EXECUTIVE SUMMARY

This report presents the results of a draft high-level analysis of Rotorua’s investment environment over the coming 5-10 year period, including:

- Investment paradigms (changing nature of investment).
- Rotorua’s strengths and weaknesses.
- Trend analysis, including local and global well-being and technology trends, locally relevant industry trends, and characteristics and drivers of emerging industries and technologies.
- National investment positioning.

Well-being and technology trends that underpin this analysis include the following:

- Energy prices and supply – The price of hydrocarbons is projected to trend generally upwards for the foreseeable future. The supply of energy from biomass is forecast to increase within limits. As energy markets begin a serious transition to ‘clean production’, price and supply reliability will be highly variable. Distributed generation from many small energy sources may become more attractive over time despite high initial capital costs.

- Climate change – There will likely be more frequent and severe weather events along with significant changes to local climactic conditions (eg, droughts and flooding). However, New Zealand will increasingly be seen as a relatively safe haven. Global warming will have gradual effects on agriculture and forestry that will need to be taken into account.

- Global water crisis – While this is not expected to dramatically affect New Zealand, it may provide opportunities for exporting high quality water and undertaking related R&D.

- Green consumers – Globally, there is a gradual increasing demand for eco-friendly products. Examples include bottled fresh water and organically-grown produce.

- Changing lifestyles, work patterns and family structures, including the impact of the ‘baby boomer’ generation. There is also an emerging desirability for urban village or rural lifestyle environments. New Zealand as a whole is becoming relatively more desirable as a place to visit and emigrate.

- Increasing global disruption – International trade and business are increasingly challenging due to security-based barriers and higher costs. Countries and regions that credibly offer relatively more safety, security and harmony should achieve competitive advantage.

- The uniqueness of Māori culture – Māori are a core part of Rotorua’s business environment, including tourism success. The return of substantial assets to iwi/Māori, and ongoing gains in average levels of health, education and socio-economic affluence, are driving a renaissance that should continue to provide a unique local competitive advantage.

- More difficult global and national economic conditions – NZIER economists expect quarterly economic growth to turn positive in the December 2009 quarter, led by migration-induced population growth, government stimulus packages and realisation of pent-up demand. A GDP recovery path is projected, commencing 2010 and averaging 3.5% over the following four years. The recovery will be accompanied by a still difficult economic environment, with challenging profitability and subdued demand. Rising unemployment is projected to persist until mid-2011, peaking at just under eight percent.
Transport and energy costs – This will have direct flow-on effects to the overall costs of production and consumption. A related issue is increasing awareness around ‘travel miles’ by eco-friendly consumers.

Global competitiveness and the rise of Asia – Increasing specialisation and the rise of trans-global corporations make it increasingly challenging to remain globally competitive in many industries. Also, the ethnicity, culture and language of New Zealand’s major markets is increasingly Asian, with a corresponding decrease in the relative significance of tradition markets such as Europe, Australia and the United States.

Interest and exchange rates – New Zealand’s official cash rate has been lowered decisively over the past year, from a peak of 8.2% down to 2.5% as at May/June 2009. The Reserve Bank has committed to keeping rates at or below this level until late 2010. Also, a below-trend exchange rate path over the next three years should partly insulate New Zealand’s export sector from the global recession.

Information and communication technology (ICT) – With the rapid growth of the Internet, cellphone connectivity and other technologies, ICT has become a foundation factor of production across most sectors. Broadband is effectively shrinking the world for those involved in knowledge economy or ‘weightless economy’ sectors, including designers, consultants, researchers, financial services and media.

Biotechnology and materials technology – Traditional biotechnology industries are acquiring new horizons, enabling them to improve the quality of products and increase their productivity. Rotorua has substantial capacity in the biotech area, based around the work of the Scion forestry research institute.

Environmental management – Key issues relevant to Rotorua include R&D and practices relating to lakes water quality, urban air quality (particulates emissions) and nitrogen loss from dairy farming. Opportunities exist for increased local investment aimed at both addressing local issues and on-selling to national and international markets.

### Key matters that will shape future investment in Rotorua

<table>
<thead>
<tr>
<th>International</th>
<th>National</th>
<th>Regional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial environment – Recession and recovery</td>
<td>Forestry – Forest servicing, wood products servicing</td>
<td>Trans-Tasman Airport and related services</td>
</tr>
<tr>
<td>Transport and energy prices and supply</td>
<td>Tourism – Development of attractions, - conference market, spa, adventure, events and complementary accommodation (eg, apartments)</td>
<td>Transport – Regional transport hub</td>
</tr>
<tr>
<td>Climate change</td>
<td>Education – Tertiary education (key focus areas supporting industry and community)</td>
<td>Energy – Geothermal, biomass, hydro, distributed generation</td>
</tr>
<tr>
<td>Global water crisis – Water quality technologies</td>
<td>Māori resources – management and business infrastructure to support CNI and other settlements</td>
<td>Leisure - sport and recreation</td>
</tr>
<tr>
<td>The rise of Green consumerism</td>
<td>Changing lifestyles, work patterns and family structures</td>
<td>Uniqueness of Māori culture</td>
</tr>
<tr>
<td>Global competitiveness and the rise of Asia</td>
<td>Dairying – Product development</td>
<td>Forestry biotechnology – R&amp;D and products commercialisation (eg, materials and fuels)</td>
</tr>
<tr>
<td>Environmental management</td>
<td>Niche manufacturing</td>
<td>Manufacturing and engineering</td>
</tr>
</tbody>
</table>
Emerging industries and technologies

Emerging industries are inherently difficult to foresee, though ‘obvious’ in hindsight. They are characterised by low predictability, rapid growth, reliance on highly skilled people and unconventional associations. Drivers of emerging industries in the Rotorua context include:

- Environmental protection through better production processes, including sensor technologies.
- Wellness, healthcare, active recreation and fitness for an aging population.
- New intermediaries enabled by information technology.
- Agricultural and horticultural options with above-average margins.

There are many other market opportunities that have arisen over the past decade, and new opportunities will continue to surface over time. Business competitiveness and the relative importance of these drivers are constantly changing. There is also an accelerating growth in the value of intangible assets such as design talent, global brands, specialist knowledge and social capital (e.g., business relationships). The following national and global trends underpin many emerging industries:

- Global population growth.
- Globalisation of supply chains, brands and knowledge.
- Ageing population.
- Higher per capita incomes and propensity to consume.
- Degradation of the natural environment.
- Advances in communications technology.
- Increased rate of change in consumer moods and trends.

Emerging industries and technologies relevant to Rotorua include:

- Green-tech – Including clean, renewable energy generation and R&D (geothermal, bioenergy, etc).
- Biotech – Particularly in relation to technology commercialisation of Scion research to produce biomaterials and biofuels.
- Water quality – R&D and manufacturing.
- Specialist agricultural/horticultural production, for example production of niche fruits for emerging growth markets.
- Recycling and waste management – Including both R&D and manufacturing from waste materials.
- ICT – Wider application of information and communications technologies.
- Film and television production – There continues to be demand for high quality and niche media products.
- Spa/therapeutic/beauty tourism and holistic medical practices.
- Adventure, sports and nature tourism.
- Education – Including tertiary education services, and English language tuition.

A wide range of additional ideas have been solicited through recent brainstorming exercises.
CONTENTS

EXECUTIVE SUMMARY.............................................................................................................. ..ii

1.0 INTRODUCTION................................................................................................................. 1

2.0 INVESTMENT PARADIGMS............................................................................................... 2

3.0 Rotorua’s Strengths and Weaknesses ................................................................................. 3

3.1 Rotorua’s competitive strengths........................................................................... 3

3.2 Rotorua’s weaknesses ........................................................................................ 4

3.3 Investor/business perceptions of Rotorua............................................................. 5

3.3.1 Rotorua Perception Survey results ................................................................................ 6

3.3.2 Investor/Business perceptions – Invest, set up and do business............................. 6

3.3.3 Migrant Focus Group Results ..................................................................................... 6

3.3.4 Immigration and Lifestyle Investment Workshop ......................................................... 7

3.3.5 Summary...................................................................................................................... 9

4.0 Trend Analysis........................................................................................................... 11

4.1 Well-being and technology trends........................................................................ 11

4.1.1 Environmental trends................................................................................................. 11

4.1.2 Social and cultural trends....................................................................................... 12

4.1.3 Economic and financial trends.................................................................................. 13

4.1.4 Technological trends.............................................................................................. 15

4.2 Industry trends ........................................................................................................... 16

4.2.1 Tourism...................................................................................................................... 16

4.2.2 Forestry...................................................................................................................... 17

4.2.3 Farming...................................................................................................................... 17

4.2.4 Manufacturing........................................................................................................... 17

4.2.5 Green-tech................................................................................................................. 17

4.2.6 ICT............................................................................................................................ .1 9

4.2.7 Iwi/Māori development............................................................................................... 19

5.0 Emerging Industries and Technologies........................................................................ 20

5.1 Characteristics of emerging industries and technologies ........................................... 20

5.2 Drivers of emerging industries.................................................................................... 21

5.3 Emerging industries and technologies relevant to Rotorua....................................... 22

6.0 National Investment Positioning.................................................................................... 23

6.1 Traditional industries – tourism, forestry, farming...................................................... 23

6.2 Local energy generation............................................................................................... 23

6.3 Bio-materials................................................................................................................. 24

6.4 Immigration and lifestyle investment........................................................................... 24

6.5 Land use optimisation.................................................................................................. 25

6.6 Water quality................................................................................................................ 25

6.7 Research and development........................................................................................ 25

6.8 Other opportunities..................................................................................................... 25

7.0 SUMMARY........................................................................................................................ 26
1.0 INTRODUCTION

The concepts of economic ‘gardening’ and economic ‘hunting’ have attracted interest recently. One activity of the Destination Rotorua Economic Development Unit (DREDU) is to attract new investment to the District. The focus is on complementary businesses that would not compete directly with incumbent firms. The following have been provided as draft economic hunting objectives:

- To attract new businesses to Rotorua.
- To increase business investment in Rotorua.
- To grow district GDP.

