



# **Company Profile**

## **East Harbour Management Services**

**“Energy is our focus”**

**East Harbour Management Services Limited**  
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## Company profile

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East Harbour Management Services (East Harbour) is a broad-based consulting company, with a primary focus on energy, that provides advisory, commercial, and strategic support to a range of energy, environmental, and information based customers.

### **“We can manage or implement your projects”**

We specialise in being an outsourced provider of expertise to meet customer requirements, via specific work contracts or staff secondment to public and private sector organisations.

### **“Energy is our focus”**

East Harbour has a long background and strong involvement in the energy industry. Staff backgrounds are varied and their skills can be applied to many different disciplines and industries.

#### **The team’s collective experience includes:**

- Feasibility studies and business case development
- Commercial strategy and investment planning
- Energy consultancy, advice and strategy development
- Renewable energy project development: wind, solar, hydro, geothermal, and biomass
- New and evolving energy technologies such as solar, hydrogen, and biogas
- Fuel crops: growing, harvesting, and conversion
- Energy market policy and legislation advice
- Coal and gas fuel supply and price forecasting
- Electricity market pricing and forecasting
- Energy billing and network charges analysis
- Project management of energy facility developments
- Project evaluation (technical, environmental, and commercial) and due diligence
- Commercial project development
- Energy and environmental policy development, and strategic advice
- Energy management strategy, auditing, and advice
- Industry association management (bioenergy, solar, and geothermal associations)
- Executive and project management leasing

#### **East Harbour’s customers include:**

- Energy industry (generators, distributors, retailers, and consumers of electricity, gas, coal, hot water, and steam)
- Maori Trusts
- Government and local authority agencies
- Manufacturers/industry (energy users and facility owners and operators)
- Industry and energy associations
- Corporate clients
- Non-governmental organisations

## Business focus areas

## Business activity areas

### Strategic advice and management

- Management support, executive leasing or secondment
- Strategic planning
- Project advisory services
- Environmental project management
- Policy development and evaluation
- Key staff experience

## Strategic advice and management

### Management support, executive leasing or secondment

#### In-house support

East Harbour provides organisations and companies with in-house support for staff activities that have been restructured or new slim-line companies that may not have the resources to fill critical staff positions. These positions are usually project or specific task focused and may involve leadership of multi-disciplined teams. East Harbour can provide additional staff resources to handle peak workloads and enable start up of new business activities or projects. East Harbour specialises in making projects happen.

#### Staff secondments

Several East Harbour staff have had periods of secondment into key staff positions in Government and leading New Zealand SOEs<sup>1</sup> during times of restructuring or initial business unit establishment. Key staff are experienced "change" managers with wide general background which means that East Harbour's staff can cover a range of positions and undertake most corporate activities with direct reporting to senior management. This has resulted in a strong background in writing Board Papers, Government Policy Papers, regular updating of Government data and analysis, and the development of Strategic Plans for both public and private sector organisations.

#### Energy associations

Key East Harbour staff provide executive support for the following industry associations:

- Solar Industries Association
- Bioenergy Association
- Geothermal Association

Staff hold positions on the Boards of some of these associations and the Energy Management Association of New Zealand, and are active members of a range of other organisations and associations.

### Strategic planning

East Harbour's staff consult to companies, government departments, and local government agencies in the areas of strategic advice, preparation of strategic and business plans, and monitoring and review of the achievement of strategic and business goals. East Harbour can provide an external view on each of these and provide independent advice to chief executives and senior management on performance in relation to target and goals.

### Project advisory services

East Harbour can provide project advisors for a broad range of tasks that companies may need assistance with. Such projects may relate to physical assets, or be simply management tasks that require specialist skills or experience.

### Energy and environmental project management

East Harbour is strong in the management or development of environmental projects and participation in the district and regional planning process. This experience can be provided to companies and regulatory authorities in the form of advice, review, or operational management support. Strengths exist in the identification of environmental impacts and mitigation strategies, and in the development of network relationships to meet business goals and suitable environmental outcomes. East Harbour's staff have managed resource consent applications on behalf of clients or appeared as expert witnesses for a number of resource consent hearings.

