

The Jobs Letter

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Essential Information on an Essential Issue

SPECIAL

Jobs from Waste



a special issue produced in partnership with
The Zero Waste NZ Trust

FEATURES

[Zero Waste of People — from Natural Capitalism by Paul Hawken, and Amory and Hunter Lovins](#)

[Tax Waste, Not Work — some comments by Paul Krugman](#)

The Jobs Letter is an essential information and media watch on jobs, employment, unemployment, the future of work, and related economic and education issues.

This is a subscriber-based letter published in New Zealand and edited by Vivian Hutchinson for the Jobs Research Trust

Kia taea ai te tangata te whiwhi mahi ahakoa ki whea, ahakoa ko wai.

Our objective is that every New Zealander will have the opportunity to be in paid work.

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“The world works by adherence to our departure from big ideas. And we organise ourselves around them, and then people do real well when they figure out how to improve on them, modify them, find a little niche in which to move.

“But if we stay with a big idea that's wrong too long, no matter how good the rest of our creativity is, we all get in trouble. And no matter how hard we work, we get in trouble because we work harder and harder and harder at the wrong things.

“One of the big ideas the world has to abandon is the idea that the only way to build a modern prosperous economy is with the industrial energy use patterns of the former era. This is not true.”

— *US President Bill Clinton speaking to the Auckland Apec Business CEO Summit, 12 September 1999*

“We are the only species that is using resources faster than we can replace them. We are the only species that is not using resources that we can recycle. And we are the only species that has large unemployment ...”

—*Don Riesterer, Mayor of Opotiki District Council*

“Waste is a social issue before it is a technical issue. The trouble is we've been trying to get the technicians to solve it. But our whole thesis is that you solve the waste problem through employment.

“Waste is centrally an economic development issue. The way you get your waste reduction outcomes is by creating the business opportunities and giving people work in this field...”

— *Warren Snow, manager of the Tindall Foundation and co-founder of the Zero Waste NZ Trust*

BILL CLINTON ON A BIG IDEA

- When US President Bill Clinton was in Auckland for Apec in September last year, he spoke to the Business CEO Summit at the America's Cup Village. During his speech, he departed from his notes to talk about his enthusiasm for a “big idea” which he believed was going to transform international business.

Clinton had been reading a copy of *Natural Capitalism*, by Paul Hawken and Amory and Hunter Lovins, a book which the *Wall Street Journal* credits as sparking a series of presidential speeches on business and the environment. Clinton's view is that developing countries in the new millennium won't need to be “energy hogs” to become rich ... but we all will need to depart from some of the old ideas of the industrial era. Clinton: “I have been very convinced for years that it is no longer necessary to choose between growing the economy and preserving, and even improving, the environment ... But it is quite necessary to abandon the industrial age energy use patterns.”

One of the most obvious industrial age energy use patterns which is undergoing a major revolution is our attitude towards waste. As the global economy makes ever-greater demands on the natural environment, political, business and community leaders around the world are pointing to our waste stream and recycling as areas of new business and employment potential. Consequently, the waste issue has moved from the economic margins into the mainstream.

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- The battle cry for this new revolution is “Zero Waste” ... a concept that goes well beyond traditional recycling and composting schemes. As well as an expression of concern for the environment, Zero Waste is an emerging design principle for business and the community. It is about planning for elimination of waste rather than managing or hiding it. It is about designing products for recycling and reuse, and then building up an infrastructure for the repair and redistribution of these resources. And it is about the jobs and economic development opportunities that come from following these principles.

Zero Waste is also part of a “materials revolution” which is taking shape in the new economy. While the use of recycled materials is not new, the new opportunities opening up in this field are leading to the development of new technologies which are breaking down barriers to materials recovery. This, in turn, is leading to some spectacular productivity and efficiency gains in the business sector.

But, as Bill Clinton points out, all this starts with a change in mindset. It means addressing our waste not just because it would be better for the environment. We need to look again at waste because it also represents a flow of materials and resources which is gaining great value to our economy.

- The Zero Waste revolution will go much further than the older recycling and composting programmes, because it applies “systems” thinking to the dual challenges of environmental degradation and resource recovery.

Tom Bentley, Director of the Demos think tank in London, argues that previous recycling activities failed to take off because the different parts of the overall system failed to combine “... in a victory of short-term over long-term thinking”. Bentley says the solutions to waste and resource recovery lie in understanding the role of the productive system as a whole. He also observes that this change in thinking is bringing together two spheres of society that, at first sight, seem like strange bedfellows.

Bentley: “These two spheres include the leading edge of the knowledge economy, with its emphasis on networks, collaboration, and creativity, and the emerging global movement of Greens, community enterprise and local economic development, which exemplifies innovative capacity, self-reliance and sustainability. Between them they are helping shape a new path for capitalism which shows how radical changes in resource and material productivity can improve long-term business prospects *and* achieve real environmental progress...”

ZERO-WASTE IN LOCAL GOVERNMENT

- Perhaps the clearest sign that attitudes towards waste disposal in New Zealand are changing can be found in the numbers of district councils who are signing up to the challenge of Zero Waste in their communities.

In early December, there was a national meeting in Kaikoura of the first fourteen district councils (see list) which have pledged to achieve as close as possible to 100% recycling and reuse of their waste streams by the year 2015. The point is to make disposal to landfills the absolutely last option for their local waste.

- One of the keynote speakers at the meeting was Warren Snow, co-founder of *Zero Waste NZ*, a trust which has become an important resource in supporting councils to move towards a Zero Waste vision. Snow: “This was probably the first time that councils, recyclers and advisors on waste have ever got together without the influence of those groups who have a vested interest in keeping putting our waste into landfills. The meeting heard that there are a lot of emerging trends,

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interventions and opportunities that these councils can take advantage of ... to address and eventually eliminate every aspect of the waste stream. The knowledge of how we can now all get on with it ... is being spread much quicker.”