This report presents the results of a draft global and national analysis of Rotorua’s investment environment over the coming 5-10 year period, including:

- Investment paradigms (changing nature of investment).
- Rotorua’s strengths and weaknesses.
- Trend analysis, including local and global well-being and technology trends, locally relevant industry trends, and characteristics and drivers of emerging industries and technologies.
- National investment positioning.

The information in this report comprises Phase 2 of a broader analysis that incorporates:

- Rotorua analysis – competitive advantages, international alignment strategic opportunities, barriers to investment, industry analysis.
- Profile of current investment opportunities.
- Investment models (including liaison with key businesses, industry sectors and investment advisors).
- Identification of priority investment opportunity areas.
- Development of an action plan to support ‘economic hunting’ (including an overview of service provision to Rotorua investment support and assistance, and input into the development of resources and materials).

The structure and content of this report is draft only. Feedback is sought from key informants in Rotorua’s commercial, industrial and service sectors. Feedback should be directed to: Deryck Shaw, APR Consultants Ltd, e-mail deryck.shaw@apr.co.nz or phone 349 8320.
### 2.0 INVESTMENT PARADIGMS

The nature of investment decisions is changing and becoming increasingly complex, however basic economic concepts continue to underpin decision-making processes. These include:

- **Factors of production and technology** – The return from any investment depends in the first instance on the raw materials that are used to produce goods and services. Factors of production, including land, labour, education and skills (human capital), social capital (norms and networks) and other factors such as organisational capability, together facilitate production. The basic economic problem is how to achieve optimal returns when there is scarcity amongst the factors of production. Note that the mechanism by which factors of production are transformed into goods and services is through ‘technology’ (in a broad sense) including production processes, machines and intellectual property. Hence, the interaction of technology and factors inputs is what drives the production process.

- **Comparative advantage** – This is the ability of an entrepreneur, company, region or country to produce a particular product or service at lower marginal cost and lower opportunity cost. Comparative advantage is the ability to produce goods and services more efficiently than others. This is what drives increased specialisation of production by a firm, region or country, and explains how trade can create value for both parties even when one can produce the same products and services using fewer total resources. Comparative advantage is underpinned by the natural environment and other local features. In the Rotorua context this includes location, climate, community, Māori culture, forest resources, research and development capabilities, and other local strengths.

- **Risk-return trade-off** – This is the principle that potential returns are generally higher with an increase in risk. In other words, low levels of uncertainty are typically associated with lower potential returns, whereas high levels of uncertainty may be associated with higher returns. Because of this trade-off, investors must be aware of their personal risk tolerance when choosing their portfolio. The goal is to identify an appropriate balance that generates profit without undue financial risk, as perceived by the investor.

- **The invisible hand** – It is commonly accepted that market forces of supply and demand will lead to optimal production and consumption of most goods and services. However in some situations, for example natural monopolies, imperfect or asymmetric information, high market transaction costs, the presence of positive or negative externalities, and/or the inability to identify or exclude paying customers, there may be scope for public intervention. As a rule of thumb, public investment should be kept to a minimum, including ownership of key regional/national strategic assets and investment in infrastructure (including promotion of private sector industry clusters and other initiatives). Too much intervention from local or central government could theoretically lead to sub-optimal outcomes and ‘deadweight loss’ (ie, inefficient allocation of resources).

Another matter to be taken account of in the investment decision-making process is local compliance costs. Supportive and responsive government (central, regional and local) is a prerequisite for effective development. This includes proactive aspects such as working with other agencies and providing promotion and marketing, as well as regulatory functions to provide an enabling investment climate. Whether or not the local council is investor-friendly can be a tipping point for some decisions. Effective local governance is demonstrated through consistent approaches and transparency, with viable planning to deal with potential developments and related infrastructure. Part of the risk-return decision is also related to the global financial environment. While the current national and international economic recession can be seen as a hindrance to investment in the short-term, in the longer term it creates opportunities for timely investment and strong future growth in some sectors. A wide range of matters will shape future investment in Rotorua. These are briefly touched upon throughout remaining parts of this report.
3.0 Rotorua’s Strengths and Weaknesses

3.1 Rotorua's Competitive Strengths

The Rotorua District has inherent strengths that contribute to its comparative advantage, including the following key aspects.

**Established industry base – Forestry and biotech**

Rotorua’s traditional industries include agriculture, manufacturing, tourism, forestry, wood processing and related sectors such as research and development (R&D). There are high levels of human capital clustered around forestry-related businesses including Scion, Red Stag, Tachikawa, Lockwood and other established companies. The Waipa Valley industrial estate to the south of Rotorua’s main urban area provides positive agglomeration and cluster effects. A big reason for the existence of these companies is Rotorua’s proximity to the Kaingaroa production forest, which has an ageing stock profile and projected large increase in cut over the next 10-15 years. Rotorua is also proximate to other industrial and commercial businesses, particularly with a relationship to the forest and wood processing industry, including the Waiairiki Institute of Technology wood processing training centre and a number of site-servicing industry professionals and advisors and equipment and maintenance specialists. Scion Ltd in particular has potential for substantial development as an engine room for ideas. There may be scope to further develop processes for commercialising Scion’s intellectual property outputs.

**Established industry base – Destination tourism**

Rotorua is known nationally and internationally as a key tourism destination with its mix of geothermal attractions, Māori culture and a diverse range of other attractions, events, facilities and accommodation. Existing event and tourist infrastructure includes a major Events Centre, international stadium and conference facilities, as well as natural attractions such as forest tracks for mountain biking. Rotorua has an iconic status as a tourism city. The local industry is well developed and internationally recognised. As a secondary spin-off, tourism also shows off Rotorua’s lifestyle benefits to a large number of potential migrants each year.

Emerging sectors within the broader industry mix include adventure, sports and nature tourism, spa or therapeutic/beauty tourism and the conference market. There is scope for further development of an integrated sports, cultural, adventure, environmental and health recreational experience, making use of Rotorua’s lakes, geothermal areas and other features. As one of New Zealand’s top conference destinations, Rotorua is well-equipped with accommodation and other infrastructure for handling larger conferences.

**Central North Island location**

Rotorua’s location is often mentioned as an advantage, including accessibility to a major port at Tauranga. Rotorua is already used by some manufacturing, wholesale and distribution companies as a central hub for logistics and transport. The central North Island location also ensures a relatively mild climate and associated good growing conditions for primary products.

**Trans-Tasman airport**

Rotorua’s strengths are set to be enhanced in the near future with the establishment of Trans-Tasman capability for the airport. This is arguably the single biggest recent change to Rotorua, and should help attract new investment including a boost to the holiday home market. Trans-Tasman capability will potentially create a fundamental change to tourism patterns, enabling direct inward and outward flights to Australian cities.
Lifestyle factors

Residents often comment on the lifestyle factors that attracted them to Rotorua, including:

- Natural environment and recreation opportunities (eg, lakes, forests, parks and reserves, geothermal and spa attractions).
- Affordable housing and living costs (eg, not too busy or expensive a place to live).
- Adequate services (eg, retail, health and other essential services).
- Education opportunities, including public schooling and access to tertiary education such as Waikariki Institute of Technology.
- Community aspects (eg, sports teams and neighbourhood groups).

3.2 Rotorua's weaknesses

Various ‘weaknesses’ are also frequently mentioned, although in some cases the following can be seen as strategic opportunities:

- Established industry base – Some people feel there is an over-reliance on forestry and tourism in particular, and that increased industry diversification is essential to reduce risk and create more robust economy. There is also a perception by some that Rotorua’s stock of accommodation providers is over-supplied in some sectors, and in some cases of low quality.
- Transport infrastructure – Although Rotorua is relatively centrally located, it is overly-reliant on road transport infrastructure and not serviced by rail.
- Weather – Some people perceive Rotorua to be a cold place to live, although this perception is not unanimously shared and depends on individual experiences.
- Information and communication technology (ICT) – Compared to larger metropolitan areas such as Auckland and Wellington, Rotorua’s business sector is lagging in access to high-speed, affordable communications infrastructure.
- Services and education opportunities – While these are seen by some as a positive for Rotorua, others feel they are a weakness. Support sectors of the economy need to be developed alongside new lifestyle, business and employment initiatives. These include health, education, retail, transport, business services, ICT, community services, creative sectors, manufacturing, electrical, transport and essential services, law and order, protection of the natural environment and news and information media.
- Central business district (CBD) – There are concerns that Rotorua’s shopping experience leaves something to be desired, perhaps with the exception of tourist-oriented shops. Particular attention is being paid at present to the way historical retail developments have been planned and implemented, including a low level of integration between ‘big box’ and more boutique types of shops and issues relating to pedestrian access and flows. There are also some concerns about visual amenity in some parts of the CBD and the town entranceways. Inconsistency of shop trading hours is also a bugbear.
- Nightlife – There is a perception by some sectors of the local community, and of the visitor market, that Rotorua does not offer a great deal of options for nightlife. This partly relates to the image and closing times of local bars and restaurants.
Negative perceptions and crime rate – Many local residents are concerned with Rotorua’s crime rate, and the negative publicity that goes with this. Ongoing socio-economic challenges are reflected in rising rates of violent crime. There is significant and high-profile publicity around occasional crimes against tourists. To some extent there is a historically negative perception about crime in Rotorua, which is difficult to break down, but further work is needed to disconnect actual criminal offending trends from pre-existing conceptions.

Employment skills – Rotorua was one of the first parts of New Zealand to respond in a coordinated way to the issue of employment skills shortages. However, there remains relatively poor access to skilled employees, as Rotorua is competing directly with bigger cities for skilled labour. This is being addressed partly through proactive immigration initiatives and also through ongoing efforts to raise local education and skill levels. However, Rotorua is in competition with the rest of New Zealand for skilled immigrants. This implies the need to make Rotorua especially migrant friendly.

