

Coordinating cleaner production programmes

Lessons from Target Zero



FOREWORD

Meridian Energy is pleased to remain involved in the Target Zero work started by ECNZ in 1997. Target Zero has demonstrated the real benefits, both environmental and in reduced operating costs, in adopting cleaner production methods and techniques.

Meridian Energy congratulates the participating companies in taking on the Target Zero initiative and achieving their targets.

New Zealand industry can take a lead from these companies and benefit directly from cleaner production and improved energy efficiency, achieving more competitive production costs, greater productivity and realising improved profits for re-investment in growth.

Meridian Energy is working with these and a number of other energy intensive companies involved in wood processing, food and manufacturing processing to further improve utilisation of process waste and other recoverable materials to produce lower cost energy and reduce unnecessary waste.

We look forward to Target Zero initiatives expanding into new regions and being adopted by more companies New Zealand wide.

Grant Smith

New Ventures Manager

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WHAT IS THIS REPORT ABOUT, AND WHY SHOULD YOU READ IT?

This report has been prepared to summarise the results and lessons learned from the Target Zero cleaner production programme. Target Zero was a two year programme, based around the formation of a network of businesses who met regularly, and were further supported on-site by individual mentors.

Target Zero was funded by the Ministry for the Environment's Sustainable Management Fund, as well as by industry and community stakeholders.

We've summarised the savings made by the participating businesses. These clearly illustrate the scope for both financial and resource savings, within a cross-section of New Zealand businesses.

We then review the lessons learned. Target Zero was a learning experience for all participants; businesses, consultants, project managers and co-ordinators alike.

This report will be of particular value to any individual or organisation currently involved in or planning to initiate a cleaner production or related programme.

The lessons learned are broken into:

what motivated businesses to implement a cleaner production programme and join Target Zero

what barriers and problems were encountered

what were some of the factors that made Target Zero a success, and

what are the areas to improve on and how could they be improved?

Our summary of these lessons is based on interviews with businesses, consultants and stakeholder companies. A separate report that evaluated the impact of Target Zero on the participating businesses is included inside the back cover of this report.

Finally we look at how Target Zero has developed in Christchurch, and at a new initiative to promote and support such programmes nationwide.

ACKNOWLEDGEMENTS

I would like to acknowledge Meridian Energy Ltd for having the vision (as ECNZ) to get the programme started. The local support provided in Christchurch by the City Council was vital, in particular the efforts of Christine Byrch. Thanks also to Chris Freear from Southpower. In the Hawkes Bay, thanks to the staff of Hawkes Bay Power, who were great hosts and to Jane Moseley and Neal Absalom at the Hastings District Council.

Thanks is also due to Professor Don Huisingh and Jim Watt for their motivational input over the course of the programme and to Lesley Stone for both the training materials and the programme evaluation.

Thanks also to the businesses who joined the programme and the consultants who mentored them.

I am particularly grateful to the willingness of the many company, council and consultant staff to answer a seemingly endless list of questions. And thanks to Cluster Creative for all the design work.

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INTRODUCTION

Over the period July 1997 - June 1999, 12 Christchurch and 10 Hawkes Bay businesses participated in a programme to implement cleaner production called Target Zero. It was initiated and co-ordinated nationally by Meridian Energy Ltd (formerly ECNZ), although much of the day-to-day management fell to local co-ordinators.

This report summarises the results from Target Zero and the lessons learned. It provides information to help local co-ordinators make cleaner production programmes more effective. Please note, it is not a 'how to' manual – for this we refer you to the numerous guides available on waste minimisation and cleaner production.

Target Zero resulted from the observation that a lot of cleaner production in New Zealand was with individual companies lacking support to sustain improvements that were made. We hoped that through Target Zero a support network of companies and local stakeholders could be established, helping to sustain company initiatives beyond a particular 'project', and spreading cleaner production to other businesses.

The following material, drawn from the application submitted to the Ministry for the Environment for SMF funding, puts in perspective the original intention and vision.

"Without proper support, all too often in waste minimisation and cleaner production projects around the world, it's been found that within a company, enthusiasm diminishes with time, or in a region, the innovators are regarded as exceptions.

The success of initiatives can be measured by the extent changed attitudes and procedures are translated into on-going, continuous improvement. There is a danger that without a sufficiently large group of committed staff or number of companies in a geographic region, cleaner production will only be implemented in isolation as a one-off exercise."

Although cleaner production has been proven successful both environmentally and financially, it has not entered mainstream business or government thinking. Sustainability has not been addressed on a regional or national scale.

The vision for Target Zero was to provide a 'critical mass' to drive the development of cleaner production and related activity - initially on a local level, but ultimately regionally and nationally.

THE STRUCTURE OF TARGET ZERO

At the core of Target Zero were two local business networks (or clubs) established in the Hawkes Bay and Christchurch. These were set up to help each business implement cleaner production, and to remain in place to sustain them beyond the life of the funded programme. In each community, stakeholders, local government, and the local power company were invited to support the programme.

Each company was assigned a consultant 'mentor' to assist them during the programme. They had a limited time budget, encouraging them to work as facilitators, rather than taking the traditional task orientated approach.

The relationship of the main stakeholders in Target Zero is outlined in Figure 1.