<sup>1</sup> SOE – State Owned Enterprise

## Policy development and evaluation

East Harbour's staff have strong backgrounds in the development of corporate and government policies. In particular, East Harbour staff have experience in the development of environmental and energy policies for central government ministries and departments. They have been members of teams preparing background papers, undertaking evaluation of alternative energy options, and recommending specific policies and the development of implementation and action plans. Key projects have included economic appraisal and commercial investment assessment, particularly of resource and infrastructure based projects. This unique mix of experience and knowledge is applicable to a wide range of projects.

Staff also have expertise in the development of sustainable development policy approaches for leading energy sector companies.

## Key staff experience in the strategy and policy area

East Harbour staff have been involved with the following projects:

- The development of State Owned Enterprise legislation
- State Services Commission machinery of government reviews – energy sector
- The establishment of Electricity Corporation of New Zealand (ECNZ)
- Preparation of strategic advice to ECNZ senior management on energy markets and resource based investment opportunities
- Preparation of an environmental policy for ECNZ
- The establishment of Meridian Energy and Meridian Solutions
- Strategic investment reports to commercial customers
- Presentation of papers at conferences and seminars on the opportunities and costs for electricity generation from existing and emerging technologies
- A range of management reviews of energy sector entities
- Various commercial reports to commercial clients on energy market opportunities, structures, and strategies
- Establishment of national and regional energy strategies
- Parliamentary Select Committee - Inquiry into the Electricity industry
- Parliamentary Commissioner for the Environment - Environmental Assessment of the Electricity Industry
- Renewable energy policy for EECA
- Revision/extension of Building Code requirements
- Implementation of energy efficiency programmes

### Commercial advice

- Commercial project planning and development
- Fuel sourcing
- Project implementation
- Asset, investment, and energy facility management
- Key staff experience

## Commercial advice

### Commercial project planning and development

East Harbour assists energy companies and other organisations to secure specific new capital investments, and will investigate and develop projects in its own right. Particular skills are in the following generation technologies, covering both heat and electricity:

- Geothermal
- Biomass
- Hydro (large and small scale)
- Wind
- Thermal electricity generation
- Industrial heat supply and cogeneration
- Solar

Staff have particular strength in the areas of financial analysis and project modelling, risk assessment, project planning, commercial requirements for

contracts, and consenting; building on a core understanding of the applicable technologies, both existing and emerging.

### **Fuel sourcing**

East Harbour has considerable experience in the assessment of fuel supply pricing and availability, and the development of models and forecasts covering this. It has also carried out considerable work on the availability of biomass fuels, including the growing and utilisation of fuel crops

### **Project implementation**

East Harbour can put together and manage teams to implement a range of small or large scale energy projects. Typically, teams are formed from a mix of East Harbour expertise and specialist external consultants as required.

### **Asset, investment, and energy facility management**

Staff experience means that East Harbour is well placed to manage company assets, investments, and energy facilities. East Harbour employs experienced hands-on staff who have a background in securing management contracts, developing and gaining agreement on management programmes, engaging the sub-contracted services of operational/maintenance/labour staff, and who can undertake the management of the assets or investment projects of a range of energy facilities. Specific projects are:

- South Island hydro projects
- Taranaki Combined Cycle project
- Te Apiti Wind farm
- Unison Wind Farm
- Whirinaki Diesel Power Station

### **Key staff experience**

- Commercialisation of ex-ECNZ corporate library to standalone information delivery company (Energy Library)
- Business development activities for a commercial client on the outsourcing of bioenergy and coal fired industrial heat plant
- Management of establishment and building of Government Reserve Generation Whirinaki plant
- Preparation and management of energy performance contracts
- Evaluation of availability and cost of energy fuels
- Investigation and commercial development of a number of cogeneration and industrial heat plant projects
- Purchase and management of land assets for energy projects
- Establishment of a new business unit for a commercial client
- Analytical and strategic advice for development of new products
- Database establishment and analysis
- Commercial development of a privately owned wind farm