Urban air pollution – Rotorua is one of a number of towns and cities in New Zealand identified as having poor air quality, particularly during winter due to residential wood burning for heat. This issue will need to be addressed over the coming five years to comply with Air Quality National Standards. Otherwise, restrictions may be placed on any new developments that would contribute to air pollution.

Capital and land availability – Informants have previously identified a lack of viable investor-ready industrial land, particularly large parcels of land zoned for medium and heavy industrial uses. In addition, access to venture capital is an ongoing challenge in New Zealand.

A frequent criticism of Rotorua by businesses, investors and some residents is its relatively small population size, with historically low growth and related issues. Lack of population growth in recent years is reflected in a consequential lack of development of education and health infrastructure. Rotorua’s provincial status is also reflected in lower than average incomes, a relatively unskilled population and lack of urgency to promote economic development. There is a perception that Rotorua has a lack of career and business growth opportunities. As evidence, there are a number of long-term empty shops in CBD and Rotorua’s median income remains below the national average. There has been a lack of investment in recent years as Rotorua has not been perceived as an attractive investment destination.

3.3 Investor/business perceptions of Rotorua

The following information is sourced from the 2006 Rotorua Perception Survey results and associated focus group feedback. The Perception Survey covered several audiences including:

1. General public survey (ie, Rotorua and NZ residents) – Live, work and learn;
2. Rotorua and NZ businesses survey – Invest, set-up and do business;
3. Immigrants to Rotorua – focus group comments; and
4. Immigration and Lifestyle Investment Workshop – comments.
3.3.1 Rotorua Perception Survey results

In terms of perceptions, the general public believe Rotorua scores highly on geographic location, tourism industry, events and activities available, access to the outdoor environment, Rotorua’s sports and cultural facilities and the proximity of amenities.

Conversely, they believe Rotorua does not score well on employment opportunities, tertiary education, housing quality, wage rates and career progression. The business environment is considered below average.

3.3.2 Investor/Business perceptions – Invest, set up and do business

Business perceptions consider Rotorua to score well on geographic location, tourism industry, lifestyle, access to amenities and outdoor environment and housing affordability and quality.

Low scores are attributed to the local economy, business opportunities, legislation compliance, the local labour force, investing in Rotorua, setting up business in Rotorua and the quality of education.

3.3.3 Migrant Focus Group Results

A key audience for Destination Rotorua is migrants. To gain insights into what migrants are looking for, what they respond to and what their motivators are for moving, a series of focus groups was held in June 2007 with migrants who had recently shifted to Rotorua. A cross section of migrants attended that were from the UK, Ukraine, Fiji, Chile, South Africa, Japan, Hong Kong and Zimbabwe. Questions were divided into three areas:

1. What motivated them to leave home?
2. Why choose Rotorua (and not elsewhere)?
3. Things that Rotorua does well? / Things that Rotorua could improve?

Motivations were many and varied but some of the key issues were:
- To get away from overcrowding and traffic congestion.
- Political instability at home.
- Little access to ‘nature’ or open spaces.
- Lack of ‘community’, eg. ‘blame’ culture, materialistic society, long hours, lack of gratitude, etc.
- Corruption.
- Crime.
- Apathetic authorities.

Why choose Rotorua?

- Unique characteristics, ie geo-thermal, range of outdoor activities, compared with other cities.
- Closer to nature.
- More relaxed.
- Job was in Rotorua.
- Didn’t like the look of other centres.
- Rotorua receives extra points on immigration application being an area of skill shortages.
- Beautiful scenery.
- Children can go barefoot at school.
- Lots of activities in Rotorua.

Generally, lifestyle factors were a strong factor amongst attendees for choosing Rotorua as a destination. However, there was some concern expressed around affordability. Although the capital they bring with them seems to go a long way on arrival, and products and services appear relatively cheap, once they start to receive Rotorua incomes which are relatively lower, it becomes a more expensive and less attractive destination. There was also some concern expressed around migrants’ barriers to being able to utilise their skills and expertise in the local economy, eg. an electronics engineer responsible for maintaining robotics at a car manufacturer in the UK now had
a job changing the street lights in Rotorua. He was contemplating leaving Rotorua due to low income and lack of job satisfaction. Although lifestyle factors were important for attracting migrants here, business and career opportunities in Rotorua were important to retain them here.

### 3.3.4 Immigration and Lifestyle Investment Workshop

The following information was produced at a BrightEconomy Immigration and Lifestyle Investment workshop undertaken during the Rotorua Perception Survey process. Participants were asked to identify their top perceptions, both positive and negative, of Rotorua as a place to:

- Live, work and learn; and
- Invest and do business.

Perceptions were not ranked in any particular order.

| What do you see as the top 3 perceptions of Rotorua as a place to: | Live, work & learn. |
| | Negative: |
| Positive: | Education for families – Deciles 1-10. |
| | Progressive tourism. |
| | Ten-year plan. |
| | Lifestyle. |
| | Recreation options – indoors / outdoors. |
| | Centrally situated – ski fields, beach, Auckland. |
| | Airport. |
| | Road access. |
| | The outdoor environment. |
| | Slower pace of life – noise etc. |
| | Work/life balance – family. |
| | Good access, ease, activities. |
| | Venues, clubs – safety for kids. |
| | Family community environment. |
| | Lots of community groups. |
| | Local radio stations. |
| | Good inner city – visual, attractive. |
| | Location – central (external) – beach, snow, city (leisure perspective). |
| | Large range of attractions / activities / stimulation in Rotorua (internal). |
| | Value for money – housing, trans-port. |
| | Education for families – Deciles 1-10. |
| | Career structure, unskilled, skilled. |
| | Tertiary qualified. |
| | Low paid perception. |
| | Gang culture. |
| | Crime. |
| | Develop migrant resource centre. |
| | High crime rate especially involving crime against tourists. |
| | Bad publicity – perception media highlight Rotorua unfairly. |
| | Schooling – not up to same levels of other centres. |
| | Losing to other centres (tertiary). |
| | Lack of awareness – re: diversity, what it has to offer. |
| | 2nd class city. |
| | Quality of education – high schools and tertiary. |
| | Crime. |
| | Smell. |
| | Problem or opportunity. |
| | Criminal/dark side – car hoons, crime, litter, groups of youths, drink/drive. |
| | Average income is low – perception that if you move here – you will earn less. |
| | Education – how good are schools versus Hamilton and Tauranga? |
| | Local newspaper – if visited website of local paper the headlines are negative need more positive news. |
**Invest and do business**

<table>
<thead>
<tr>
<th>Positive:</th>
<th>Negative:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Affordable.</td>
<td>• Local negativity.</td>
</tr>
<tr>
<td>• Ten-year plan.</td>
<td>• Media representation.</td>
</tr>
<tr>
<td>• Tourist potential.</td>
<td>• Return on investment for industries.</td>
</tr>
<tr>
<td>• Overseas branding.</td>
<td>• Council rates.</td>
</tr>
<tr>
<td>• Domestic tourism.</td>
<td>• Freight charges.</td>
</tr>
<tr>
<td>• Good value housing.</td>
<td>• Difficult to attract skilled people.</td>
</tr>
<tr>
<td>• Investments.</td>
<td>• Attract off-shore investors, policy needs to change.</td>
</tr>
<tr>
<td>• Unemployment low.</td>
<td>• Information technology investment (Tauranga way ahead). Great infrastructure already in place.</td>
</tr>
<tr>
<td>• Land values.</td>
<td>• Lack of high quality business space.</td>
</tr>
<tr>
<td>• Road access.</td>
<td>• Lack of cohesiveness of CBD.</td>
</tr>
<tr>
<td>• Active Chamber of Commerce – good support.</td>
<td>• Can’t get the workforce.</td>
</tr>
<tr>
<td>• Opportunities – start up.</td>
<td>• Not many high level positions here – limited career prospects.</td>
</tr>
<tr>
<td>• Good business support.</td>
<td>• Not near port or major market.</td>
</tr>
<tr>
<td>• Council support and cooperation.</td>
<td>• Infrastructure – road and rail.</td>
</tr>
<tr>
<td>• Good networks.</td>
<td>• Unskilled/unstable workforce (transient).</td>
</tr>
<tr>
<td>• Cheap office space.</td>
<td>• Lack of career/opportunity.</td>
</tr>
<tr>
<td>• Informal networking very effective.</td>
<td>• Keep ahead of ‘transport’ plans.</td>
</tr>
<tr>
<td>• Central location.</td>
<td>• Attract overseas journalists to stay (ie, UCI world mountain biking champs).</td>
</tr>
<tr>
<td>• Location markets within forestry, tourism and agriculture (primary industries).</td>
<td>• RDC backing, charities with financial with infrastructure – technology.</td>
</tr>
<tr>
<td>• Regional / trans-Tasman airport.</td>
<td>• Stronger alliances with newspapers/radio more positive influences.</td>
</tr>
<tr>
<td>• “More bang for your buck”. Commercial properties (cheaper per square metre).</td>
<td>• Attract overseas journalists to stay (ie, UCI world mountain biking champs).</td>
</tr>
</tbody>
</table>

Participants were also asked to list the best marketing tools which would help overcome business investment and staff recruitment issues.