Figure 1: Target Zero management structure

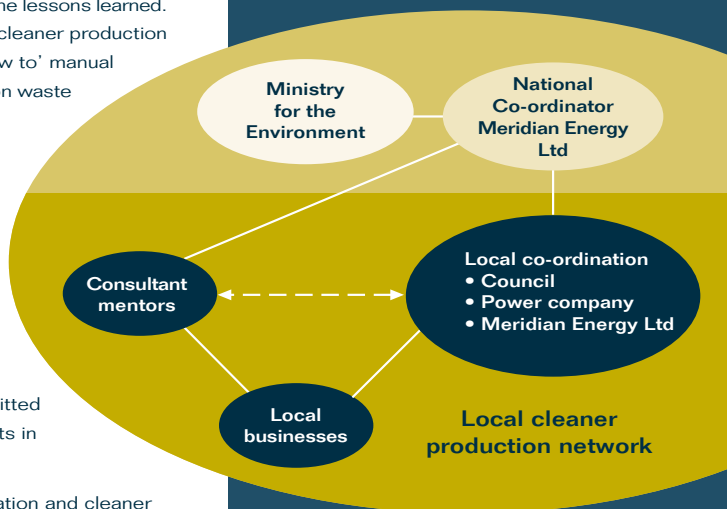
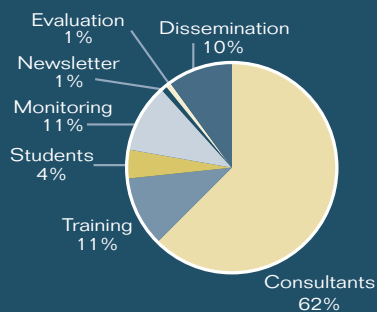


Figure 2: Budget breakdown for Target Zero



Budget

The Target Zero budget was \$764,505 (incl. GST), excluding national and local project management costs and in-kind contributions. Funding was provided by the Sustainable Management Fund (administered by the Ministry for the Environment) 48%; the business participants 39%; local government 7%; and the electricity industry 6% (primarily Meridian Energy Ltd).

The Companies

The mix of companies represented in Christchurch and the Hawkes Bay reflected the economy of the two regions.

Christchurch was evenly represented by manufacturing (electronics, rubber, fertiliser and textiles), primary processing (meat, meat by-product and dairy processing) and the service sector (education, hospitality and health).

In contrast, the Hawkes Bay was dominated by primary processing related industries (80%). Seven of the 10 companies were meat or meat by-product processing related, and one was a horticultural food processor. The two others were both packaging manufacturers.

In addition the Hawkes Bay councils also initially joined as participants, but modified their participation to co-facilitation soon after the programme started.

Table 1: Participating organisations

Christchurch	Hawkes Bay
• Alliance Group Ltd, Sockburn	• Carter Holt Harvey Packaging Ltd
• Canterbury Health	• AMCOR Food Cans Ltd
• Christchurch Polytechnic	• ENZA Foods NZ Ltd
• Feltex Carpets Ltd	• Hawke's Bay Hides Ltd
• Food Solutions Ltd	• Richmond Group Ltd, Awatoto
• Leiner Davis Gelatine (NZ) Ltd	• Graeme Lowe Tannery Ltd
• Mainland Products Ltd	• Napier Tanning Ltd
• Millennium Christchurch Ltd	• Richmond Group Ltd, Pacific Beef
• Parkroyal Christchurch Ltd	• Richmond Group Ltd, Leathers
• Ravensdown Fertiliser Co-op Ltd	• Tomoana Pelt Processors Ltd
• Skellerup Industries Ltd	• Councils of the Hawkes Bay region
• Tait Electronics Ltd	

THE RESULTS

The results of Target Zero have been broadly categorised as:

- financial
- environmental - material and energy, and
- educational.

The financial, material and energy savings achieved by the businesses are reported in the following section. The measured reduction in environmental impact was a direct result of the net savings in materials and energy.

Target Zero had an important educational function for all the participants - both businesses and stakeholders. The lessons learned from both a programme co-ordination and business perspectives are covered in subsequent sections of this report.

A programme evaluation prepared by Lesley Stone of the University of Auckland is included as a supplement to this report. It provides insight into the impact of Target Zero on the participating businesses and the factors that influenced their progress.



FINANCIAL, MATERIAL AND ENERGY SAVINGS

The degree of success in achieving financial savings varied across the companies. Success reflected both the level of support and commitment within each company, and the nature of the business. Identified savings varied from negligible to \$550,000/annum.

The breakdown of savings across key categories is summarised in Table 2 and in Figure 3.

Figure 3:
Distribution of annual \$ Savings by Category

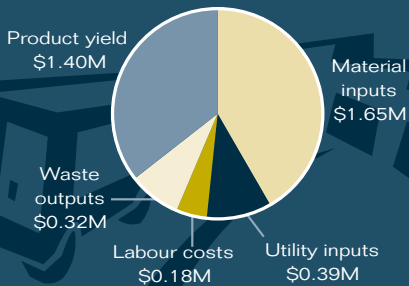
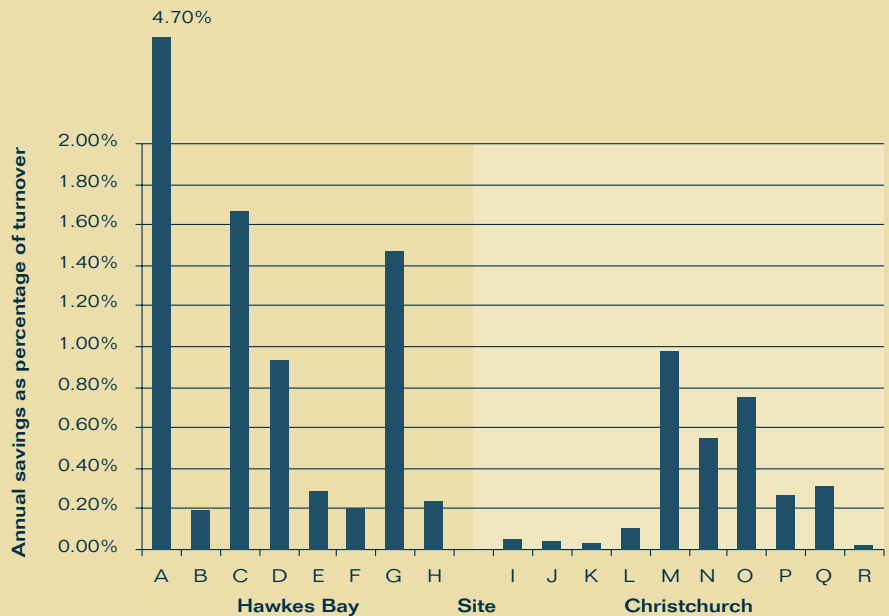