- Zero Waste NZ Trust has been distributing information on the strategies and interventions that councils can put in place to achieve the target of zero waste to landfills. The trust has also offered to fund each council \$20,000 towards helping develop a strategy for change. This has meant that council engineers now have some discretionary money needed to explore their options in this field. The councils can also take advantage of the network of Zero Waste advisors who are available to show local politicians and engineers how to put in place an alternative waste management strategy.
- Opotiki District mayor Don Riesterer is a passionate advocate for the Zero Waste challenge in local government. Riesterer: “It is the way New Zealand has to go if we are going to maintain our clean green image that is so precious to our markets overseas. We haven’t been going long enough to see if all this is actually going to save councils money ... but if it saves the environment, and if we don’t put in place a huge timebomb in landfills for future generations, it will be certainly worth it ...”

Don Riesterer is particularly keen on the employment that can be gained from a council’s commitment towards the goal of Zero Waste: “In Opotiki we have high unemployment, sometimes up to 30% unemployed in the district, so the development of our Resource Recovery Centre has created some permanent jobs in this area. It’s significant for the young unemployed people to get involved in creating a new set-up for our community. What’s happened is that these young people have picked up the vision of Zero Waste for themselves. Not only has it increased their mana ... but it has also increased their employability later on...”

HOW MANY JOBS?

- Warren Snow predicts that if every council tomorrow decided to make their transfer stations into resource recovery centres ... then they would immediately create 2,000 jobs throughout New Zealand. Snow: “That’s just stage one. In five years, you can multiply these jobs by a factor of ten. These jobs are created by the niche recovery opportunities that flow from the recovery centres. These will be jobs in all the community groups and small businesses who would rise to the opportunities created from this waste.

“In ten years you can multiply the jobs by a factor of twenty. As the infrastructure grows around recycling as an alternative technology to landfilling, then still more opportunities for employment are created. So I’m predicting at least 40,000 jobs after ten years coming from a Zero Waste strategy...”

- In 1998, a survey of 64 recycling businesses in Auckland, undertaken by Waste Not Limited, showed that the numbers of people employed in this sector were already greater than many observers were picking. The Waste Not report found that:

— about 1,700 employees were directly involved in recycling in the Auckland region. This figure is of similar size as the forestry, fishing and agriculture sector in the region.

— a quarter of these jobs have been created since 1993.

— almost 300 more jobs are expected to be created in this local sector in the next few years.

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- on average, each business in the reuse and recycling industry directly employs 18 people.
- approximately one third of the employment positions were involved in the sorting and upgrading of recyclable materials.
- one fifth of the reuse and recycling workforce was employed in the collection of materials for recycling.
- the manufacturing industries employed a further third of those employed in this sector.
- the average wage in the recycling industry in 1998 was approximately \$12/hr.
- nearly two hundred of the employment positions were involved in administration of the recycling businesses.
- The Waste Not report says that the ability of the recycling industry to add new jobs for relatively low input makes it a great prospect for local investment. The report: “Recycling is not yet a major employment sector in the local economy, but in terms of job growth and the numbers employed per businesses it is quite spectacular ... If councils were to encourage the development of the industry, for example through the development and promotion of waste minimisation targets, the economic and local employment advantages alone could be significant.”

GLOBAL TRENDS

- The Auckland Waste Not report is characteristic of a growing international interest in the benefits that can be gained from alternative waste management strategies.

The global trends are to replace the older low-level recycling initiatives with more intensive schemes, centred on better doorstep collections. The challenge for local communities and small businesses is to build an infrastructure for the re-use, repair and redistribution of the collected resources.

Example: the City of Canberra in Australia has a policy of “No Waste by 2010”. It is developing an infrastructure to meet this policy and is breaking its waste stream down into “resource streams” including building and demolition materials, paper and cardboard, organic materials and garden wastes, naturally excavated soils, hard and soft plastics, glass and textiles. These resources are then publicised to attract and develop new industries.

- Germany has been the leading innovator for the Zero Waste revolution in Europe. German policy makers now speak in terms of “the closed loop materials economy” (CLME) whose aim is defined as establishing “circular processes by recycling products, materials, and energy which make it possible to lengthen the service life of resources...” The Germans have directed regulations, technology and financial resources to establishing German industry as leaders in this field.

The CLME philosophy has seen Germany applying modern production technology to such processes as mixed glass and mixed plastic sorting, to cleaning testing and refurbishing materials, to the automated recovery of materials from electrical and electronic goods, and to automobile disassembly. BMW, for example, now designs its cars to be 80% recyclable and has built a disassembly line near Munich to apply to *dis*-assembly the principles which Henry Ford applied in assembly. Similarly German construction firms are designing buildings which can be 80% recycled.

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- In the United States, the advances in domestic collection, coupled with improved recycling of commercial and industrial waste, are leading to high rates of recovery in the US for the main recyclable materials: over two thirds (68%) of old newspapers in the US are now recycled, 73% of cardboard, 67% of aluminium cans, and 61% of steel cans. Plastic bottles still remain low (22%) but glass is rising (37%) as is the composting of organic waste (35%).
- In California, the Integrated Waste Management Act of 1989, requires cities to divert 50% of their solid waste from landfills by the year 2000. This act alone has spurred enormous activity in the recovered materials sector. Millions of tons of recovered materials are entering the economy, and millions of dollars are being invested in the businesses needed to collect and process these materials. Existing businesses are expanding, new businesses are starting up, and out-of-state businesses are relocating to California in response to the market demand for their services.