**What would be the best marketing tools we could develop to help you overcome your business investment and staff recruitment issues while also assisting us to sell a positive Rotorua investing and doing business message?**

- Best marketing tools:
  - Word of mouth referrals/testimonials (personal connection).
  - Billboards – visual packages.
  - Co-operation – “Getting it together – together”.
  - One vision – destination first.
  - Branding – ‘feel the spirit/manakitanga’ t-shirt.
  - Authenticity – cultural experience, kiwi experience.
  - Wireless city – high speed internet hot spots.
  - ‘The Hub’ – easy access.
  - Channel positive message to media.
  - Better publicity of 10-year plan.
  - Target skills need analysis.
  - Top website a must.
  - RDC backing, charities with financial with infrastructure – technology.
  - Stronger alliances with newspapers/radio more positive influences.
  - Attract overseas journalists to stay (ie, UCI world mountain biking champs).
  - Make it a positive experience.
  - Clean lakes – top priority.
  - Conference specifically on ‘IT’ opportunities for businesses.
  - Telecom not willing to ‘share’ resources or increase resources.
  - Keep ahead of ‘transport’ plans.
3.3.5 Summary

From the above feedback, there appear to be a number of directions that could be followed to increase business investment and improve perceptions of Rotorua:

1. Business-friendly Council

   This was perceived to be the most important issue from survey respondents. Efforts need to be undertaken to move the Council’s perceived stance with local business from neutral or unaccommodating to supportive and solutions-focused. This would include increasing the amount of ‘helpful’ communication with local businesses.

2. Scion and Bio-technology

   Rotorua is fortunate to have a Crown Research Institute of Scion’s calibre on its doorstep and this opportunity should be synergised locally in depth.

   Scion provides the next generation of biomaterials technology, research and development services. Commercialisation of innovative Scion products would benefit from local funding assistance with a focus on developing manufacturing process knowledge, involving local business, and developing potential markets - both nationally and internationally.

   Synergies need to be developed between Waiariki Institute of Technology Forestry, Wood Processing and Biotechnology School and Scion for the benefit Scion, Waiariki and Rotorua. WIT need to bolster their Biotechnology section and develop courses which would provide an undergraduate pathway for students interested in biomaterials and Scion’s bioproduct development work.

3. Rotorua Airport – Trans-Tasman capability

   The upcoming trans-tasman capability of Rotorua Airport was identified by many as a future source of economic development for the Rotorua district. To maintain momentum, identify sectors likely to gain from a Trans-Tasman link and promote to appropriate audiences, eg. Large-scale conference venue to Australian industry organisations, exotic film location to Australian film and television production companies, etc.

4. Rotorua Vision

   To turn around the strong negative perceptions of many about Rotorua will require articulating and communicating a vibrant vision of Rotorua as a go-ahead city and demonstrating that vision through example.

5. IT infrastructure

   Fibre to the home. Engage with Govt and local telecommunication companies to pull fibre through existing Rotorua Trust duct network in advance of Govt fibre-optic roll-out initiative. This puts Rotorua on the front foot with the benefit of positive public relations spin-offs, tangible benefits for residents and underlining the vision for Rotorua as a go-ahead city.
6. Broaden Rotorua Industry Base

Strong feedback was received that Council should help broaden Rotorua's industry focus from primarily Tourism. For example, Rotorua has had a strong engineering background built from the strength of Rotorua's past Forestry industry. The opportunity exists to partner with local manufacturers (eg. Mills-Tui, Damar, Lockwood, etc.) to create new initiatives to help them build their local business, eg. develop new business, markets, etc. This may prove more effective than trying to attract new business to move to Rotorua while benefitting the local economy and improving the business-friendly perceptions of RDC.

7. Rotorua Spa

The Rotorua spa and beauty industry has come a long way since its inception in the 19th century. Focus on promotion and development of the local industry both domestically and internationally should be undertaken.
4.0 TREND ANALYSIS

The starting point for the analysis in this report was a brainstorming process conducted with staff of Rotorua-based APR Consultants Ltd. APR is a multi-disciplinary firm that provides advice for private and public sector organisations. At the end of June 2009, eight staff members were asked to undertake an individual brainstorming task. The results were then shared at a meeting. Unsorted verbatim comments are contained in a separate report (with some minor editing based on questions and clarification) along with the instructions provided to each staff member. The results were then themed, with the assistance of notes taken during the course of the meeting. The themed results were used as input to the structure and content of this report. A similar exercise was undertaken with Rotorua District Council’s Extended Management Team on 16 July 2009, the results of which have been incorporated into this report.

Supporting context for this report has been provided through online searches based around key words and phrases, including consideration of the work of the Rotorua Bright Economy Advisory Board (including Rotorua Future Insights Process 2005-2025) and other key informants such as the New Zealand Institute for Economic Research (NZIER) and Australian Commonwealth Scientific and Research Organisation (CSIRO).

4.1 Well-being and technology trends

Rotorua’s economy has been historically based around farming, forestry, wood processing, manufacturing and tourism, as well as services such as health and education. Additional opportunities have been identified around local energy generation, bio-materials, immigration and lifestyle investment, land use optimisation, water quality, and R&D. This provides brief context for the analysis that follows. For the purpose of this analysis, key trends impacting on Rotorua are categorised according to environmental, social and cultural, economic and financial, and technological trends.

4.1.1 Environmental trends

Sustainable local development is generally agreed to be the key to growing Rotorua’s economy. Successful economic development is built on the inherent strengths of the local environment and community. Key globally emerging areas and trends that Rotorua needs to be aware of are described below.

Energy prices and supply

The price of hydrocarbons, including oil, coal and natural gas, is projected to trend generally upwards for the foreseeable future. This is due to a mix of increasing demand for energy, rising costs of extraction, increasing compliance costs, restrictive ownership of reserves, global/regional conflicts affecting extraction and distribution, and internalisation of the otherwise external costs of releasing greenhouse gases and toxins into the atmosphere (i.e., carbon taxes and tradable pollution rights).

The supply of energy from biomass is forecast to increase, but will not likely be available in sufficient volumes to substitute for hydrocarbons, at least in the medium-term. There are also issues relating to biofuel production competing for land that could otherwise be used for food production. As energy markets begin a serious transition to ‘clean production’ to comply with Kyoto Protocol commitments, price and supply reliability will be highly variable.

All options for the growth of electricity generation in New Zealand have a downside in terms of environmental effects, costs and/or ethical and safety concerns. Choices will be difficult and
possibly divisive. As one option, ‘distributed generation’ from many small energy sources may become more attractive over time despite high initial capital costs.

**Climate change**

As a consequence of the release of large quantities of carbon dioxide and other greenhouse gases over the past 150 years or more, and particularly in the last several decades, there is general agreement that the world’s climate is becoming warmer. A notable projected outcome of this will be more frequent and severe weather events along with significant changes to local climactic conditions (eg, droughts and flooding). Previous engineering and safety standards will no longer be sufficient. Weather impacts on New Zealand will incur substantial damage, cost and anxiety, though less so than in many other countries. Thus, New Zealand will increasingly be seen as a relatively safe haven. Global warming will have gradual effects on agriculture and forestry that will need to be taken into account by investors and managers.

Climate change will eventually have demonstrable effects on the Rotorua economy and environment. At a local level, increasing temperatures will make it harder to improve existing lakes water quality issues. At a global level, Rotorua’s forestry competitors may well start enjoying the same short growing rotations that New Zealand has previously relied on as a source of comparative advantage.

**Global water crisis**

The world’s water resources are limited relative to increasing human demand. The United Nations and some other organisations have identified that the worldwide water situation is heading toward a state of crisis due to overall scarcity of usable water, in part driven by water pollution. There is a finite supply of fresh water stored in aquifers, surface waters and the atmosphere. With current technologies, converting seawater to fresh water is costly and prohibitive. While the water crisis is not expected to dramatically affect New Zealand, it may provide opportunities for exporting high quality water and undertaking related R&D.

**Green consumers**

While only indirectly related to environmental protection or degradation, another relevant concept is that of eco-friendly purchasing. Globally, there is a gradual increasing demand for eco-friendly products, driven particularly by the growth of a ‘post-materialism’ ethos in developed countries. This trend can potentially be exploited in Rotorua by investing in products that benefit and enhance the local clean/green image. Examples include bottled fresh water and organically-grown produce which can attract a premium.

**4.1.2 Social and cultural trends**

**Changing lifestyles, work patterns and family structures**

People’s everyday lives are becoming increasingly complex. Part of this relates to changing demographics, living preferences and societal structures. Within New Zealand and other developed countries, the ‘baby boomer’ generation is creating a bulge in the numbers of active, retired older persons. Population ageing is a trend that has yet to be fully addressed in planning for services and investment. Overall, the average number of people living in a single household has been decreasing for many years, but there remain sectors of the community that live in extended family settings. There may be opportunities for Rotorua in the future, particularly in relation to geothermally-heated retirement villages and convalescent health services.

While the pull of urbanisation remains strong, there is also an emerging desirability to live in provincial and rural towns due to the congestion, pollution and higher living costs associated with larger metropolitan areas. Some groups in the community have preferences for urban village or
rural lifestyle environments. Also, New Zealand as a whole is becoming relatively more desirable as a place to visit and emigrate.

**Increasing global disruption**

International trade and business are increasingly challenging due to security-based barriers and higher costs, as well as reduced reliability of shipping, and disruptive conflicts relating to oil and other commodities. Countries and regions that credibly offer relatively more safety, security and harmony should achieve competitive advantage as ‘safe havens’ for tourism, permanent living and some categories of investment.

**The uniqueness of Māori**

Rotorua has traditionally had a high proportion of Māori residents, stemming from the area's original settlement. Māori are a core part of Rotorua’s business environment, including a core driver of tourism success due to the provision of a globally unique, authentic cultural experience. The return of substantial assets to iwi/Māori, and ongoing gains in average levels of health, education and socio-economic affluence, are driving a renaissance that should continue to provide a unique local competitive advantage.

**4.1.3 Economic and financial trends**

**More difficult global and national economic conditions**

Much has been said and written about the current economic recession. Forecasts vary greatly about when the economy will again pick up. According to the June 2009 issue of Quarterly Predictions, compiled by NZIER, New Zealand’s recessionary period is likely to last until at least the third quarter of 2009. However, there are some welcome signs from local and global leading indicators, including rising equity markets. NZIER economists expect quarterly economic growth to turn positive in the December 2009 quarter, led by migration-induced population growth, government stimulus packages and realisation of pent-up demand. A GDP recovery path is projected, commencing 2010 and averaging 3.5% over the following four years. The recovery will be accompanied by a still difficult economic environment, with challenging profitability and subdued demand. Rising unemployment is projected to persist until mid-2011, peaking at just under eight percent.