Table 2: Summary of annual savings by category

Category of saving	Hawkes Bay	Christchurch	Total
Inputs			
Water, m ³	364,200	94,200	\$62,190
Fossil fuels, GJ	26,430	17,740	\$265,300
Electricity, MWh	430	535	\$63,550
Material	\$1,155,970	\$489,440	\$1,645,410
Outputs			
Trade waste, m ³	387,280	123,990	\$116,210
Solid waste, t	1,680	890	\$239,300
Product	\$710,890	\$684,160	\$1,395,050
CO ² emissions, t	2,590	1,850	4,440 tonnes

Figure 4 presents the annual savings identified in terms of the site turnover.

Figure 4: Site savings



In total the financial savings identified through the duration of the programme were \$3.95 million/annum, split 60:40 between the Hawkes Bay and Christchurch. Approximately 80% of the identified cleaner production options have been implemented.

Figure 5:
Cost benefit on a project basis

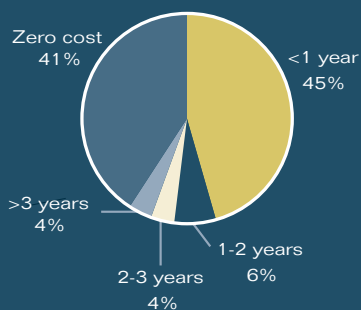
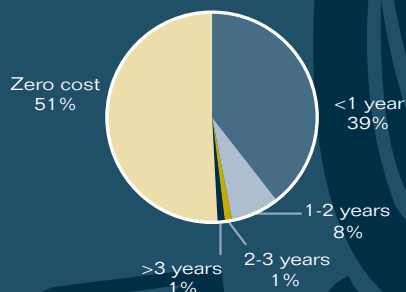


Figure 6:
Cost benefit on a total annual savings basis



When evaluating options to improve business performance, cost benefit is of key importance. No less than 41% of the identified options required no capital investment.

A further 45% had a payback of less than a year. On a savings basis, the story gets even better! 51% of the \$3.95 million identified savings were realised by implementing projects with no capital cost. Another 39% were achieved with a pay-back under one year.

In other words, 90%, or \$3.55 million of savings were achieved through projects with payback of a year or less!

Some case study highlights are presented in the companion Target Zero business brochure "You too can profit from cleaner production and waste minimisation". Detailed case studies from Target Zero are accessible at <http://www.arc.govt.nz/cp>

HOW DO PROGRAMMES LIKE TARGET ZERO INFLUENCE AN ORGANISATION?

For a business to successfully implement cleaner production, and improve environmental and business performance, inevitably requires them to change aspects of the 'way they do business'. Changes need to occur in many areas, including: behaviour and attitudes of management and staff; awareness; communication; management and reporting systems; staff responsibilities; and the level of accountability to staff, shareholders and public.

The role of the Target Zero local business network was to promote such positive influence for change.

A business organisation is subject to both internal and external influences. Target Zero identified some of these that are relevant to a business implementing cleaner production.

Internal Influences on cleaner production

Commitment

Commitment to a cleaner production goal, objective or ideal has a major bearing on the degree of successful implementation or impact on the organisation. Commitment is attitudinal, and influences behaviour and direction.

Management Style

Management style (dependent more on personality) and structure both have a major impact on the receptivity to change within an organisation.

Knowledge and Awareness

Without appropriate information in the appropriate hands (either individual managers or all staff), the status quo will remain, or even deteriorate. Business performance is dependent on being aware of, and able to balance, market demand against production capability and regulatory and resource restraints.

Personnel

The personality, motivation and competency of the organisation's personnel has a major influence on performance. The recipe for a successful project

would commonly include a team of people with a cross section of skills and motivations. Administrative, project management, analytical and motivational skills would be desirable for most projects.

Systems

Management systems, when present, influence performance significantly. Distinct from management structure, systems refer to procedures and protocols to manage aspects of business activity. For example, the ISO14000 series is designed to manage environmental performance. Less formal systems also exist.

Risk Perception

Perception of risk has a major influence on priority setting. An organisation's risk management strategy generates priorities that include compliance issues relating to the environment, health and safety, or food hygiene.

External Influences on cleaner production

Shareholders

All businesses, whether listed or unlisted, public or private, have shareholders who expect a return on investment as a result of good financial performance. Consequently there can be a strong focus on the health of the balance sheet that encourages a short rather than long-term business focus. Longer-term investment of capital or staff in seemingly non-production related activities that do not respond to an urgent - read compliant - need are not always encouraged.

Regulation

All businesses are required to comply with regulation. Shareholders and management give a high priority to investment that ensures compliance, as an important component of their risk management portfolio.

Technology

Technology has an influence on quality, efficiency and operating costs. For some businesses, the absence of 'new' technology means inefficiency and a poorer business performance. For others, technology provides the competitive edge. Technology is not confined to the big-ticket items that 'revolutionise the production process': it also includes information focused monitoring and control systems that improve performance and efficiency of existing processes.

The Market

All businesses operate in a competitive market and must respond to signals from that market. Signals may be related to quality, specification, design, service, price or the environment. All exert pressure that can cause change.

The vitality of the wider market also impacts on a business. In times of recession a business may retract and hold-off investment in new projects, initiatives or technology. Conversely in times of plenty, the focus may be on increasing production capacity to meet demand.

Information

How a business responds to any particular influence depends to a large degree on the quality, timeliness and processing of information. The quality of information on areas as diverse as the market, technology, environment, regulation and production performance has a major impact on the quality of decision making, and consequently on the type and extent of organisational change.