Local officials are calling the recycling trend the “New Gold Rush”... describing the new processing firms “...coming to the Golden State to mine California's newest natural resource — garbage”.

ALL THIS LEADS TO JOBS ...

- All this is leading to more jobs ... because labour intensive recycling systems can be smarter and more productive than centralised, capital-intensive alternatives. Intensive recycling programmes depend on an army of workers, volunteers and householders acting together to bring multiple streams of waste that can be fed back into the economy as a resource.

A London Demos report, entitled “*Creating wealth from waste*”, concludes that an intensive recycling programme in Britain would provide the scope for 15,000 jobs in collection and sorting and at least 25,000 to 40,000 jobs in manufacturing and reprocessing: 40-50,000 jobs overall.

The Demos report: “At a time when the conventional wisdom declares that governments can no longer create jobs using macro-economic levers, this is profoundly important. Because they are both practical and knowledge intensive, combining manual work with information management, the kind of jobs created also point to a new tier of employment that can help replace traditional manufacturing and industrial jobs...”

- A study by the US Institute of Local Self Reliance has found that one job is created for every 15,000 tons of solid waste landfilled each year. For a similar amount of waste composted, seven jobs are created. If recycled, that material would generate nine jobs in collection and processing alone. This does not include the number of jobs that can then be created or retained in manufacturing.
- Recent German studies estimate that the national waste and recycling industry has more than 1000 firms employing an average of 150 people each, with a turnover of between 80-100 billion DM per year. This is larger than employment in either steel or telecommunications in Germany. Of these 150,000 German jobs, 17,000 have been created through packaging recycling alone.
- Besides diverting waste from landfills, recycling-based manufacturing can also form the basis of a regional revitalisation. The Materials for the Future Foundation (MFF) in California proposes that rural areas, experiencing job losses due to declines in core industries like timber, could benefit from new manufacturing enterprises that utilize recycled materials collected in the region.

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And since secondary materials are generated in population centers, plants that use recycled materials have incentives to locate in urban areas near both the material supply and the labour supply —helping to address problems of urban unemployment.

MFF: "Studies show that the value added to the economy from recycling can be in the hundreds of millions of dollars just from manufacturers using recycled feedstock. A local economy based upon materials reuse can also create many types of other jobs. At the front-end, research and development efforts provide employment to engineers, chemists, and other material specialists. At the back-end, construction workers, architects and engineers are needed to design and construct the facilities to handle the new supply of discard materials. Jobs and dollars also flow on to the other businesses in the communities such as the retail outlets, real estate and others."

- The MFF also points out the new jobs in the recovered materials industry will probably come through the development of small businesses ... because the recycling and reuse industry tends to be diverse and labour-intensive. This is in sharp contrast to the virgin materials extraction industries (timber, mining, drilling, etc.), and traditional disposal industries (land-filling and incineration), which tend to be highly centralized and capital intensive and provide fewer local job opportunities.

THE QUALITY OF THE WORK

- What is the quality of the work generated from the waste stream? Waste has traditionally offered jobs which has been low on the ladder of prestige. The dustman, the street sweeper, the rag and bone man, the office cleaner have found themselves classified as unskilled, and their social status affected by the material they handle.

But the quality of the work generated depends on the type of recycling methods chosen by the local authorities. The 1998 ground-breaking "*Reinventing Waste*" report, written for the London Planning Advisory Council (LPAC) by industrial economist Robin Murray, describes three choices:

— *a capital intensive route*, with wheeled bins, mechanised sorting and composting.

— *a low skilled labour intensive route*, with jobs concentrated in centralised sorting facilities

— *a skilled labour intensive route*, with jobs focused on kerbside sorting, householder communication, and system improvement.

- Germany, for example, has chosen a capital intensive means of collection, but with low skilled sorting of the mixed packaging waste. In 1996 there were 360 sorting stations employing 17,000 workers mainly on manual sorting from conveyor belts. But a study by the Federal Agency for Workplace Safety and Health concluded that these sorting stations are among Germany's most unhealthy workplaces, and noted the poor air quality as a result of bacteria from rotting foodstuffs and the frequent small cuts and wounds suffered from the sharp edges of cans.

A different route has been taken in Denmark. The Danish Trade Unions, foreseeing the loss of traditional waste jobs as the result of recycling, have established courses to upgrade refuse workers, developing skills in customer relations, materials handling, and data gathering and analysis.

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- The London/Murray report observes that in the UK, and in the early periods of recycling in North America and continental Europe, this “upskilling” alternative has attracted a new type of “green collar worker”.

The report: “These people are committed to the environmental impact of recycling, they have designed systems with a substantial degree of collector-household interaction, with kerbside recycling operatives separating recyclable materials. Bulking and sorting of materials at most existing London recycling depots involves operating forklifts and bulking and sorting source separated materials, not hand sorting mixed waste on a dirty conveyor-belt system. In the same way that a single kerbside recycler collects materials worth £200,000 once it is remanufactured, his or her job supports three additional jobs. At a time when new jobs are being created, it is important to ensure these are high quality jobs ...”

- The London/Murray report also points out that the new jobs are seeing more women employed in the resource recovery fields: “A system of household environmental advisory visits — covering energy, water and waste — involves a further set of skills, and like “green collar work” more generally, has provided job opportunities for women in what has traditionally been a predominantly male occupation. Women have also played a leading role in composting, and in the management of recycling programmes. One third of recycling officers in London are women...”

THE TINDALL FOUNDATION

- The backer behind the Zero Waste NZ Trust is the Tindall Foundation — the charitable trust set up by Stephen Tindall, founder of the Warehouse retail chain. This foundation has been providing grants for the last five years — with half the funds going to voluntary sector organisations operating in their own communities, and the other half going to employment and the environmental initiatives.