![Figure 1: Historical and projected GDP growth](source: Statistics New Zealand, NZIER)
### Table 1: Summary of medium-term prospects for New Zealand key economic indicators

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009f</th>
<th>2010f</th>
<th>2011f</th>
<th>2012f</th>
<th>2013f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population growth</td>
<td>1.0%</td>
<td>1.0%</td>
<td>1.3%</td>
<td>1.2%</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Real housing investment</td>
<td>4.6%</td>
<td>-26.9%</td>
<td>-35.3%</td>
<td>26.1%</td>
<td>23.2%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Exports</td>
<td>2.9%</td>
<td>-4.6%</td>
<td>-5.6%</td>
<td>2.7%</td>
<td>5.6%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Expenditure on GDP</td>
<td>2.5%</td>
<td>-2.0%</td>
<td>-1.4%</td>
<td>4.3%</td>
<td>3.3%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Inflation</td>
<td>3.4%</td>
<td>3.0%</td>
<td>0.0%</td>
<td>1.5%</td>
<td>1.7%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Average hourly earnings</td>
<td>4.1%</td>
<td>5.2%</td>
<td>-0.1%</td>
<td>2.0%</td>
<td>0.4%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>3.8%</td>
<td>5.0%</td>
<td>6.8%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

Source: NZIER Quarterly Predictions, June 2009

### Transport and energy costs

Rising transport and energy costs have direct flow-on effects to the overall costs of production and consumption. This is driving agglomeration, vertical integration and other changes within commodity and manufacturing sectors, to ensure travel costs are kept to a minimum. In this sense, the world is becoming a larger (rather than smaller) place for some sectors, in contrast to the effect of ICT on the less traditional knowledge economy sectors. A related issue is increasing awareness around ‘travel miles’ by eco-friendly consumers.

### Global competitiveness and the rise of Asia

Increasing specialisation and the rise of trans-global corporations makes it increasingly challenging to remain globally competitive in many industries. There is a need for New Zealand to ensure it develops and effectively markets its own distinctive brand, to be authentic and unique, and deliver on levels of service. Rapid growth of the Chinese and Indian economies in particular is creating both new challenges and new opportunities. The ethnicity, culture and language of New Zealand’s major markets is increasingly Asian, with a corresponding decrease in the relative significance of tradition markets such as Europe, Australia and the United States.

### Interest and exchange rates

Interest rates and currency exchange rates can have a substantial influence on investment decisions. New Zealand’s official cash rate has been lowered decisively over the past year, from a peak of 8.2% down to 2.5% as at May/June 2009. The Reserve Bank has committed to keeping rates at or below this level until late 2010, which should continue to support economic activity by making credit more affordable. According to NZIER projections, short-term interest rates are expected to rise gradually from late 2010, subject to economic and financial stability. In addition, NZIER expects a below-trend exchange rate path over the next three years, based on low commodity prices, narrow interest rate differentials and cyclical trends. This should partly insulate New Zealand’s export sector from the global recession.

### Figure 2: Historical and projected interest rates

Source: Reserve Bank of New Zealand, NZIER
4.1.4 Technological trends

Technological opportunities are inherently difficult to predict. Some of the key trends identified at this time that are relevant to the Rotorua District are described below.

Information and communication technology (ICT)

With the rapid growth of the Internet, cellphone connectivity and other technologies, ICT has become a foundation factor of production across most sectors. ‘Ubiquitous computing’ is becoming more prevalent, with information processing capabilities integrated into everyday objects and activities. In today’s modern world, people are often interacting with computing devices and systems without being aware they are doing so.

Faster and cheaper broadband connectivity has been set as a key goal in New Zealand. Regional initiatives are part of this mix, along with national regulation and industry restructuring. Broadband is effectively shrinking the world for those involved in knowledge economy or ‘weightless economy’ sectors, including designers, consultants, researchers, financial services and media.

Clean energy generation

The issue of global warming is driving a serious push toward cleaner energy production and distribution (ie, renewable energy sources that emit less greenhouse gases). Adoption of sustainable development principles is impacting all sectors of the economy. Significant technological advances are well under way to enable cleaner energy production including ‘waste to energy’ (ie, biomass energy), non-extractive geothermal energy/heat and small-scale hydro generation. Effort is also going into establishing more energy-efficient built environments, and to improve technologies for enabling energy efficiency and conservation. These trends are driving opportunities for both energy generation and related R&D.

Biotechnology and materials technology

Biotechnology relates to agriculture, food science, materials technology, medicine and other applications (including genetic engineering). With the development of new approaches, traditional biotechnology industries are acquiring new horizons, enabling them to improve the quality of products and increase their productivity. Biotechnology combines disciplines such as genetics, molecular biology, biochemistry and cell biology, which are in turn linked to practical disciplines such as chemical engineering and ICT. Rotorua has substantial capacity in the biotech area, based around the work of the Scion forestry research institute. One of the constraints around this
area relates to national regulations on R&D for genetically modified organisms and related manufacturing. The regulatory environment is continuing to evolve in this area.

**Environmental management**

Environmental management is an increasingly important and complex task. Key issues relevant to Rotorua include R&D and practices relating to lakes water quality, urban air quality (particulates emissions) and nitrogen loss from dairy farming. Opportunities exist for increased local investment aimed at both addressing local issues and on-selling to national and international markets.

**Other technologies**

Additional types of technological advancement relate to nanotechnology, microelectronics and other ‘high tech’ industries. While there are specific opportunities in such industries, these are not covered here in any depth because they are not so obviously related to comparative advantages in the Rotorua District.

### 4.2 Industry trends

This sub-section summarises key locally relevant industry trends. Rotorua’s current economic strategy is based around supporting existing or traditional industries (eg, tourism, forestry and farming) as well as seeking new opportunities. The information below is presented in no particular order.

#### 4.2.1 Tourism

Inbound tourism has been affected by a number of shocks in recent times, including the global recession, fears relating to swine flu pandemic and global security concerns. Over the three months to April 2009, short term overseas arrivals fell by 5% compared with levels a year earlier. Business and holiday travel has been hardest hit, while the number of people visiting friends and relatives has remained fairly steady. Some relief for tourism operators is possible from an increase in domestic tourism (ie, New Zealanders holidaying at home). Tourism growth forecasts will continue to be subject to considerable uncertainty over coming years.

There are some concerns that reduced tourism demand, and hence supply of tourism labour, will have a protracted effect even after the global economy begins to pick up. However, tourism is seen as a relatively easy sector for skills transfer and labour mobility, and many sectors of the tourism industry have low capital requirements. Scope has also been identified for growing specific aspects of Rotorua’s tourism industry, including:

- Spa/therapeutic/beauty tourism, incorporating aspects of medical or wellness tourism. This could potentially expand into areas such as natural therapies, dermatology and cosmetic surgery. There is potential for a major redevelopment of QE Health into a geothermal spa resort.
- Specific accommodation opportunities, including lodges and upmarket hotels.
- Conference market, including potential for high-end/luxury accommodation, international hotel chains, large-scale conferences, links to spa and cultural attractions, and development of the Trans-Tasman conference market.
- Adventure, sports and nature tourism that caters to ‘green’ tourism (including backpackers and mountain bikers), making use of Rotorua’s natural environment (bush, lakes, walks, hunting, etc), and building on these to provide an added-value experience. A current topic of interest to Rotorua is the ability to secure public rights for the ongoing recreational use of Whakarewarewa Forest. There is potential for iconic attractions based around mountain biking, a ‘water park’, and other natural resources.
- Tourism events, particularly iconic events. There is scope to use events to boost visitor numbers in the winter season. Examples include major events (expos) based around...
fishing, hunting and other local activities. Additional event infrastructure may also be needed to support any new major events.

- There is also scope to develop increased strategic linkages, for example between Rotorua and Taupo for nature experiences. There is potential to build on Rotorua’s status as a tourism hub, better linking Waitomo, Tongariro, Hawkes Bay, Bay of Plenty, Waikato and Coromandel.
- Ongoing demand for integrated, time efficient tourist experiences.
- Continued need for authentic Māori cultural tourism.

Finalisation of Rotorua’s Trans-Tasman Airport will likely create a significant change in Rotorua investment profile, including increased demand for residential real estate and perhaps small businesses, as well as direct benefits to tourism. The direct air link to Australia could potentially provide increased location options for Australian companies in specific sectors. A planned major redevelopment of Rotorua’s Lakefront area should also benefit the tourism industry.

4.2.2 Forestry

New Zealand’s forest products exports are confined to a narrow product and market mix. Japan, Australia and Korea together purchase three-quarters of the New Zealand export products. Export volumes and revenues have been flat since 2003. New Zealand’s forestry sector is not harvesting and processing all of the available resource. Nevertheless, there remain opportunities for enhancing Rotorua’s forestry resource in terms of value-added processing and R&D.

4.2.3 Farming

Overall, New Zealand’s dairy industry is prospering. Payouts reached a 43-year high in 2008. Steady growth in the number of dairy cows and the yield of milk per cow is expected in the coming years. However, the majority of farm growth is in the South Island. The number of dairy cows in the North Island is falling due to competition for the land from non-pastoral and lifestyle uses. Rotorua could potentially benefit from forest-to-farm conversions planned for the South Waikato/north Taupo area, and there remain opportunities for local value-added processing and R&D. There is also scope for ongoing diversification of farming opportunities.

Despite its current success, the dairy farming industry in New Zealand continues to face significant future challenges. One of these challenges is how to reduce the negative environmental effects of dairying, in particular the issue of nitrogen discharge into waterways. The dairy industry and associated research providers are working on this and other issues.