#### **Energy consultancy**

- Renewable energy
- Energy studies
- Regional energy
- Energy auditing and management
- Technical standards
- Housing and building
- Energy markets, and fuel sourcing and supply
- Energy management
- Key staff experience

## **Energy consultancy**

East Harbour's staff have worked on many of New Zealand's large scale energy developments and also on the more recent heat, power, and cogen developments. These projects include wind, geothermal, biomass, coal, gas, and distributed generation initiatives. As a result, East Harbour staff have a wide range of established contacts in the energy sector enabling the rapid formation of teams covering all disciplines required for project implementation.

## **Renewable energy**

East Harbour's staff have extensive and specific experience in the commercial assessment and development of:

- Wind farms
- Geothermal generation facilities including electricity generation, direct heat use, district heating and the emerging enhanced geothermal technologies
- Cogeneration projects fuelled on wood and other biomass fuels, including co-firing with coal
- Hydro power

Team members have provided advice to Government and commercial clients on renewable energy costs and availabilities.

## **Energy studies**

East Harbour specialises in solving energy problems and undertaking energy studies and the development of energy strategies. The business is often called on to assist evaluation of energy investment options and to scope energy supply/use options. An area of speciality is with distributed energy regulations and opportunities.

East Harbour has monitored the performance of in-situ solar water heaters and undertaken assessments of opportunities for use of solar energy in commercial and institutional applications.

## **Regional energy**

East Harbour has prepared a number of Regional Energy Assessments focussing on maximising the potential for local generation and efficient use of energy. In addition, East Harbour can develop implementation strategies and action plans.

## **Energy auditing and management**

East Harbour staff offer services for commercial and industrial energy to assist with the analysis of energy usage and cost, including tariff/billing of both energy and line charges. This includes the assessment of energy use and the provision of options for reductions in energy use and related charges by energy management or other systems. Staff are also experienced in energy benchmarking and multi-site energy monitoring, and have managed or been involved with the writing of an "Energy Audit Manual" and a "Guide for Energy Monitoring".

East Harbour's staff are experienced in the development of network asset management plans, and strategies for the efficient use of assets with respect to energy strategic and energy investment planning.

## **Technical standards**

East Harbour represents the New Zealand solar and wood pellet industries on technical standards committees and has worked with the Department of Building and Housing on the preparation of Building Code compliance documents covering building insulation, installation of solar water heating systems, and commissioning of HVAC systems.

East Harbour initiated the establishment of a training course for the installation of solar water heating systems, the preparation of teaching material and the writing of a Code of Practice for installation. It is currently establishing a similar training framework for the installation of wood pellet burners. Compressed air

East Harbour contracts to administer the solar industry Installer Accreditation Scheme.

## **Housing and building**

East Harbour has undertaken research into the energy efficiency of New Zealand housing and worked with the Department of Building and Housing on Building

Code compliance documents. An area of speciality is Home Energy Rating Schemes (HERS) and the sustainable use of energy in communities.

### **Energy markets and fuel sourcing and supply**

East Harbour's staff have been involved in domestic and international studies of the following:

- Natural gas market development and diversification
- Assessment of biomass resources, costs, and extraction methodologies
- Fuel crop assessment and growing in New Zealand including economics and utilisation
- Transport energy markets
- Oil product supply and utilisation in transport and industry
- Market implementation of new fuel technologies (production, distribution, and usage)
- Alternative transport fuels (LPG, hydrogen, ethanol, and biodiesel)
- Emissions and greenhouse gas determinations
- Electricity generation (including large and small distributed generation)
- Mature and emerging markets, including non-commercial energy
- New and emerging energy technologies
- Energy price path development