Wherever possible, the Tindall Foundation tries to link these categories to achieve a “double dividend”. This means they prefer to fund employment initiatives that have an environmental dimension, and environmental initiatives that also create employment opportunities and have a focus on local economic development.

- The Tindall Foundation has also helped establish the NZ Recovered Materials Enterprise Fund. The main purpose of this fund is to help expand the market penetration for recycled products by encouraging and assisting products to utilise recovered materials. The foundation has pledged \$100,000 to this fund on the basis that additional funds will also be actively sought from major suppliers of packaging and fillers, landfill operators, local, regional and national government, and community economic development agencies.

Grants are provided to projects to help with business planning, research and technical assistance. To qualify for funding, a project must be locally owned or a community enterprise, it must use a significant proportion of recovered materials, and help create new job opportunities.

- Stephen Tindall, as managing director of the Warehouse, is also working to ensure that he is running a company that practices what it preaches in terms of environmental goals. Tindall: “At the Warehouse, we understand that all business activities have environmental impacts. We believe we can make a difference in safeguarding our environment for present and future generations. Our long-term economic goal is to conduct our business sustainably. We are serious about our commitment and we have no illusions. This journey will be long and difficult...”

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The Warehouse has set itself the goal of “zero waste to landfill” by 2020. In the next twelve months the company plans to reduce the amount of waste sent from stores to landfills by a third. Its environmental goals for this year also include recycling of paper, plastic and cardboard (which represent up to 80 per cent of total waste) at all its stores, developing a comprehensive “green guide” for all suppliers, and training of all employees in waste reduction.

To promote recycling, The Warehouse now sells a range of recycled products under the “Environmental Choice” label, an independently audited and internationally recognised brand. The company is actively encouraging suppliers and manufacturers to also support this initiative.

BUSINESS AND SUSTAINABILITY

- Last year, the Warehouse became a founding member of the New Zealand Business Council for Sustainable Development (NZBCSD) with Stephen Tindall elected as vice-chairman. The group is led by Fletcher Challenge chief executive Michael Andrews.

NZBCSD has been described in the media as a “pale green” alternative to the Business Roundtable. It is an off-shoot of the Geneva-based World Business Council for Sustainable Development, which promotes corporate social responsibility as “... the third pillar of sustainable development, along with economic growth and ecological balance.” The membership of the World Council includes a Who’s Who of transnational corporations including Dow chemical, Du Pont, General Motors, Monsanto, Shell and Toyota.

Stephen Tindall: “As key decision-makers in our society, it is essential that businesses take a leadership role in pursuing sound sustainable development for our communities. To this end, the NZBCSD is developing a basic framework of indicators and measures for businesses to use in reporting on environmental and social performance...”

- Membership of the New Zealand Business Council for Sustainable Development is by invitation. The founding members include: 3M, BP, Eagle Technology, Fletcher Challenge, Hubbard Foods, INL, Landcare Research, Montana Wines, National Bank, the Dairy Board, Petros Plastics, Sanford, Simpson Grierson, Sunshine Books, Foresight Institute, Living Earth, Warehouse Group, Toyota, TransAlta, Trustpower, Waitotara Meats, Waste Management and Watercare.

ZERO-WASTE COUNCILS IN NZ

FAR NORTH

MASTERTON

MACKENZIE

GISBORNE

PALMERSTON NORTH

SELWYN

HASTINGS

NELSON

TIMARU

KAWERAU

KAIKOURA

DUNEDIN

OPOTIKI

CHRISTCHURCH

RECYCLANOMICS

“Landfills are simply dinosaurs. They are archaic ways of destroying materials. They destroy value instead of conserving value. They take material out of commerce. They waste jobs ... they are part of a system that destroys human

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value as well as material value. Landfills may lead to collection and labour efficiencies in terms of the *management* of waste ... but in terms of *resource efficiencies* they are absurd....”

— *Dr Bill Sheehan, US Grassroots Recycling Network*

“You can buy a giant recycling industry for the same amount you spent on a landfill or an incinerator. You can have a whole collection of small businesses with more jobs that are a lot more fun to work in ... and provide a more diverse and stable community economic sector ...”

— *MaryLou van Derenter, Urban Ore (US) Inc*

- Warren Snow says that communities are actually paying much more in the long-term for “hiding all our waste” in landfills, rather than building a local recycling alternative. Snow: “I would say that we will look back in years to come and wonder how on earth it was that a community could allow anybody to put a ton of stuff in the ground and get free rent forever on that piece of land. The economics of this are absolutely absurd.

“Government environmental protection agencies acknowledge that every landfill will leak ... so somebody is going to pay a clean-up bill sometime. Swedish research now shows that the leachate toxicity of a landfill is still not benign after a thousand years. Even landfill professionals are now saying that we should assess the true costs of landfills based on looking after each of them for 500 years. But these same experts admit that the problem is still going to be there in 500 years! It is this disregard for future generations that lets us think that landfills are a cheap solution today.

“So when council’s put a cost on their landfills, they seldom factor in all these ongoing expenses that will be with us for generations. When you truly work out the cost for landfills ... it usually comes out at about \$100-\$150 per tonne. But this still doesn’t include the costs for up to or longer than 500 years, nor does it include the monumental costs of cleaning up environmental disasters from landfills that have already been built in the wrong places ... like the ones we have now which are built right next to rivers.

“The landfill debate can be summed up in this way: Materials are flowing through your communities. They have value ... but the value is being hidden from you. Getting access to that value — and the jobs that come with it — will come from choosing not to hide these materials any longer.