The role of the network

It is in the broad area of quality information provision that a local network such as Target Zero has its primary influence.

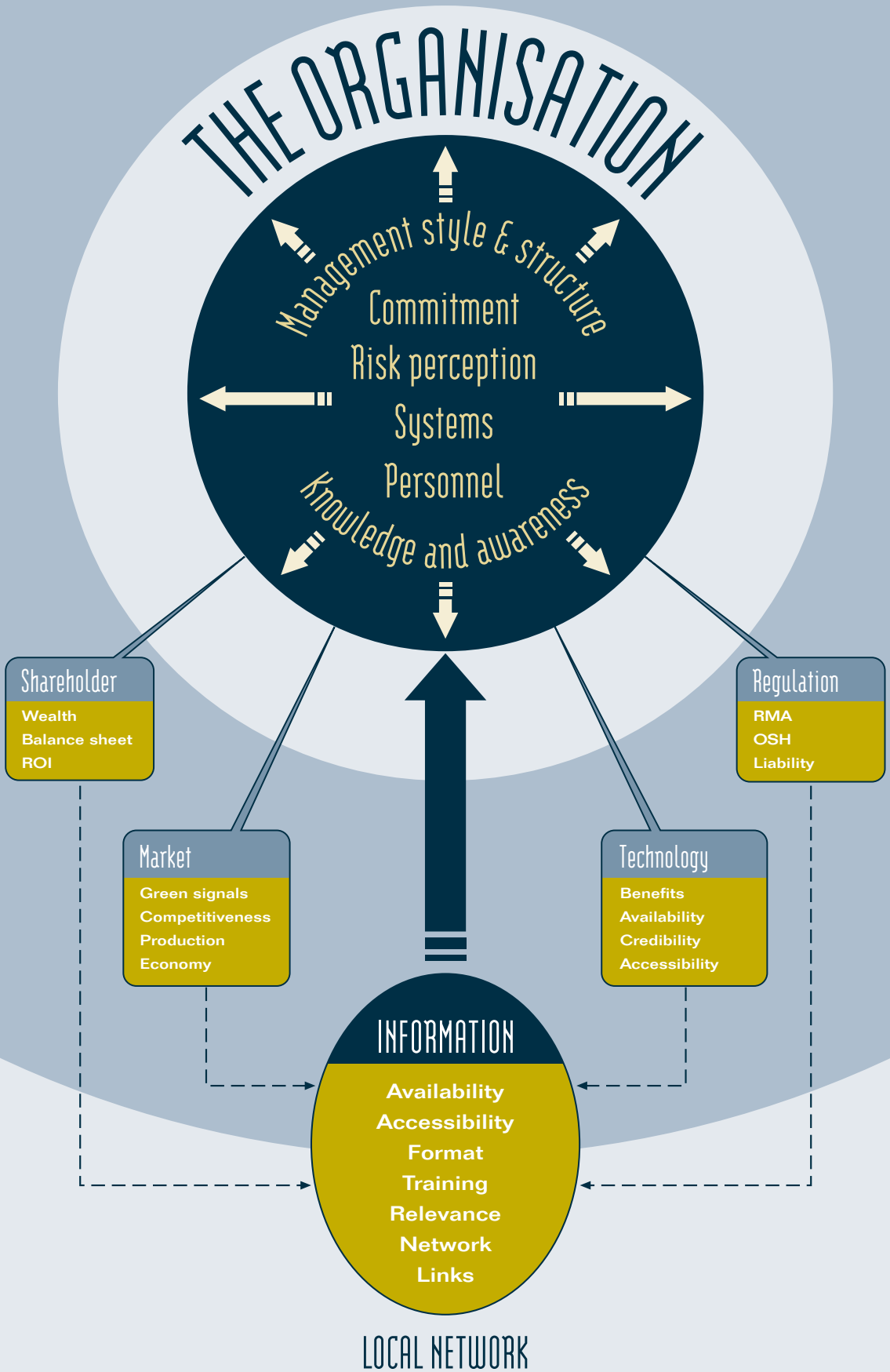
As shown in the organisational change framework of figure 7 (page 8), the Target Zero network is primarily a mechanism for transferring information.

This is achieved by anything from specialised training, to informal networking, to expert speakers.

For the network to have impact, it must be able to provide information, resources and training that are readily available as well as accessible and relevant.

Networking allows businesses to exchange ideas with their peers, and provides links to other relevant agencies and organisations.

Figure 7: Internal and external influences on an organisation



LESSONS LEARNED

Success for the participants in Target Zero can to a degree be measured by the magnitude of savings identified (and maintained in the future). But the programme's greatest value is in what was learned, and can be carried forward into subsequent initiatives.

We will now review the main motives for becoming part of the Target Zero programme, and the subsequent barriers that hindered success. The former is useful when 'selling' the concept to the business community, while the latter ensures we go into any venture with eyes open to possible pitfalls and problems.

We will then review what emerged as success factors, both from a company and a network perspective. We will combine these with 'improvement' factors identified during Target Zero – that is, areas that weren't done well and if improved upon could contribute to further success.

Our findings are derived from interviews with key company staff, the stakeholder council and power company staff, and site consultants.

WHAT MOTIVATED BUSINESSES IN TARGET ZERO?

- What motivates a business to implement cleaner production?
- What motivates a business to become part of a 'club' with other companies?

Target Zero demonstrated that the answers can be as diverse as the people you talk to, but it is well worth identifying the common themes.

This provides useful tools for your programme co-ordinator when initially marketing the concept of a cleaner production club to your business community.

Cost Benefit

The most significant motivating factor was the potential for improving bottom-line result.

Image & marketing

Close behind, image and public relations were frequently cited as a key driver. Concerns about image cut two ways:

- For some, image was related to compliance. It referred to their relationship with council and the community, and the desire to move away from their image as, for example, a 'dirty industry'.
- For some image was related to overseas markets, where there were customer related concerns with product perception, packaging and so on.