4.2.4 Manufacturing

Rotorua has a strong base of engineering, fabrication and other manufacturing companies. A review of the top 100 fastest growing companies in the United States reveals a predominance of manufacturing companies. This is a salient observation in terms of identifying potential investment opportunities for Rotorua. Key areas of manufacturing described in later parts of this report include ‘green-tech’ such as biomaterials, as well as light industries which may benefit from Rotorua’s relatively cheap land and rental costs. The potential for cheap energy from geothermal may also be an attraction in future.

4.2.5 Green-tech

Clean energy generation and R&D

There is considerable investment potential to be investigated around ‘clean’ electricity generation, including wind, solar, hydro, geothermal and biomass (including wood, algae and sludge). Non-extractive use of geothermal resource is now possible using down-bore heat exchangers. The rising cost of energy makes low-temperature binary geothermal energy generation more viable. Part of the forthcoming demand for renewable energy sources derives from New Zealand’s
commitment to reduce its reliance on coal and other ‘dirty’ forms of energy generation. Scope exists for both major capital-intensive developments and a broader approach that applies distributed generation (DG) technologies.

**Biotech**

Rotorua has an existing cluster of firms providing biotech research and manufacturing, especially in relation to forestry products. This provides a nucleus for continued cluster development, linking into Scion and the commercialisation of intellectual property (IP). There is considerable scope globally for developing biomaterials for product substitution, including biocomposites and bioplastics.

Scion’s existing ‘Waste 2 Gold’ project seeks to create added value from wastes. Examples include using waste as a bio-processing feedstock, combining waste with other materials for added value products, and recovering energy and chemicals from wastes and residues. Three examples Scion is already working on are:

- Bugs to bioplastics – turning waste into biodegradable polymers using bacteria.
- Waste to composites – mixing waste with other materials to creating novel products including controlled-release fertilisers and biodegradable plant pots.
- Biomass to energy – converting residues into biogas, liquid biofuels or solid energy systems (eg, wood pellets for home heating).

There is scope for further commercial joint ventures around Scion’s Waste 2 Gold projects, enabling local capital funding to be leveraged for ongoing returns.

**Increasing demand for eco-friendly products**

Eco-friendly goods and services are those that are considered to inflict minimal harm on the environment. There is an increasingly demand for such goods and services, with many now being marked with eco-labels for easy identification (although there remains no single international standard for eco-labelling). This trend provides opportunities for Rotorua in terms of its clean/green image and abundant natural resources, including prospects for export of branded water, meats and other foods.

**Specialist agricultural/horticultural production**

There may be scope to invest in a detailed soil and climate analysis of the Rotorua District to inform more optimal use of land for agricultural and horticultural purposes. Increased returns may be realised by specialising in niche horticultural products in some areas, particularly those that are subject to growing demand. An example is the growth of black currant production, predominantly in Nelson and Canterbury, which is connected closely to R&D efforts and promotions from within Japanese markets. There may be particular scope for specialist or niche horticultural production in the northern parts of the Rotorua District, which also benefit from proximity to seasonal fruit-picking labour markets and facilities, and the Ports of Tauranga. Specific opportunities for investigation include kiwifruit, grapes/wine and truffles, which attract premium prices. There may also be innovative approaches such as developing GE cows or other animals for the purpose of developing pharmaceuticals.

**Waste management/recycling**

One idea raised through the brainstorming process is to investigate whether economies of scale might be realised through regional shared service, specifically in relation to recycling and waste management. This could potentially result in small-scale cost savings, plus synergies that could lead to increased local use of waste for production of new goods.
4.2.6 ICT

The application of technology has become pervasive across every industry sector to improve productivity, lift innovation and provide business development opportunities. An example of a potential application is the use of RFID (radio frequency identification) to add value and enhance tourism experiences. Other new technologies include digital game-based learning, Internet television, real-time high definition videoconferencing and virtual walls.

While Rotorua doesn't have any clear comparative advantage within the ICT sector itself, neither does it have any great lack of advantage compared to other parts of the world. Knowledge economy sectors tend to be driven by small teams of highly skilled people with a passion for their craft. One area in which Rotorua has potential to grow is around its existing nucleus of film and television production companies, including those clustered within Tui House.

4.2.7 Iwi/Māori development

Māori within Rotorua and surrounding areas are set to benefit substantially from land and resource settlements relating to historical grievances. This creates opportunities for local Māori and the District as a whole to benefit over the long-term. The immediate returns will be based around forestry ownership, with additional benefits coming through portfolio diversification.
5.0 EMERGING INDUSTRIES AND TECHNOLOGIES

5.1 Characteristics of emerging industries and technologies

Emerging industries may be defined as follows:

“… newly formed or re-formed industries that have been created by technological innovations, shifts in relative cost relationships, emergence of new customer needs, or other economic, sociological and environmental changes that elevate a new product or service to the level of a potentially viable business opportunity.

The essential characteristic of an emerging industry from the viewpoint of formulating strategy is that there are no rules to the game. The competitive problem in an emerging industry is that the rules must be established such that the firm can cope and prosper under them” – Porter, M. (1980) Competitive Strategy.

Emerging industries and technologies are intertwined. According to the proceedings from a 1999 Emerging Industries and Technologies Forum held in Canberra, Australia, key characteristics of emerging industries may be summarised as in Table 2.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low predictability</td>
<td>Difficult to foresee, ‘obvious’ in hindsight.</td>
</tr>
<tr>
<td>Rapid growth</td>
<td>High R&amp;D intensity, lengthy gestation.</td>
</tr>
<tr>
<td>Large and small firms</td>
<td>New firms, spin-offs.</td>
</tr>
<tr>
<td></td>
<td>Existing firms entering new areas of business.</td>
</tr>
<tr>
<td>Reliance on highly skilled people</td>
<td>Importance of being able to anticipate future skills sets and requirements.</td>
</tr>
<tr>
<td></td>
<td>Diversity of skills, merging of occupational boundaries.</td>
</tr>
<tr>
<td>Fragmented, unstable markets</td>
<td>Diverse products, frequent product changes.</td>
</tr>
<tr>
<td></td>
<td>A growing number of firms with widely fluctuating market shares.</td>
</tr>
<tr>
<td>‘Probe and respond’ approach</td>
<td>Products and needs are not clearly defined, requiring rapid feedback/feed forward between product and market.</td>
</tr>
<tr>
<td>Fluid/turbulent</td>
<td>Experimental/dynamic operational styles.</td>
</tr>
<tr>
<td>Global focus</td>
<td>May be ‘born’ global.</td>
</tr>
<tr>
<td>Unconventional associations</td>
<td>Capability-based.</td>
</tr>
</tbody>
</table>

Source: Emerging Industries and Technologies: Report of a Forum held in Canberra, sponsored by the Commonwealth Department of Industry, Science and Resources and the CSIRO.

There is a considerable challenge involved in identifying emerging industries from current technologies and market opportunities. However, new technologies likely to have a major impact include:

- Information and communication technology (ICT).
- Biotechnology.
- Nanotechnology.
- Microelectronics.
- Environmental management.
- Materials technology.
5.2 Drivers of emerging industries

The following emerging market areas were among those discussed at the 1999 Emerging Industries and Technologies Forum. This list provides a useful starting point for thinking about the drivers of potential emerging industries and enabling technologies in the Rotorua context:

- Environmental protection through better production processes, including sensor technologies.
- Wellness, healthcare, active recreation and fitness for an aging population.
- Mapping and spatial intelligence.
- Logistics, storage and long-range distribution of data.
- New intermediaries enabled by information technology.
- Agricultural and horticultural options with above-average margins (e.g., wine, aquaculture).

There are many other market opportunities that have arisen over the past decade, and new opportunities will continue to surface over time. The ‘triple bottom line’ of social, economic and environmental forces represents the collective drivers of emerging industries. Business competitiveness and the relative importance of these drivers are constantly changing. There is also an accelerating growth in the value of intangible assets such as design talent, global brands, specialist knowledge and social capital (e.g., business relationships). The value of intangibles is expressed strongly in the service and manufacturing sectors, and services are an increasing component of the economy. New industries are also emerging which blend two or more traditional sectors.

The following national and global trends underpin many emerging industries:

- Global population growth, particularly within developing countries, with associated increased in demand for education, healthcare and other services.
- Globalisation of supply chains, brands and knowledge.
- Ageing population throughout the developing world.
- Higher per capita incomes and propensity to consume, enhancing the demand for services, tourism, recreational facilities and personalised goods and services.
- Increasing urbanisation in New Zealand, creating demand for housing infrastructure and associated planning work.
- Degradation of the natural environment, requiring local and national governments to take increasing measures to protect the environment and search for new sustainable technologies.
- Increasing rate of organisational change within companies, including increased use of external contractors and intermediaries.
- Advances in communications technology making the world a smaller place, changing the way that businesses and customers deal with each other.
- Increased rate of change in consumer moods and trends.
5.3 Emerging industries and technologies relevant to Rotorua

By definition, emerging industries are unpredictable. However, below is a selection of areas in which Rotorua’s competitive strengths and comparative advantage may provide returns for private and public investment.

- **Green-tech** – Including clean, renewable energy generation and R&D (geothermal, bioenergy, etc), carbon sequestration (forestry etc), increased emphasis on environmental management including energy efficiency. Note that geothermal energy resources are far from fully utilised in the Central North Island region. According to recent local news, Māori could potentially be looking to create a $2 billion geothermal power generation company off the back of the June/July 2009 Central North Island (CNI) ‘Treelords’ settlement. In a report published by the CNI group, it was estimated that annual cashflow returns of up to $200 million per annum were achievable, based on untapped geothermal resources beneath the 170,000 hectares of forest land around Lake Taupo and the Bay of Plenty Region, including areas around Rotorua. The potential capacity is 0.5 GW, or approximately eight percent of New Zealand’s forecast power demand.

- **Biotech** – Particularly in relation to technology commercialisation of Scion research to produce biomaterials and biofuels.