“At the moment, the whole system is designed for hiding it away. Councils have incentivised the system based around waste, but not incentivised a system based on recovery. Universities train people engineers in waste disposal, all the equipment and infrastructure costs are already committed to this purpose. Even the consenting process is big business. In the face of all this, recycling starts to look like a pesky little additional cost to the real work of disposing of things to a landfill.

“What we are saying is that when you compare landfills with recycling — and include all the real costs involved — then time and time again we can prove that recycling is economic. We say that Zero Waste is a competing technology to landfills ... but we have to change the mindset so that councils learn to invest in this new business to make it work.”

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COMMUNITY AND SMALL BUSINESS OPPORTUNITIES

Some of the leading community and small businesses taking advantage of the new opportunities in resource recovery include:

The Community Business and Environment Centre (Kaitaia)

Waste Not Limited (Auckland)

Mid-Canterbury Wastebusters Environmental Trust

Kaikoura Wastebusters Trust

Hirunui Recyclers

Waiora Trust (Christchurch)

Second Time Resource Recovery Park (a project of the Manukau Urban Maori Authority)

Green Bikes (Palmerston North)

Waiheke Waste Resource Trust

Christchurch Sustainable Cities Trust

Laughing Dog Recycling Centre (Motueka)

Nelson Environment Centre

Wopper Recycling (Fielding)

Raglan Recycling

AN INFRASTRUCTURE FOR RECOVERY

- Successful recycling and re-use programmes are dependent on viable markets for the materials collected. This means that producers must purchase the materials in the form of recycled content ... and the consumer must also be willing to purchase goods made with recycled components. This is the infrastructure challenge that must be developed in pursuit of the Zero Waste vision.
- Example: the automobile. It is usually one of the most expensive consumer products bought by companies and families, and a major product force in the world. The car used to be viewed as a very recyclable product, when they were made mostly of metal. However, in the last ten years, cars have become more of a composite product that is now less recycled than in the past.

But this is starting to change. As an outgrowth of the European packaging and recycling directives, the European auto industry, including BMW, Volvo, Saab, and Daimler-Benz, have made commitments to have cars that will be 80% (or higher) recyclable early this century.

US recycling market development analyst Pete Grogan comments: "In order to achieve the recovery of these cars, an entire "reverse logistics" infrastructure will be put in place. This infrastructure represents the missing half of the entire consumer product manufacturing event. Just as we have hundreds of manufacturing plants churning out automobiles worldwide, we will now have hundreds of plants with high-tech mechanised systems for disassembling autos ... with tens of thousands of new employment opportunities. The auto industry's commitment to consuming recycled materials in the production of new cars will represent the largest ever single opportunity for new market development and usage of recycled content products ..."

- Here in New Zealand, one could imagine that in regions like Thames and Porirua — where car assembly plants have been closing with the loss of hundreds of jobs — this employment may return in the future as new plants are created for the disassembling and recycling of the nation's cars. This "re-use" activity in the auto industry may also become a model for numerous other industries including the

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construction industry and electronic and electrical equipment, and most other consumer products.

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RESOURCES : JOBS FROM WASTE

New Zealand

Zero Waste NZ Trust, P.O.Box 33-1695, Takapuna, Auckland phone 09-486-0734 email mailbox@zerowaste.co.nz, website: www.zerowaste.co.nz.

“Survey of Recycling Businesses in the Auckland Region” (1998) by Waste Not Limited (specialist waste consultancy) P.O.Box 33-1410, Takapuna, Auckland phone 09-486-3635 email: wastenot@xtra.co.nz

The NZ Recovered Materials Enterprise Fund, P.O.Box 33-1410, Takapuna, Auckland phone 09-486-0750

Annual report of The Tindall Foundation, available from P.O.Box 33-181, Takapuna, Auckland phone 09-488-0170

“Greenworks” special issue of Employment Matters (August 1999) a Community Employment Group publication, freely available through offices of Work and Income NZ (Winz).



“Recyclanomics” by Cliff Colquhoun and Warren Snow (1995) is available from Zero Waste NZ Trust, P.O.Box 33-1695 Takapuna, or can be downloaded (in pdf format) from The Jobs Research Website at www.jobsletter.org.nz/zerowaste.htm



“The Materials Revolution” (2000) paper by Warren Snow, also available from the [Jobs Research Website](http://www.jobsletter.org.nz) (as above).

International

“Re-Inventing Waste: Towards a London Waste Strategy” (August 1998) by Robin Murray for Ecologica and the London Planning Advisory Committee (LPAC). For more information and ordering <http://www.lpac.gov.uk/reinvent.html>

“Zero Waste: Idealistic Dream or Realistic Goal?” video (1999) dir. Paul Gonnett co-produced by the Grassroots Recycling Network, and based on the June 1999 California Resource Recovery Association Conference at Fort Mason, San Francisco. Grassroots Recycling Network website: www.grrn.org.

“Welfare for Waste —how taxpayer subsidies waste resources and discourage recycling” by Grassroots Recycling Network. Website: www.grrn.org

California Resource Recovery Association website www.crra.com

“Creating wealth from waste” (1999) by Robin Murray, for the Demos independent think tank in London. Demos website: www.demos.co.uk.

“Redeeming the Blue Box — complaints that recycling is too expensive just don’t add up” by Daniel Scott, article in Alternatives Journal 25:4 Fall 1999

“Manufacturing with Reused and recycled Materials — Fifty Small Business Opportunities” (December 1998) published by the Materials for the Future Foundation.

“What is recycling-based community economic development?” by the Materials for the Future Foundation. available on their website: www.materials4future.org.