Management

A major motivating force was having a corporate imperative, or an individual manager's personal interest in improving environmental performance.

Compliance

Many companies' environmental management strategies are driven first and foremost by risk management, and are consequently compliance focussed. Several participants in Target Zero indicated compliance was a key issue.

What motivates participants

Cost Benefit
Image
Management
Compliance
Information need
Sustainability
EMS

"If our customers know that [we are running our] business in a sustainable way, then maybe they would prefer to buy those products off us, [rather] than someone who wasn't. They might refuse to do business with people that are operating unsustainably."

Target Zero participant site manager

Information

Participants also saw the network as an opportunity to source useful information. For example, one participant had an interest in technology information.

Sustainability

Although the drive to become a sustainable business was not a significant motivator, there was recognition that the time is coming when the public will make choices on the basis of the environmental track record of a product or company.

On the flip side, where it results in improved efficiency, to ignore sustainability is to wait for the competition to become more competitive and put you out of business.

Environmental Management Systems (EMS)

Companies that had begun moving toward some form of EMS, either in-house or externally accredited, saw cleaner production as a key supporting and complementary tool. So although EMS may have provided motivation for implementing cleaner production, an earlier decision was taken to institute an EMS.

WHAT ARE THE BARRIERS TO OVERCOME?

Identifying barriers to success helps us develop strategies to overcome them. Several individual barriers were identified across the Target Zero companies. Importantly, while they have been separated by name, many barriers are interdependent.

Management Commitment

The dominant problem contributing to a lack of progress was a lack of management commitment. This was reflected in a number of different ways:

- lack of 'buy-in' by senior management
- no manager made specifically responsible and accountable
- attitude of manager did not help maintain focus and priority, and
- specific targets for waste reduction, or similar, were not written into or accepted as a part of formal company policy.

The lack of commitment had a flow on effect on priorities and resources.

Priorities

Companies are continually responding to many pressures, both internal and external. They also have a finite amount of time and resources at their disposal. Often it is the perception of risk which dictates the priority placed on a particular issue, and the allocation or availability of time and resources.

Where there is regulatory pressure (such as local compliance, customer or export country regulations), resources are a given. But where resources are limited and implementation is discretionary as a result of low management interest or accountability, the 'nice-to-dos' fall away.

A firm management commitment that moves environmental performance into a 'must do' goes a long way to ensuring success.

Time & resources

A lack of time and resources was a significant barrier for many. This is a direct result of where Target Zero fell on their priority lists, which in turn is a reflection of commitment to the concept.

Although the companies committed money up front to join the programme and were required to commit 4 hours per week of staff time, for many the latter was not a reality.

In many cases staff were expected to take on Target Zero as an additional project in an environment where production is 'king'. Sometimes, that meant a lot of Target Zero meetings and spade work was done outside normal hours – or not at all! This was especially the case when there was no tangible management support for extra effort.

Conversely, where the priorities of Target Zero were fully recognised and committed to, resources were allocated.

Economic

In a tighter economic climate, the critical 'must do' section of the priority scale becomes the sole focus of a company. Whether it be a global economic recession, or a retraction in a particular market, lean economic times impact on the money supply. For example, the Asian downturn impacted several businesses during Target Zero. And that can flow onto restructuring or retraction of company activity.

Restructuring

Several of the participants in Target Zero underwent significant restructuring of staff – including ECNZ and the power companies as stakeholder companies.

Restructuring, or the rumour of restructuring, introduces considerable uncertainty and results in a loss of focus on the 'big picture'. The focus shifts to job security and company reorganising.

In the case of Target Zero, company restructuring resulted in mass change of personnel, including key project champions and team leaders.

Staff turnover

As well as restructuring, the normal turnover of staff through career advancement, retirement and relocation had a significant impact on the effectiveness of some Target Zero companies. This was particularly so where a cross representative team had not been established, and Target Zero was being driven by one or two people.

Organisation

How an organisation is structured influences how well preventative environmental improvement measures can be implemented. Examples from Target Zero included:

- One company had a team based management structure that facilitated staff involvement within Target Zero. A change in ownership reverted to a more hierarchical structure. This isolated the Target Zero group outside the management line, with a subsequent drop in effectiveness.
- One company with a rigid departmental structure found it difficult to implement savings across departments because communication between different departments was poor.

It's tough out there!

During the Target Zero programme, 4 participating sites permanently closed.

- CHH Packaging consolidated operations in Levin, closing the Hastings plant.
- Hill Country Lamb was bought by the Richmond Group in 1998 and continued operating as Richmond Awatoto before closing in 1999.
- The finished leather division of Napier Tanning was formed as a separate company in 1998 and was subsequently closed in 1999 and the operation moved overseas.
- Huttons Kiwi underwent two ownership changes during Target Zero. The second owner, Mainland Products Ltd, finally closed the plant involved in Target Zero in 1999.

A further five plants have undergone major staff restructuring, either as a result of rationalisation of production capacity or changes in ownership.

"When your costs are quite low it seems pointless to spend high volumes of money on effluent treatment plant. No business will be doing that sort of activity, I would believe, unless there was a perceived market advantage for being that environmentally friendly."

**Target Zero participant
site manager**

Personnel

The skills, enthusiasm and number of people involved implementing cleaner production on a site had a significant impact on effectiveness. Sites that were not in a position to draw upon a cross-representation of staff and skills were less effective. Team composition is important, as is the enthusiasm, motivation and leadership skills of the site 'champion' or team leader.

Resource pricing

The cost benefits of improved environmental performance (unless compliance related) are clearly linked to the costs of the resources under consideration. Generally, businesses will not invest in measures to improve the efficiency of their resource use, unless there is an acceptable return on the investment made. Many resources in New Zealand are not priced to encourage efficiency and sustainable use.

