boost sales in New Zealand, but it seems certain that it has done so. This has occurred both through its contribution to a favourable public image in general, and in government and business circles in particular, especially through vehicle fleet tender processes. These provide opportunities to demonstrate its commitment to environmental challenges, together with robust third-party verification of performance and progress.

5. Cost savings

Had TNZ's certification come at considerable cost, this would certainly have been justified by the above benefits. In fact, however, the investment has been paid back in full and is still paying annual dividends by way of cost savings and efficiencies. This saves real dollars each year, as well as GHG emissions. The shareholders of TMC should be very well pleased with TNZ's investment.

NOTES

1. Key sources - TNZ website www.toyota.co.nz - carboNZero website www.carbonzero.co.nz - Toyota NZ Sustainability Report, 2009 (produced every 2 years)
2. Key personnel consulted - Alistair Davis, CEO - Tristan Lavender, Environmental Officer
3. carboNZero certification - basis carboNZero certified 'organisation' covering Toyota New Zealand's organisational GHG emissions, excluding vehicle freight. www.carbonzero.co.nz/members/organisations_certified.asp#Toyota

TNZ elaborates: TNZ is carboNZero certified for its core operational emissions, which include power and air conditioning refrigerants at all its building premises, all domestic and overseas business air travel by corporate and dealer staff, fuel used by its company car fleet, courtesy, sponsorship, press and demonstration fleets, and by rental cars and taxis. It includes all fuels and heavy oils used at TNZ sites for refuelling or servicing, the racing fuel used by the Toyota Racing Series (TRS), and conventional fuel used by the TRS team to transport the cars around NZ to race events. Finally, emission calculations are made to cover operational waste to landfill and liquid waste from all sites. It excludes separate companies such as Toyota Financial Services NZ Ltd, the franchised dealer network and some minor items (comprising less than 1% of the total footprint) such as solvents and paint application, because there is currently an insufficient methodology agreed by international reporting bodies for calculating these emissions.

4. CEMARS certification - basis - CEMARS certified 'organisation' covering Toyota New Zealand's organisational GHG emissions, including vehicle freight. www.carbonzero.co.nz/CEMARScertified/cemarscertified.asp#Toyota
TNZ elaborates: In addition to its core operations, CEMARS certification includes emissions associated with the transportation of vehicles by freight companies. TNZ measures all vehicle road deliveries within NZ (including Cook Strait ferry crossings) as well as vehicles shipped from all overseas ports where vehicles are produced for the NZ market (Japan, Thailand, United Kingdom and Australia). Parts freight distribution within NZ by plane, trucks and vans are now measured. These emissions are not offset as TNZ has less direct control of them, but TNZ is working with the domestic freight company and encouraging its efforts to improve efficiencies.

5. Common abbreviations: CEMARS = Certified Emissions Measurement and Reduction Scheme

CO₂e = Carbon dioxide equivalent (in relation to potential climate change effects)

GHG = Greenhouse gas

kWh = Kilowatt hour (a unit of energy)

TMC = Toyota Motor Corporation

TNZ = Toyota New Zealand Ltd

WWF = World Wide Fund for Nature (see below)

6. Sustainability partnerships In addition to CEMARS and carboNZero certification, TNZ's sustainability partnerships include:

- 1) World Wide Fund for Nature – NZ (supporter for over 25 years)
- 2) NZ Business Council for Sustainable Development (founding member)
- 3) Sustainable Business Network (member)
- 4) SBN's Greenfleet Programme (foundation member).

Writer's Bio:

Bruce Gilkison is a Chartered Accountant and Sustainable Business Consultant, and is a frequently published writer on business and environmental issues. He has served on several NZ Institute of Chartered Accountants committees on sustainability reporting, and was appointed Life Member of the Institute's Sustainability Working Group in 2006. He was appointed International Associate of the Scotland-based Centre for Social and Environmental Accounting Research, from 1992.