“The Waste Paper” (monthly periodical) Bulletin of the Community Recycling Network, 10-12 Picton St, Montpelier, Bristol BS6 5QA. Website: www.crn.org.uk

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OTHER SOURCES

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Interview with Don Riesterer with Vivian Hutchinson 10 February 2000 ;

Bill Clinton speaking to Apec CEO Summit Auckland 12 September 1999 transcript in The New Zealand Herald 13 September 1999; Bill Clinton speaking 21 November conference in Florence, Italy quoted on [www.natcap.org/text/pid28\[1\].html](http://www.natcap.org/text/pid28[1].html);

“Auto industry reverse logistics infrastructure” from email correspondence by Peter Grogan to Warren Snow August 1999;

Environmental statement from the Annual report of The Warehouse Group 1999;

The Independent 19 May 1999 “Muesli man sits at pale green roundtable” by Graeme Speden;



This special issue is also available as a document (in pdf format) that can be downloaded from The Jobs Research Website at www.jobsletter.org.nz/zerowaste.htm

FEATURE

Zero Waste of People

In the long-anticipated new book *Natural Capitalism*, by Paul Hawken, and Amory and Hunter Lovins, the authors present a manifesto that asks us to transform our fundamental notions about how business is done in this new century.

The book charges traditional capitalism with always neglecting to assign value to the natural resources and ecosystem services that make all economic activity, and all life, possible. Natural capitalism, in contrast, asks us to take a proper accounting of these costs. As a first step toward a solution to environmental loss, it advocates resource productivity — doing more with less.

The book also shows how industry can redesign itself on biological models that result in zero waste, and recommends more investment in sustaining and expanding our environmental capital. It contains numerous examples of innovative and profitable businesses which are putting these principles into practice — while also gaining a decisive competitive advantage.

Also woven throughout the book is the consistent message: Moving the economy toward resource productivity can increase overall levels and quality of employment, while drastically reducing the impact we have on the environment. *Natural Capitalism* argues that there is no justification for the waste of people, through unemployment, when there is also so much urgent and good work to do.



- With nearly ten thousand new people arriving on earth every hour, a new and unfamiliar pattern of scarcity is now emerging. At the beginning of the industrial revolution, labour was overworked and relatively scarce (the population was about one-tenth of current totals), while global stocks of natural capital were abundant and unexploited.

But today the situation has been reversed: After two centuries of rises in labour productivity, the liquidation of natural resources at their extraction cost rather than their replacement value, and the exploitation of living systems as if they were free, infinite, and in perpetual renewal, it is people who have become an abundant resource, while *nature* is becoming disturbingly scarce.

- Because of the profligate nature of current industrial processes, the world faces three crises that threaten to cripple civilization in the twenty-first century: the deterioration of the natural environment; the ongoing dissolution of civil societies into lawlessness, despair, and apathy; and the lack of public will needed to address human suffering and social welfare. All three problems share waste as a common cause.

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Learning to deal responsibly with that waste is a common solution, one that is seldom acknowledged yet increasingly clear. There is nothing original in this record of national waste; what is novel is that each of the three types of waste is presented as interlocking symptoms of one problem: using too many resources to make too few people more productive. This increasingly expensive industrial formula is a relic of a past that no longer serves a present or a future.

- In society, waste takes the form of people's lives. According to the International Labour Organization in Geneva, nearly a billion people (about 30 percent of the world's labour force) either cannot work or have such marginal and menial jobs that they cannot support themselves or their families. In China, it is predicted that the number of un- and underemployed will top 200 million by the year 2000, a situation that is already leading to protests, addicted youth, heroin use, drug wars, violence, and rising criminality.

Globally, rates of unemployment and disemployment have been rising faster than those for employment for more than 25 years. For example, unemployment in Europe in 1960 stood at 2 percent; in 1998 it was nearly 11 percent. In many parts of the world, it has reached between 20 and 40 percent.

- In the United States, in 1996, a year when the stock market hit new highs, the Fordham University "index of social health" did not. The index, which tracks problems like child abuse, teen suicide, drug abuse, high-school dropout rates, child poverty, the gap between rich and poor, infant mortality, unemployment, crime, and elder abuse and poverty, had fallen 44 percent below its 1973 high.

The United States is proud of its relatively low 4.2 percent unemployment rate (1999), and should be. Yet official U.S. figures mask a more complex picture. According to author Donella Meadows, of the 127 million people working in the United States in 1996, 38 million worked part-time, and another 35 million, though working, weren't paid enough to support a family. The official unemployed rolls of 7.3 million do not count an additional 7 million people who are discouraged, forcibly retired, or working as temps. Of those counted as employed, 19 million people worked in retail and earned less than \$10,000 per year, usually without any type of health or retirement benefits.

Unemployment percentages also mask the truth about the lives of inner-city residents. In *When Work Disappears*, W. Julius Wilson cites fifteen predominantly black neighborhoods in Chicago, with an overall population of 425,000. Only 37 percent of the adults in these areas are employed. While there are many reasons for the high rates of unemployment, the dominant cause is the disappearance of jobs: Between 1967 and 1987 Chicago lost 360,000 manufacturing jobs, and New York over 500,000.

When reporting corporate restructuring, the media focuses on jobs lost. When covering the inner city, the emphasis is more on welfare, crime, and drugs; the attrition of meaningful work is rarely mentioned. The irony of urban America is that fifty years after World War II, parts of Detroit, Philadelphia, and Newark look as if they were bombed, while Dresden, London, and Berlin are livable and bustling.

- People are often spoken of as being a resource —every large business has a "human resources" department—but apparently they are not a valuable one. The United States has quietly become the world's largest penal colony. (China ranks second —most Americans have probably bought or used something made in a Chinese prison.) Nearly 5 million men in the United States are awaiting trial, in prison, on probation, or on parole. In 1997 alone, the number of inmates in county and city jails increased by 9 percent. One out of every twenty-five men in

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America is involved with the penal or legal system in some way. Nearly one of every three black men in his twenties is in the correctional system.