- **Water quality** – R&D and manufacturing (application of appropriate technologies in Rotorua environment, eg, clean water for export).

- **Specialist agricultural/horticultural production**, for example production of niche fruits for emerging growth markets.

- **Fresh water aquaculture** – There may be opportunities to make better use of some sections of Rotorua’s lakes and/or rivers for aquaculture purposes, including utilisation of geothermal energy for optimal water temperature.

- **Recycling and waste management** – Including both R&D and manufacturing from waste materials.

- **ICT** – Wider application of information and communications technologies. This is likely to be a significant driver of growth for at least the next decade.

- **Film and television production** – There continues to be demand for high quality and niche media products.

- **Spa/therapeutic tourism and holistic medical practices** – For New Zealand and other developed countries, an aging population implies increasing demand for health and therapeutic products and services. Looking at this industry from a spa/beauty perspective, the target market for Rotorua’s spa industry is even broader.

- **Adventure, sports and nature tourism, and conference and events tourism.**

- **Retirement villages**, including the prospect of cheap geothermal heating.

- **Education** – Including tertiary education services; specialist education around forestry, tourism, lakes water quality and geothermal sustainability; and English language tuition for visitors and recent immigrants.

- **Rail transport** – For example, the potential for a high-speed train linking Rotorua with Auckland, Taupo, Hamilton and other areas.
6.0 NATIONAL INVESTMENT POSITIONING

During 2005/06, the Rotorua Bright Economy Advisory Board identified three existing economic areas of focus, along with six key opportunity areas as its main priorities. The six opportunity areas were identified as having long-term prospects to generate substantial new business opportunities, fit strategically with the drivers of change and build on Rotorua’s natural comparative advantages. Key elements of this framework are summarised below.

6.1 Traditional industries – tourism, forestry, farming

Rotorua is seeking to build off the base of existing key local/regional industries:

(a) Adding value to the existing mature tourism industry in a way that will generate more sustainable high-value visitors, staying for a longer period of time (eg, additional high-profile iconic events; apartment accommodation focusing on family markets; increased focus on spa/therapeutic tourism; etc).

(b) Adding value to the existing mature agriculture industry in a way that will generate more sustainable, higher-value returns.

(c) Adding value to the existing mature forestry industry in a way that will generate more sustainable high-value utilisation of the natural resource and strengthening Rotorua’s position as the New Zealand centre of excellence in the forest and wood processing sector.

New Zealand Trade and Enterprise (NZTE) works with various industries, including those above, to help build capability and identify new export opportunities. This includes through partnerships with industry bodies in New Zealand and overseas.

6.2 Local energy generation

Current energy sources and supply are coming under increasing pressure. Prices continue to rise over the long-term as ‘peak oil’ (rising consumer demand and increasing costs of extraction) affects all energy sources. Renewable resources, cost-effective generation and security of supply are becoming increasingly important.

Rotorua is potentially capable of becoming self-sufficient in energy production, with security of supply. Rotorua could lead New Zealand in generating 100% renewable energy through a mix of geothermal, hydro and bio-energy production. The District is rich in natural energy sources such as geothermal fields, small-scale hydro-electricity potential and waste wood for renewable bio-energy. These natural resources are backed by local research and development capability. This combination offers opportunities to produce energy locally and reduce the risk of national energy shortages. This presents a global competitive advantage in secure energy supplies for business and living.

There may be potential for a co-operative, integrated, clean electricity generation network, possibly including price differentials for local customers (long-term savings) and funding for technology capital for participating co-operative members. There may also be ongoing opportunities around R&D for clean energy, for example around making solar energy more affordable.
6.3 Bio-materials

Over the past century, the demand for modern and flexible materials for shelter, clothing, energy and food has increased. Non-renewable materials such as steel, concrete, aluminium and plastics have come to dominate the markets. However, peak oil will bring increased scarcity as the price of oil-based materials rise and additional energy costs are incurred to manufacture metal products. The need to find substitutes is urgent if we are to maintain our standard of living.

One obvious substitute for existing textiles and other products is plant matter or biomass, especially in the form of wood. Rotorua has both the raw materials and local know-how. Scion, a Crown Research Institute providing science expertise for biomaterials development and the forestry sector, has expanded its research capabilities to meet the growing consumer demand for renewable materials and products from plants. Over the past several years, Scion has been focusing on a Bio-Materials Futures Strategy. Rotorua has the potential to become recognised as the Australasian hub for research and development and the commercialisation of bio-materials initiatives.

6.4 Immigration and lifestyle investment

Rotorua has a unique blend of lifestyle qualities including outdoor activities, tourism and leisure facilities, affordable housing and an accessible, central location. Communities have become increasingly mobile, with changing working patterns and family structures. Hence, Rotorua’s lifestyle advantages need to be accentuated to attract immigrants with more skills, knowledge and resources to generate higher incomes and more job opportunities.

Worldwide, lifestyle is becoming more important in relation to the achievement of material wealth. Overseas, many people are feeling increasingly insecure. Even within New Zealand, the pressures and costs of living in larger metropolitan areas is leading some people to look for a more relaxed lifestyle. Rotorua has the potential to attract more well-educated residents with higher incomes who are interested in living in a safe, provincial environment. There are a number of Active Investor Migrant Policy requirements that prospective immigrants and their family members must meet. The person making the application (the investor) has to meet all of the requirements, including at least four years’ basic business experience. Their partner and dependent children also need to meet health, character and, in some cases, English language requirements. Applicants fall under three categories as shown in Table 3.

<table>
<thead>
<tr>
<th>Table 3: Active Investor Migrant requirements</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Criteria</th>
<th>General (Active) Investor category</th>
<th>Professional Investor category</th>
<th>Global Investor category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment funds</td>
<td>NZ$2.5 million for four years</td>
<td>NZ$10 million for four years, $2 million of which must be actively invested</td>
<td>NZ$20 million for four years, of which $5 million must be actively invested</td>
</tr>
<tr>
<td>Minimum settlement funds</td>
<td>NZ$1 million</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Maximum age</td>
<td>54</td>
<td>64</td>
<td>None</td>
</tr>
<tr>
<td>Minimum English language</td>
<td>IELTS level 5 for two out of four bands</td>
<td>IELTS level 4 for two out of four bands</td>
<td>None</td>
</tr>
<tr>
<td>Minimum time in New Zealand</td>
<td>146 days each year</td>
<td>109 days each year</td>
<td>73 days each year</td>
</tr>
</tbody>
</table>

Source: Department of Labour
6.5 Land use optimisation

Land use underpins Rotorua major existing economic drivers. The aim of land use optimisation is to balance the needs of primary industry, bio-materials production, local energy production, residential and industrial development and eco-system needs. Substantial iwi ownership means that land is also a major driver for economic opportunity for Rotorua’s Māori population. The goal is to optimise economic, social, cultural and environmental aspects of land use while protecting and respecting property rights. The regulatory approach should focus on decisions that encourage innovation and lead to balanced outcomes, for example to encourage the commercial development of new ways to avoid, mitigate and manage environmental damage. There may be potential to strategically invest in a soil and climate analysis of the District, to inform more optimal land use decisions.

6.6 Water quality

Worldwide, pressure is growing on water resources for consumption, health, industry and recreation. Rotorua is uniquely placed to gain from its comparative natural advantage with 14 lakes, regular rainfall and abundant, clear springs to support sales of drinking water. Rotorua’s natural water resources are a major asset both for new business opportunities and lifestyle benefits. Ongoing work on restoring the water quality of lakes in the District presents opportunities to combine environmental and economic approaches. There is potential to establish Rotorua’s position as a global centre for the development and application of water quality improvement technology.

6.7 Research and development

Research and development (R&D) is a vital part of innovation and overall economic development. Globalisation and competition from lower-cost producers such as China adds urgency to the need to look for ways to add more value to commodity products such as wood and dairy. There need to be pathways that enable Rotorua businesses to directly benefit from the fruit of local R&D. This may require additional public investment to become more effective. There is ongoing scope for improving the commercialisation of research outputs from Scion, working with local engineers and manufacturers.

6.8 Other opportunities

A wide range of additional opportunities have been identified through recent brainstorming exercises. Amongst these are the following specific ideas:

- Geothermally heated retirement villages.
- Establishment of an Earth Sciences Outpost in conjunction with Waiairiki, Waikato and Auckland Universities.
- Development of a high-speed rail system linking Rotorua to Auckland and other centres.
- A major mountain-biking attraction.
- Development of enhanced spa/therapeutic/beauty tourism products, potentially incorporating dermatology and cosmetic surgery.
- Redevelopment and better integration of shopping at the northern (Lakefront) end of Rotorua’s CBD.
- A ferry service on Lake Rotorua.
- Increased investment in high-value lakeside properties.
- A wide range of other ideas.
7.0  SUMMARY

This report presents the results of a draft high-level analysis of Rotorua’s investment environment over the coming 5-10 year period, including:

- Investment paradigms (changing nature of investment).
- Rotorua’s strengths and weaknesses.
- Trend analysis, including local and global well-being and technology trends, locally relevant industry trends, and characteristics and drivers of emerging industries and technologies.
- National investment positioning.

Investment paradigms

The nature of investment decisions is changing and becoming increasingly complex, however basic economic concepts continue to underpin decision-making processes. These include:

- Factors of production and technology.
- Comparative advantage.
- Risk-return trade-off.
- Compliance costs.
- Financial environment.

Rotorua’s strengths and weaknesses

Rotorua’s key competitive strengths include:

- Established industry base – Forestry and biotech
- Established industry base – Destination tourism
- Central North Island location
- Trans-Tasman airport
- Lifestyle factors

Rotorua’s weaknesses, which in some cases can be seen as strategic opportunities, include:

- Established industry base (lack of sufficient diversification).
- Transport infrastructure (particularly lack of rail services).
- Access to high-speed, affordable communications infrastructure.
- Services and education opportunities.
- CBD experience, including nightlife.
- Negative perceptions and crime rate.
- Access to employment.
- Urban air pollution.
- Capital and land availability.