In addition to their experience in energy supply, East Harbour's staff also have experience with the needs and drivers of the demand side. This includes a range of demand response tools aimed at shifting or shedding load during peak times of use, in times of shortage of supply or network constraint. Specific experience focuses on the following tools/approaches for load management:

- Ripple control
- Pricing strategies (in particular congestion pricing)
- Demand side exchange
- Day/night rates
- Use of on-site generation, i.e. diesel generators

### **Energy management**

East Harbour can provide temporary or outsourced energy management services. Tim Armstrong of East Harbour is an experienced facilities manager and was EnergyWise Energy Manager of the Year for his work with Victoria University energy services. Tim is available to advise on establishment of energy management activities or to assist implement such systems.

### **Key staff experience**

- Management of the Government's Reserve Generation Project - establishment and implementation of Whirinaki power station
- Investigation for commercial clients of potential niche and distributed generation power station opportunities throughout New Zealand:
  - Geothermal
  - Wind
  - Small hydro
  - Cogeneration
  - Bioenergy
- Analysis and reports to various energy users on electricity use and their billing for energy and line charges
- Reports to commercial clients on the costs of electricity generation from various energy forms, wind, hydro, geothermal, coal, bioenergy, gas, etc.
- Investigation and development of new power station projects for ECNZ:
  - Taranaki Combined Cycle gas fired
  - Lower Waitaki hydro
  - Upper Clutha hydro
  - Tuapeka hydro

- Makara wind farm
- Marsden B
- Meremere A & B
- A range of geothermal developments
- Evaluation of primary sector energy opportunities, i.e. biogas digesters, solar hot water, ripple control, distributed generation, and heat exchangers
- Assisting the commercialisation of new technologies
- Obtaining resource consents for the Taranaki Combined Cycle Power Station
- Presentation of papers at various renewable energy, bioenergy, and geothermal seminars
- Project management of the feasibility and consents for a 90 MW wind farm
- Undertake regional energy assessments, energy strategies, and action plans for implementation:
  - Southland
  - Wairoa
  - Tairāwhiti

## Associates and supporting resources

### Small business and information systems consultancy

- EastHarbour<sup>IT</sup>
- Energy Library

## Small business and information systems consultancy

### EastHarbour<sup>IT</sup>

EastHarbour<sup>IT</sup> (EHIT) was built on a need for East Harbour to have its own in-house IT support team. Since then, EHIT has progressed as an independent entity and grown to a point where it is a well established IT integrator, supporting many small to medium sized businesses in the greater Wellington region. In addition, it is establishing relationships with Australian based IT support companies providing support services to Australasian corporates.

EHIT has a good relationship with Telecom New Zealand and as such has become a data services partner with them. This relationship has provided EHIT with a better knowledge and background into many of the services provided by Telecom.

EHIT staff are experienced in the management of IT contracts with small to medium sized businesses as well as acting on behalf of clients to integrate hardware and software technologies and data services provided by Telecom.

Further areas of expertise:

- Small business IT development and support
- Data backup and recovery solutions
- Server and computer maintenance
- Installation and upgrades
- Network support and design
- Antivirus solutions
- Firewalls
- Security maintenance
- Wireless data solutions

### Key staff experience

- Implementation and maintenance of Microsoft Small Business Server in a number of small to medium businesses throughout Wellington
- Hardware and software troubleshooting, repair, and upgrade
- Configuration of broadband internet connections and set up of firewall and security hardware and software
- Design and support of wireless and remote access solutions for geographically diverse businesses and clients

[www.eastharbourit.co.nz](http://www.eastharbourit.co.nz)

## Energy Library

The Energy Library is an associate company in the East Harbour Group. The Energy Library can access a wide range of information on engineering and energy matters throughout New Zealand and overseas. Energy Library's staff are specialist information searchers with extensive knowledge of the New Zealand engineering and energy industry and a wide knowledge of international energy markets.