Is there a connection between the fact that 51 percent of the prison population is black and that 44 percent of young black men grow up in poverty? While crime statistics have been dropping dramatically since 1992 due to a combination of economic growth, changing demographics, and more effective policing, we are still so inured to criminality that rural counties seek new prison construction under the rubric of “economic development.” Indeed, despite the drop in crime, during the period 1990–94, the prison industry grew at an annual rate of 34 percent, while crime and crime-related expenses rose to constitute an estimated 7 percent of the United States economy.

Is this level of crime really caused by Colombian drug lords, TV violence, and lack of family values? Is there not something more fundamentally amiss in a society that stores so many people in concrete bunkers at astounding costs to society? (There is no cost difference between incarceration and an Ivy League education; the main difference is curriculum.)

While we can reasonably place individual blame on each drug-user, felon, and mugger, or anyone who violates civil and criminal law, we should also ask whether a larger pattern of loss and waste may be affecting our nation. Our right to assign individual responsibility should not make us blind to a wider, more comprehensive social cause and effect.

- In a world where a billion workers cannot find a decent job or any employment at all, it bears stating the obvious: We cannot by any means —monetarily, governmentally, or charitably —create a sense of value and dignity in people’s lives when we are simultaneously creating a society that clearly has no need for them. If people do not feel valuable, they will act out society’s dismissal of them in ways that are manifest and sometimes shocking.

Robert Strickland, a pioneer in working with inner-city children, once said, “You can’t teach algebra to someone who doesn’t want to be here.” By this he meant that his kids didn’t want to be “here” at all, alive, anywhere on earth. They try to speak, and when we don’t hear them, they raise the level of risk in their behavior —turning to unprotected sex, drugs, or violence —until we notice. By then a crime has usually been committed, and we respond by building more jails, and calling it economic growth.

- Social wounds cannot be salved nor the environment “saved” as long as people cling to the outdated assumption of classical industrialism that the *summum bonum* of commercial enterprise is to use more natural capital and fewer people.

When society lacked material well-being and the population was relatively small, such a strategy made sense. Today, with material conditions and population numbers substantially changed, it is counterproductive. With respect to meeting the needs of the future, contemporary business economics is the equivalent of pre-Copernican in its outlook. The true bottom line is this: A society that wastes its resources wastes its people and vice versa. And both kinds of waste are expensive.

- But it is not only the poor who are being “wasted.” In 1994, several hundred senior executives from Fortune 500 companies were asked for a show of hands based on the following questions: Do you want to work harder five years from now than you are today? Do you know anyone who wants to work harder than they are now? Do you know anyone who is or are you yourself spending too much time with your children? No one raised a hand.

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Just as overproduction can exhaust topsoil, so can overproductivity exhaust a workforce. The assumption that greater productivity would lead to greater leisure and well-being, while true for many decades, may no longer be valid. In the United States, those who are employed (and presumably becoming more productive) find they are working one hundred to two hundred hours more per year than people did twenty years ago.

- From an economist's point of view, labour productivity is a Holy Grail, and it is unthinkable that continued pursuit of taking it to ever greater levels might in fact be making the entire economic system less productive. We *are* working smarter, but carrying a laptop from airport to meeting to a red-eye flight home in an exhausting push for greater performance may now be a problem, not the solution.

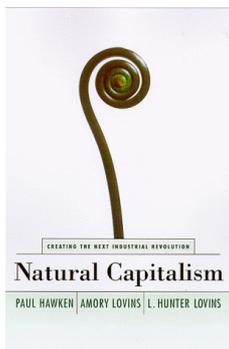
Between 1979 and 1995, there was no increase in real income for 80 percent of working Americans, yet people are working harder today than at any time since World War II. While income rose 10 percent in the fifteen-year period beginning in 1979, 97 percent of that gain was captured by families in the top 20 percent of income earners. The majority of families, in fact, saw their income decline during that time. They're working more but getting less, in part because a larger portion of our income is paying to remedy such costs of misdirected growth as crime, illiteracy, commuting, and the breakdown of the family.

At the same time, we continue to overuse energy and resources — profligacy that will eventually take its toll in the form of even lower standards of living, higher costs, shrinking income, and social anxiety. While increasing human productivity is critical to maintaining income and economic well-being, productivity that corrodes society is tantamount to burning furniture to heat the house.

- Resource productivity presents business and governments with an alternative scenario: making radical reductions in resource use but at the same time raising rates of employment. Or, phrased differently: Moving the economy toward resource productivity can increase overall levels and quality of employment, while drastically reducing the impact we have on the environment.

Today companies are firing people, perfectly capable people, to add one more percentage point of profit to the bottom line. Some of the restructuring is necessary and overdue. But greater gains can come from firing the wasted kilowatt-hours, barrels of oil, and pulp from old-growth forests, and hiring more people to do so. In a world that is crying out for environmental restoration, more jobs, universal health care, more educational opportunities, and better and affordable housing, there is no justification for this waste of people.

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Natural Capitalism

— Creating the Next Industrial Revolution
by Paul Hawken, Amory B. Lovins and L. Hunter Lovins
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There is also a Natural Capitalism website at <http://www.natcap.org> where you can download chapters of this book (in pdf format).



A radio interview with Paul Hawken about *Natural Capitalism* is available (Real Player format) on the internet at <http://www.greenwaveradio.com/ram/Hawken1.ram>, and [Hawken2.ram](http://www.greenwaveradio.com/ram/Hawken2.ram)

PAUL HAWKEN COMING TO NZ

The Recovered Materials Foundation, in partnership with the Canterbury Employers Chamber of commerce, is to bring Paul Hawken to NZ later this year.