Well-being and technology trends

- Energy prices and supply – The price of hydrocarbons is projected to trend generally upwards for the foreseeable future. The supply of energy from biomass is forecast to increase within limits. As energy markets begin a serious transition to ‘clean production’, price and supply reliability will be highly variable. Distributed generation from many small energy sources may become more attractive over time despite high initial capital costs.

- Climate change – There will likely be more frequent and severe weather events along with significant changes to local climactic conditions (eg, droughts and flooding). However,
New Zealand will increasingly be seen as a relatively safe haven. Global warming will have gradual effects on agriculture and forestry that will need to be taken into account.

- Global water crisis – While this is not expected to dramatically affect New Zealand, it may provide opportunities for exporting high quality water and undertaking related R&D.

- Green consumers – Globally, there is a gradual increasing demand for eco-friendly products. Examples include bottled fresh water and organically-grown produce.

- Changing lifestyles, work patterns and family structures, including the impact of the ‘baby boomer’ generation. There is also an emerging desirability for urban village or rural lifestyle environments. New Zealand as a whole is becoming relatively more desirable as a place to visit and emigrate.

- Increasing global disruption – International trade and business are increasingly challenging due to security-based barriers and higher costs. Countries and regions that credibly offer relatively more safety, security and harmony should achieve competitive advantage.

- The uniqueness of Māori culture – Māori are a core part of Rotorua’s business environment, including tourism success. The return of substantial assets to iwi/Māori, and ongoing gains in average levels of health, education and socio-economic affluence, are driving a renaissance that should continue to provide a unique local competitive advantage.

- More difficult global and national economic conditions – NZIER economists expect quarterly economic growth to turn positive in the December 2009 quarter, led by migration-induced population growth, government stimulus packages and realisation of pent-up demand. A GDP recovery path is projected, commencing 2010 and averaging 3.5% over the following four years. The recovery will be accompanied by a still difficult economic environment, with challenging profitability and subdued demand. Rising unemployment is projected to persist until mid-2011, peaking at just under eight percent.

- Transport and energy costs – This will have direct flow-on effects to the overall costs of production and consumption. A related issue is increasing awareness around ‘travel miles’ by eco-friendly consumers.

- Global competitiveness and the rise of Asia – Increasing specialisation and the rise of trans-global corporations make it increasingly challenging to remain globally competitive in many industries. Also, the ethnicity, culture and language of New Zealand’s major markets is increasingly Asian, with a corresponding decrease in the relative significance of tradition markets such as Europe, Australia and the United States.

- Interest and exchange rates – New Zealand’s official cash rate has been lowered decisively over the past year, from a peak of 8.2% down to 2.5% as at May/June 2009. The Reserve Bank has committed to keeping rates at or below this level until late 2010. Also, a below-trend exchange rate path over the next three years should partly insulate New Zealand’s export sector from the global recession.

- Information and communication technology (ICT) – With the rapid growth of the Internet, cellphone connectivity and other technologies, ICT has become a foundation factor of production across most sectors. Broadband is effectively shrinking the world for those involved in knowledge economy or ‘weightless economy’ sectors, including designers, consultants, researchers, financial services and media.

- Biotechnology and materials technology – Traditional biotechnology industries are acquiring new horizons, enabling them to improve the quality of products and increase their
productivity. Rotorua has substantial capacity in the biotech area, based around the work of the Scion forestry research institute.

- **Environmental management** – Key issues relevant to Rotorua include R&D and practices relating to lakes water quality, urban air quality (particulates emissions) and nitrogen loss from dairy farming. Opportunities exist for increased local investment aimed at both addressing local issues and on-selling to national and international markets.

*Industry trends*

- **Tourism** – Inbound tourism has been affected by a number of shocks in recent times, including the global recession, fears relating to swine flu pandemic and global security concerns. Tourism growth forecasts will continue to be subject to considerable uncertainty over coming years. However, scope has been identified for growing specific aspects of Rotorua's tourism industry, including spa or therapeutic tourism, conference visits, adventure, sports and nature tourism. There is also scope to develop increased strategic linkages, for example between Rotorua and Taupo. Finalisation of Rotorua's Trans-Tasman Airport will likely create a significant change in Rotorua investment profile, including increased demand for residential real estate and perhaps small businesses, as well as direct benefits to tourism.

- **Forestry** – New Zealand's forest products exports are confined to a narrow product and market mix, and export volumes and revenues have been flat since 2003. Nevertheless, there remain opportunities for enhancing Rotorua's forestry resource in terms of value-added processing and R&D.

- **Farming** – Overall, New Zealand’s dairy industry is prospering. However, the majority of farm growth is in the South Island. There remain opportunities for local value-added processing and R&D. There is also scope for ongoing diversification of farming opportunities.

- **Manufacturing** – Rotorua has a strong base of engineering, fabrication and other manufacturing companies.

- **Clean energy generation and R&D** – There is considerable investment potential to be investigated around ‘clean’ electricity generation, including wind, solar, hydro, geothermal and biomass (including wood, algae and sludge).

- **Biotech** – Rotorua has an existing cluster of firms providing biotech research and manufacturing, especially in relation to forestry products. This provides a nucleus for continued cluster development, linking into Scion and the commercialisation of intellectual property (IP).

- **Increasing demand for eco-friendly products** – This trend provides opportunities for Rotorua in terms of its clean/green image and abundant natural resources, including prospects for export of branded water, meats and other foods.

- **Specialist agricultural/horticultural production** – There may be scope to invest in a detailed soil and climate analysis of the Rotorua District to inform more optimal use of land for agricultural and horticultural purposes. Increased returns may be realised by specialising in niche horticultural products in some areas, particularly those that are subject to growing demand.

- **ICT** – The application of technology has become pervasive across every industry sector to improve productivity, lift innovation and provide business development opportunities. While Rotorua doesn’t have any clear comparative advantage within the ICT sector itself, neither does it have any great lack of advantage compared to other parts of the world.
One area in which Rotorua has potential to grow is around its existing nucleus of film and television production companies.

- Iwi/Māori development - Māori within Rotorua and surrounding areas are set to benefit substantially from land and resource settlements relating to historical grievances. This creates opportunities for local Māori and the District as a whole to benefit over the long-term. The immediate returns will be based around forestry ownership, with additional benefits coming through portfolio diversification.

Table 4: Key matters that will shape future investment in Rotorua

<table>
<thead>
<tr>
<th>International</th>
<th>National</th>
<th>Regional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial environment – Recession and recovery</td>
<td>Forestry – Forest servicing, wood products servicing</td>
<td>Trans-Tasman Airport and related services</td>
</tr>
<tr>
<td>Transport and energy prices and supply</td>
<td>Tourism – Development of attractions, - conference market, spa, adventure, events and complementary accommodation (eg, apartments)</td>
<td>Transport – Regional transport hub</td>
</tr>
<tr>
<td>Climate change</td>
<td>Education – Tertiary education (key focus areas supporting industry and community)</td>
<td>Energy – Geothermal, biomass, hydro, distributed generation</td>
</tr>
<tr>
<td>Global water crisis – Water quality technologies</td>
<td>Māori resources – management and business infrastructure to support CNI and other settlements</td>
<td>Leisure - sport and recreation</td>
</tr>
<tr>
<td>The rise of Green consumerism</td>
<td>Changing lifestyles, work patterns and family structures</td>
<td>Uniqueness of Māori culture</td>
</tr>
<tr>
<td>Global competitiveness and the rise of Asia</td>
<td>Dairying – Product development</td>
<td>Forestry biotechnology – R&amp;D and products commercialisation (eg, materials and fuels)</td>
</tr>
<tr>
<td>Environmental management</td>
<td>Niche manufacturing</td>
<td>Manufacturing and engineering</td>
</tr>
</tbody>
</table>

Emerging industries and technologies

Emerging industries are inherently difficult to foresee, though ‘obvious’ in hindsight. They are characterised by low predictability, rapid growth, reliance on highly skilled people and unconventional associations. New technologies likely to have a major impact on emerging industries include:

- ICT.
- Biotechnology.
- Nanotechnology.
- Microelectronics.
- Environmental management.
- Materials technology.

Drivers of emerging industries in the Rotorua context include:

- Environmental protection through better production processes, including sensor technologies.
- Wellness, healthcare, active recreation and fitness for an aging population.
- New intermediaries enabled by information technology.
- Agricultural and horticultural options with above-average margins.

There are many other market opportunities that have arisen over the past decade, and new opportunities will continue to surface over time. Business competitiveness and the relative importance of these drivers are constantly changing. There is also an accelerating growth in the value of intangible assets such as design talent, global brands, specialist knowledge and social
capital (eg, business relationships). The value of intangibles is expressed strongly in the service and manufacturing sectors, and services are an increasing component of the economy. New industries are also emerging which blend two or more traditional sectors.

The following national and global trends underpin many emerging industries:

- Global population growth.
- Globalisation of supply chains, brands and knowledge.
- Ageing population.
- Higher per capita incomes and propensity to consume.
- Degradation of the natural environment.
- Advances in communications technology.
- Increased rate of change in consumer moods and trends.

Emerging industries and technologies relevant to Rotorua include:

- Green-tech – Including clean, renewable energy generation and R&D (geothermal, bioenergy, etc).
- Biotech – Particularly in relation to technology commercialisation of Scion research to produce biomaterials and biofuels.
- Water quality – R&D and manufacturing.
- Specialist agricultural/horticultural production, for example production of niche fruits for emerging growth markets.
- Recycling and waste management – Including both R&D and manufacturing from waste materials.
- ICT – Wider application of information and communications technologies.
- Film and television production – There continues to be demand for high quality and niche media products.
- Spa/therapeutic tourism and holistic medical practices.
- Adventure, sports and nature tourism.
- Education – Including tertiary education services, and English language tuition.