Energy Library provides the following service:

- Searching for research and information
- Sourcing and supply of documents such as reports, conference papers, journal articles, and books
- Circulation of journals to members
- Business intelligence reporting
- Customising information portals for member organisations
- Assisting knowledge sharing and business networking across different parts of the New Zealand energy sector by connecting people through our extensive networks

Energy Library also provides an information management service to ensure information maximisation.

[www.energylibrary.org.nz](http://www.energylibrary.org.nz)

## Specialist Staff

### East Harbour's team

- Brian Cox
- Mike Suggate
- John Rutherford
- Brian White
- Barrie Wilkinson
- Tim Armstrong
- Connie Crookshanks
- Siegfried Zoellner
- Darrell Chin

## East Harbour's team

### Brian Cox

#### Key experience includes:

- Restructuring Samoa electricity system for Asian development Bank
- Assisting Parliamentary Commissioner for the Environment undertake environmental performance assessment of the electricity industry
- Advice to Government on infrastructural and constructional issues related to major development projects
- Advice to industrial energy users on energy supply and cost saving initiatives
- Advisor to the Parliamentary Inquiry into the New Zealand Electricity Industry
- Preparation of strategy assessments of energy use and supply in the Southland and Tairāwhiti Regions
- Commercial development of energy initiatives including establishment of stand-alone energy business
- Project Manager for development and implementation of Blue Mountains Lumber Energy Facility for Meridian Energy
- Seconded to establish Meridian Solutions, a business of Meridian Energy
- Preparation of energy assessments for Wairoa District and Southland Region
- Preparation of industrial energy option assessments and strategies
- Principal Project Advisor for Centre for Advanced Engineering Distributed Generation Project
- Extensive senior management experience particularly in strategic advice and development groups within Ministry of Works, State Services Commission, and ECNZ
- Energy Projects Development Manager for ECNZ
- Advice to ECNZ on environmental aspects of major investment projects, establishment of environmental policy, and development and management of relationships with local communities affected by potential projects
- Responsible for identification, technical investigation, and securing commercial agreements of ECNZ business development projects involving

wind, cogeneration, bioenergy, wind, hydro, geothermal energy, and total energy services to large industrial customers

- Identified commercial energy projects for ECNZ that have a high likelihood of obtaining resource consents, working with local communities, and taking projects to committal phase
- Identified project, prepared conceptual plans, and obtained all resource and land use consents (including Board of Enquiry) for \$400 million, 400 MW gas fired Taranaki Combined Cycle power Station
- Managed investigations to evaluate the technical, environmental, and economic viability of new business opportunities (industrial)
- Managed the commercial development of a number of industrial energy facility projects (10 MW bioenergy cogeneration plant, 52 MW gas fired cogeneration plant)
- Executive Officer for Solar Industries Association and Bioenergy Association of New Zealand

### **Mike Suggate**

#### **Key experience includes:**

- General management and senior management experience in a range of energy, manufacturing, and distribution businesses (ECNZ, Pilkington Glass, BP)
- Extensive project management experience covering energy, industrial, and IT projects
- Feasibility studies and project management related to geothermal developments, wind power, fuel cropping, and biomass and other energy generation facilities
- Set up of Energy for Industry, a new business unit of Meridian Energy, providing on-site energy and utility supply from facilities built on industrial/manufacturing sites
- Considerable marketing and sales experience, including the development export markets in the United States, Europe, United Kingdom, Australia, Japan, and the Middle East
- Extensive business re-engineering and restructuring experience