Hawken will be a keynote speaker at a conference, entitled “Redesigning Resources — Growing the Economy While Healing the Environment”, which will be held in Christchurch 25-27 June 2000.

Also speaking at the conference will be Ray Anderson, chairman and CEO of Interface Inc, and co-chairman of Bill Clinton’s Council on Sustainable Development. Interface is a prime example of *Natural Capitalism* in practice: the company has shifted from selling traditional carpet ... to leasing “floor-covering services”, using a new material that uses 97% less material, is more attractive, is cheaper to produce, and is completely recyclable.

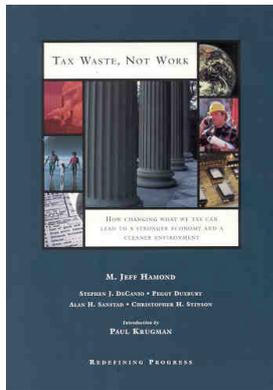
The conference is an invite-only gathering, capped at 250 delegates. For more information contact Redesigning Resources, P.O.Box 6320, Upper Riccarton, Christchurch email: redesigningresources@hotmail.com.

FEATURE

Tax Waste, Not Work

- *Tax Waste, Not Work* proposes a new approach to fiscal and environmental policy in a way that could attract broad political support. Redefining Progress, a US policy research group, gives a comprehensive guide to how we can shift the tax burden away from productive activities that should be encouraged, such as work and savings, and onto activities that should be discouraged, such as pollution, waste, and energy inefficiency.

Tax Waste, Not Work argues neither for higher taxes overall, nor a change in the distribution of the tax burden up or down the income scale. It is a proposal that would replace a portion of national taxation, perhaps 5 to 10 percent, with new environmental levies. The tax shift would also provide a significant economic stimulus package with no revenue cost.



Tax Waste, Not Work

— How changing what we tax can lead to a stronger economy and a cleaner environment

by M. Jeff Hamond and others

foreword by Paul Krugman

(pub April 1997 by Redefining Progress)

order from website www.rprogress.org



A summary of this monograph is available as a document (in pdf format) from

http://www.rprogress.org/pubs/pdf/TaxWaste_sum.pdf

TWO BIRDS WITH ONE STONE

by Paul Krugman, economics professor at MIT

- Most sensible people are, with considerable justification, suspicious of policy advocates who promise too much. They know that, as a general rule, an offer that sounds too good to be true almost always is. If the proposal involves economics, they remember that they are not supposed to believe in free lunches.

Redefining Progress argues that a shift in the way we raise revenue -- involving a partial replacement of taxes on earned income with taxes on pollution and waste — can not only protect the environment but make us richer, too. They suggest that there is a free lunch that can kill two birds with a single stone — a prospect that may seem as unlikely as the metaphor is mixed. Tough-minded readers may be inclined to dismiss this as mere wishful thinking.

They would, however, be wrong. The proposal's general outline — replacing our current command-and-control system of environmental protection with one based on the price mechanism, and using the revenue from that system as a partial replacement for other sources of revenue — is not at all a silly or unrealistic scheme. On the contrary, it is sensible and important — and may well be an idea whose time has finally come.

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- To appreciate the reasonableness of what Redefining Progress has to say, it is important to understand that it is based on several well-founded propositions. First, measures to protect the environment — indeed, broader measures than we have instituted so far — are essential. Second, taxes (or other price mechanisms, such as the sale of pollution licenses) are in many cases the most effective way to implement such protection. Finally, since existing taxes already distort incentives to work, save, and invest, any revenue generated by pollution taxes that allows other taxes to be lower creates an extra “dividend” to the economy.
- The proposition that it is important to protect the environment still has a few well-funded doubters. However, at this point the economic and human costs of pollution and other burdens on the environment, from the health effects of car exhausts to the collapse of overexploited fisheries, are by now too obvious for any but the most determined ideologue to ignore.

And it is also obvious that our current system does not provide individuals to act in an environmentally responsible manner. For example, I as an individual bear hardly any of the indirect costs that I impose on other people by driving my car or eating a fish dinner. Some form of public action to protect the environment against the consequences of the individual pursuit of self-interest is crucial.

Moreover, it has become clear in the last few years that the scope of such costs is wider than previously imagined. When environmentalism first became a powerful political force in the 1960s, most of the perceived problems were more or less local: They involved the quality of air in a given city, or the quality of water in a single river.

As world population, production, and consumption grew and continue to grow, however, we see increasing evidence of human impacts on the global — as opposed to the local — environment. With the emergence of a scientific consensus on such issues as the adverse effect of manmade chemicals on the ozone layer or that of carbon dioxide and other greenhouse gases on global temperatures, we have reached a point at which decisions that made sense from an individual perspective may impose large costs not only on their neighbours but on humanity as a whole.

- It is probably safe to say that even a few years ago a monograph proposing such a policy change would simply have been ignored. Environmentalists were still too hostile to markets; many liberals were still attracted to bureaucratic schemes of economic management; many conservatives were ideologically committed to the view that environmental problems were nonexistent.

But here, we have a proposal that cuts across the normal ideological lines: it is pro-environment, but market-oriented; it takes supply side concerns about the effects of taxes on incentives seriously, but proposes to meet them without counting on wishful thinking about economic growth. This kind of new thinking deserves attention ... perhaps now is the moment when it will get it.

— from the foreword to *Tax Waste, Not Work*)

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a New Zealand—based internet resource for employment action ...

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“ The in-born creativity of all people is no mean or accidental thing. Neglect it, and it becomes an inner source of poison. On the other hand, nothing can stop the flowering of a society that manages to give free rein to the creativity of all its people ...”

— from E.F. Schumacher, author of *Good Work* (1979)