Programme structure and management

How well you as a co-ordinator present and manage a programme also has an impact. The timing, content and style of delivery are important as you strive to catch and maintain business interest and motivation. A poor programme structure or organisation limits success.

The Importance of Good Programme Management and Continuity

Although basically the same, the programme management structure had important differences in the Christchurch and the Hawkes Bay.

In both centres a key objective was to transfer 'ownership' into the local community from the corporate initiator, ECNZ.

In Christchurch, the city council confirmed its support with both staff time and financial assistance. Initially, ECNZ also had a staff member in Christchurch who was able to liaise directly with the programme stakeholders and participants.

In the Hawkes Bay, the council initially joined as a participant rather than in a facilitating role. Responsibility for local co-ordination was taken by the power company, Hawkes Bay Power, with assistance from a regional ECNZ staff member based in Palmerston North. Although a Hawkes Bay Power staff member was allocated this task, it was not a core business function.

Less than half way through Target Zero, preparation for restructuring commenced within both ECNZ and the power companies. For ECNZ this resulted in a new national project manager, and a reduction in staff available to the programme from 3 to 1.

In Christchurch the power company maintained a similar commitment to the programme, but the impact in the Hawkes Bay was far more severe with the power company withdrawing their co-ordinating role. By default and with minimal support from ECNZ the regional waste minimisation officer (domiciled with the Hastings District Council) assumed the co-ordinating role.

The division of responsibility was less clear in the Hawkes Bay and the lack of continuity of co-ordination resulted in the programme losing momentum.

WHAT WORKED WELL AND WHAT CAN BE IMPROVED

- Success factors: what were the key factors identified as contributing to the successful implementation of cleaner production through a local network approach? In other words - what worked?
- 'Improvement' factors: what specific factors, either present or absent, caused the programme to be less successful than it could have otherwise been? In other words - what didn't work and what do we change?

Participants and stakeholders specifically highlighted the factors discussed below. Success factors are first discussed from the perspective of the programme and network function, and second from participating companies.

THE NETWORK AND PROGRAMME

The network or 'club' was built by drawing 10 -12 businesses together for regular meetings to discuss and engage in activities related to the implementation of cleaner production. Participants highlighted several aspects of the 'club' as being important to its success.

Success Factors

Regular meetings

Regular meetings are important to maintain momentum and motivation, and to make networking between businesses and other community stakeholders more effective.

Peer pressure

Participants in Target Zero acknowledged the importance of peer pressure, as they made scheduled reports on progress within their respective companies.

Training and education

The network is an opportunity to provide appropriate, practical and timely training in aspects of cleaner production implementation and related initiatives. The training and educational content of the network was valued.

Motivational speakers or events

Participants acknowledged the importance of motivation to the initiation and the maintenance of the Target Zero clubs.

Expert/interest speakers

Importantly, although the networks need to focus on improving environmental and business performance through cleaner production, they also need to draw on related initiatives and provide information on relevant topic areas.

"...at the meetings we had to produce a little bit of what we had done so far and that really stopped us from procrastinating and gave us a kick up the backside."

"...you wanted to go along to meetings and say 'look here, now we are doing it well, we have done this, we gained that and these things are going well.'"

"If I hadn't been doing enough work or we hadn't been doing enough work then I certainly felt guilty and ashamed."

Target Zero participants

"...people come up against the same sort of problems and were able to bounce around what they did.

And then some people had actually tackled and improved whole areas that were common, like steam or waste water."

Target Zero participant

The way it was!



▶ **"Training too theoretical and too much all at one time"**

Site & field trips

Participants in the Target Zero networks were given the opportunity to visit one another's businesses, with different businesses hosting meetings. In addition, the local government co-ordinators arranged field trips that included: the land-fill, the wastewater treatment plant, and a local stream to discuss impacts on flora and fauna. These were well received by participants.

Committed co-ordinator

The value of an effective co-ordinator is well illustrated by how the clubs evolved in the Hawkes Bay and Christchurch.

Christchurch City Council committed a person responsible for facilitating the local network. The network has grown significantly since its establishment in 1997 and has recruited additional industries as well as initiating specialist retail, education and health groups.

In contrast the Hawkes Bay programme experienced a change of both co-ordinating organisation and personnel, and the programme subsequently lost momentum.

Council exposure

Several participants valued the opportunity to build a relationship with local government, particularly to achieve desired environmental outcomes.

Information sharing

Businesses valued the opportunity to share ideas and information.

Programme 'Lessons'

Remember, if you're not making mistakes, you're not doing much!!

Clearly, areas highlighted as not being successful are areas for improvement in the future.

The way ahead



Training

Training needs to be practical and relevant to all businesses on the programme. It is too easy to be generic!

- Include examples relevant to the business audience

Training should be structured to aid the learning experience

- Structure training around on-site issues selected by each participant, to which the training can be applied between training sessions.

▶
“Programme is too long”

▶
“Lack of tools and techniques”

▶
“Too ad hoc”

▶
“Co-ordination seemed disjointed”

▶
“Agenda-less meetings”

▶
“Service sector too different
from the rest”

Hands-on structured learning should be focused over a finite timeframe, such as 6 months.

The practicalities of implementing cleaner production requires an appreciation of available measurement, monitoring, analytical and reporting techniques. A few possible items for the training 'toolbox' are:

- the materials & energy balance (input-output analysis)
- fluid, concentration, energy and solid measuring equipment and techniques
- data handling and manipulation
- developing indicators
- calculating the true cost of waste
- financial analysis techniques
- project management
- communication strategies, and
- reporting to management to maintain their attention.

Emphasise the importance of establishing a system, whether internal or external (e.g. ISO 14001), to ensure procedures and methods are retained within the workplace and not lost as people leave or priorities change.

Structure and Organisation

The co-ordination and facilitation of a cleaner production network requires good administrative, presentation and organisational skills, not to mention vision and motivation! So:

- establish clear strategies and objectives
 - remember that the capabilities of the co-ordinator will have a major impact on the success of your programme, and
 - be prepared to provide back-up support and training.
-
- meetings must have a clear purpose and objective
 - meetings need to be creative and not rely too heavily on a formalised approach, and
 - ensure feedback from audience directs meeting format and content.

Business Mix

It is difficult to maintain the interest of a network group if participating businesses are too diverse. Options to consider include:

- forming groups based around similar business types. For example, health, education, retail sector, manufacturing or primary processing.
- forming groups based on a common interest or issues such as water use, energy use or hazardous waste.
- training new participants in a 'feeder' group that joins with a central group for other activities.

“The mentor wasn’t accessible” ▶

Mentors

- Although budget constraints may preclude engaging a consultant ‘mentor’, any person fulfilling this role, whether they be industry or otherwise, must be readily accessible.
- Better an accessible and trainable local than an inaccessible and remote ‘expert’!
- Most potential mentors will need training, guidance and support to be effective.

THE BUSINESSES

While a business network is a real benefit, whether cleaner production is implemented successfully or not by a company depends on factors that can be directly influenced by that company.

Success Factors

Company Resources

For many, a lack of staff resources was a major barrier. Where resources were made available as a part of a company’s commitment, success came a lot easier.

For example, in the case of Richmond Leathers, the site environmental officer was given responsibility for Target Zero, with a specific time allocation and inclusion in her job description. This established a priority focus and dedicated staff resource that enabled significant progress.

Mentors

Mentors were in the form of external consultants. They operated as facilitators, rather than ‘doers’, and were given a limited amount of time.

Their ability to function as mentors was however dependent on the staff resources made available. Where a company committed resources, the consultants were able to encourage, guide and support site activity. This was seen as especially valuable.

Where resources were lean, there was in some cases a regression to the traditional consultant role – ‘do the work, deliver the report’.

Personnel

The key personnel issues highlighted during Target Zero are the roles of the project team and team leader (or site champion). Key qualities include:

- cross-representation - accountant, operators, supervisors, managers and so on
- ability to handle data collection and processing such as metering and basic sampling and data handling
- sufficient numbers to withstand staff-turnover
- willingness to learn, and
- for the team leader, the ability and authority to delegate and motivate.

Management support

Where management actively supported the programme, this was a huge benefit.

Management Systems

Both in-house and externally accredited management systems provide a framework upon which to structure a cleaner production programme. A management system introduces procedures that encourage a disciplined approach and help ensure monitoring and assessments are done in a systematic manner. In addition, externally accredited systems (such as ISO 14001) require a commitment to continuous improvement and help ensure cleaner production initiatives are not confined to the one-off basket. They are a powerful way to allocate proper responsibilities and resources to achieve cleaner production objectives.

A company with a commitment to an EMS is in a better position to successfully implement cleaner production, in terms of both commitment and the supporting systems.

Students

When appropriately selected and managed, students provided a welcome extra pair of hands to assist in detailed monitoring and data analysis.

Organisational culture

Many of the cleaner production options identified during Target Zero were of little cost and highlighted the importance of changing procedures. The ability to sustain improvements once made is largely dependent on the nature of an organisation's culture and receptivity to change.

Examples of characteristics which can assist the improvement process are:

- inclusive team based structures that encourage and value participation of all staff
- management systems that can support change by redefining procedures, and
- good communication amongst staff.

Business 'Lessons'

The way it was!



▶
"Inadequate commitment,
time and resources"

The way it could be



Commitment

Ensure robust business selection criteria at the outset:

- clearly outline expectation of commitment from management, time, and resources - and don't undersell to get the numbers
- make potential participants aware of problems they may face
- commitment required from the management of participating companies could include:
 - writing on-site responsibility for the programme into staff job description(s), including agreed time allocation and performance criteria

▶
“Staff changes and disruptions
meant we lost our way”

▶
“Motivation slipped away – no
early wins – too much to do”

▶
“Staff didn’t really understand
what we were doing”

- forming a cross representative team, including the site accountant, and
- developing relevant key performance indicators to be reported to the management team and/or the board.

TEAM APPROACH

Ensure robust site team selection:

- a team approach is less vulnerable to disruption than when responsibility lies with only one person
- ensure a good cross-representation of skills and experience within the business, and
- ensure team members are not isolated by shift work or location.

MOTIVATION

After a preliminary review, encourage companies to set realistic and attainable targets at the start of the programme:

- encourage a focused approach to start with, for example, by department, waste type or issue.
- a focused approach recognises priorities and helps a business achieve early wins that maintain motivation, and
- celebrate successes!

COMMUNICATION

- Encourage and assist companies to set up internal communication systems to raise and maintain staff awareness.
- Encourage and assist companies to run in-house training to help establish changed attitudes and behaviours.

THE WAY AHEAD: OPTIONS FOR THE FUTURE

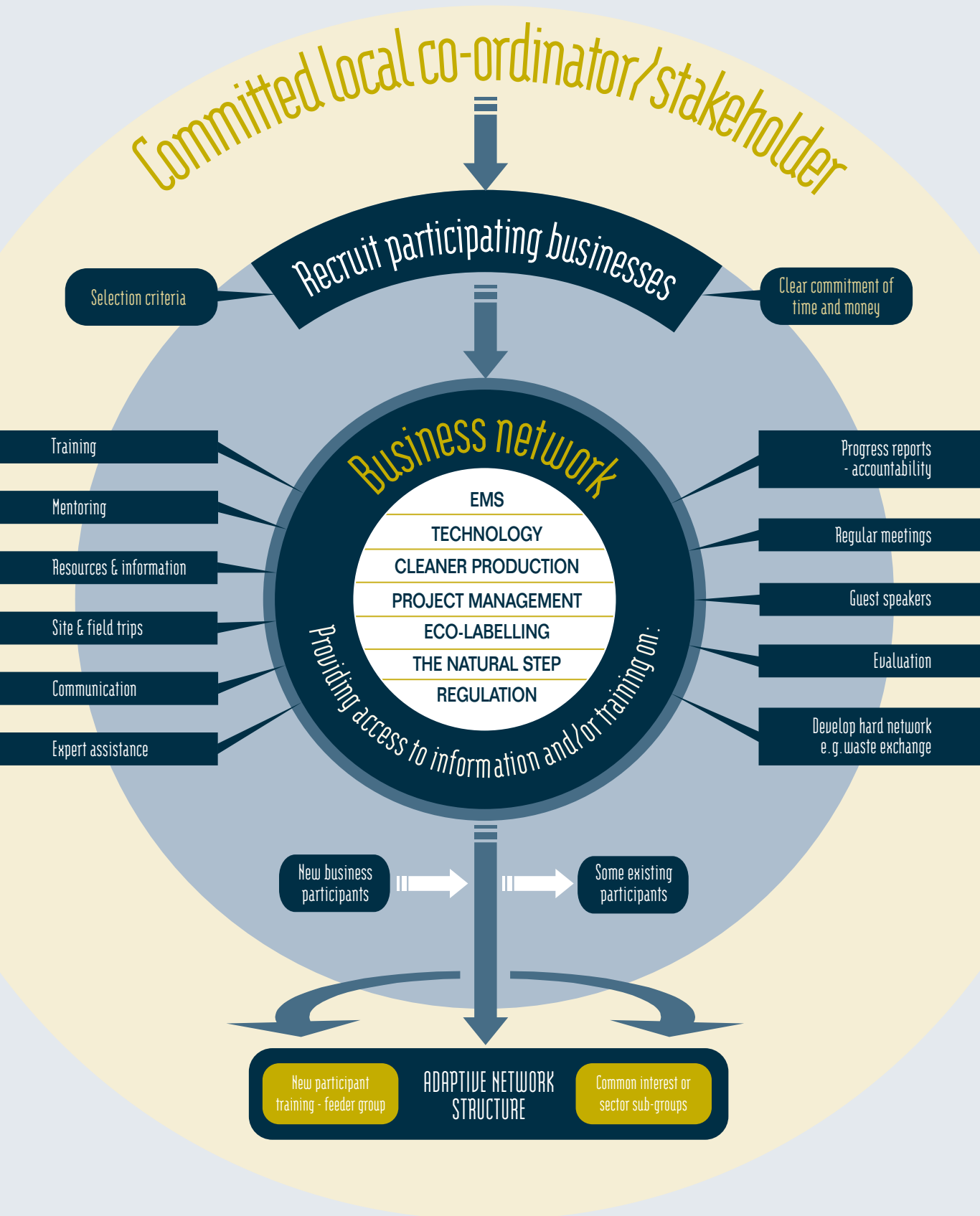
Extending Target Zero into the Community

During Target Zero the Christchurch City Council began developing a wider network involving other community stakeholders to help extend the programme.

The network includes organisations such as the Chamber of Commerce, the Manufacturers’ Association, the Canterbury Development Corporation, the Retail Merchants’ Association, the Environmental Business Network and the New Zealand Institute of Management, and other individuals and organisations with an interest in business and the environment.

Since the start of Target Zero in 1997 the Christchurch City Council has run three additional Target Zero programmes, two of which were in partnership with the Canterbury Manufacturers Association and one with the New Zealand Institute of Management. These programmes have provided learning opportunities for consultants, students and the participating businesses. The Council has also run four programmes targeting the retail sector titled ‘Green Retail’.

Figure 9: A Local Network Model



The Council has learned from Target Zero and has improved the delivery and effectiveness of the next generation of programmes. The Council funded training programmes include a series of workshops and on site assistance. They are shorter (about 6 months) and cheaper (about \$30,000). Upon completion of the training programme, participants can choose to remain in the network by attending bi-monthly 'Target Zero' or 'Green Retail' meetings featuring guest speakers and other activities.

BusinessCare: a national perspective

Funding support has been confirmed from the Sustainable Management Fund and Zero Waste New Zealand for a national support and co-ordination network called BusinessCare. BusinessCare will offer a vehicle for national networking and mentoring, the consolidation of results and the provision of additional resources where practicable, to both new and existing environmental improvement programmes.

BusinessCare has been built upon the experience of Target Zero. It aims to replicate the benefits of the Target Zero type of 'club' programme nationwide. To facilitate this aim, BusinessCare has been formed around a national-local model for the delivery and co-ordination of sustainable business initiatives.

BusinessCare will co-ordinate with similar groups to avoid duplication of effort. It will actively encourage the introduction of related programmes within local networks. Co-ordinators will be encouraged to use resources from complementary organisations to enhance, broaden and customise their local programmes.

BusinessCare will disseminate information and lessons learnt through a national office. As such, it will actively encourage the exchange of ideas and experiences between programme facilitators. Lessons learned will be more readily transferred and experiences shared, accelerating the education and implementation process.

BusinessCare will help to ensure that the experiences from previous and existing programmes are not lost.

The BusinessCare model provides a co-ordinated and functional network that will deliver:

- a national overview of sustainability related activities
- training for local co-ordinators
- a core cleaner production training programme for implementation by local co-ordinators within a local business network.
- links within the core training package to complementary tools and approaches (Environmental Choice, EMS, TNS and so on)
- communication and networking function such as linking 'mentor' co-ordinators with new programme co-ordinators, and a regular newsletter with links to other organisations.
- collation of programme results to monitor progress and effectiveness, and
- feedback mechanism to central Government.

BusinessCare resources will become available in the second half of 2000.

For more information on BusinessCare contact

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