### **John Rutherford**

#### **Key experience includes:**

- Project management experience providing a broad range of skills and an international network of contacts which contribute to effective management of and participation in multi-discipline teams
- Project management of investigations and securing resource consents for a 160 MW wind farm
- Investigation and evaluation of the technical, environmental, commercial, and economic viability of energy related new business opportunities
- Involvement in the resource management field, both in the resource consents area and in District/Regional planning processes
- Determining, managing, and securing transmission route easement options for energy projects
- Energy Projects Manager for ECNZ
- Involvement in a wide range of energy projects and associated infrastructure issues (wind, hydro, thermal [conventional, gas turbine and cogeneration], and geothermal projects)
- Purchase of standby generation
- Commercial development of wind farms, including securing easement options and resource consents
- Securing land for Luggate, Queensberry, Tuapeka, and other hydro electric projects
- Involvement with transmission issues associated with the design of the Taranaki Combined Cycle Power Station

- Engaging and managing consultants to undertake specialist tasks in the environmental, technical, legal, financial, property purchase, administrative, and regulatory fields
- Managing investigations and securing land for Lower Clutha Hydro Electric Project, including transmission related aspects of the project
- Overall programming for the design and construction of Ohaaki Geothermal Power Station
- Planning, scheduling, and constructing the transmission system for the New Plymouth Power Station to Bunnythorpe 220 kV link, including a new substation near Wanganui
- Chairman of the Energy Management Association of New Zealand

## **Brian White**

### **Key experience includes:**

- Seconded to Ministry of Economic Development for monitoring and analysis of the New Zealand energy markets
- Advice to Ministers on the implementation of new policy (including carbon charge projects and "information disclosure" regimes), on impacts of regional plan changes on hydro and geothermal operations (and then on the wider economy), and monitoring aspects of the New Zealand electricity retail and wholesale markets
- Involvement in other power technologies including hydro, bio-mass, thermal, combined cycle, repowering, and micro-generation as well as involvement with irrigation schemes, process steam supply, district heating, and absorption chilling
- Specialist in geothermal electricity and heat production
- Renewable energy consultancy
- Feasibility studies, consenting, design, construction, operations and maintenance, contractual reviews, and management roles through to due diligence exercises on a range of technical plant
- Extensive involvement in power technologies including hydro, bio-mass, thermal, combined cycle, and repowering, as well as involvement with irrigation schemes, process steam supply, and district heating
- Worked across many disciplines with engineers and scientists, environmental specialists, economists, developers, bankers, and lawyers within New Zealand, Philippines, Indonesia, and Korea that covered both power and heat applications
- Strategic and business plans for new business development opportunities
- Worked on the establishment of Mandala Nusantara Ltd and the Wayang Windu Geothermal Project
- Executive Officer of New Zealand Geothermal Association

## **Barrie Wilkinson**

### **Key experience includes:**

- Co-authored update report on energy in New Zealand
- Reviewed expected electricity generation costs for SOE
- Prepared electricity price path for an electricity company
- Economic modelling for geothermal and other case studies
- Contributed to regional distributed energy study
- Prepared evidence for environment court hearing
- Co-authored paper on distributed energy for geothermal resources.
- Assisted Government Department in analysing and summarising public submissions to energy strategy documents
- Contributed to background papers for Government Department energy targets
- Contributed to Government Department energy publication
- Contributed to the assessment of forest energy supply and demand and energy costs.

- Primary contributor and editor of report on renewable energy resources and costs in New Zealand
- Analysis for the assessment of forest energy supply and demand and energy costs
- Prepared reports on unit costs of electricity for fossil fired power plant
- Contributed to the assessment of energy resources in Rotorua, Wairoa, Southland, and Tairāwhiti Regions
- Assisted Government Department with Gas Regulatory Compliance issues
- Analysis for reports on generation alternatives to transmission lines
- Assisted Government Department with analytical advice for fuel purchase contract
- Assisted Government Department with review of project financial model.
- Contributed to report on expected energy use and cost in schools
- Contributed to report on hydro energy resources and costs in New Zealand
- Developed sawmill energy cost model
- Assisted in administration and reporting of additional electricity generation during periods of hydro water shortage
- Primary contributor and editor of report on status of renewable energy in New Zealand

### **Tim Armstrong**

#### **Key experience includes:**

- Introduction of US Green Building Council LEED building rating system and development of in-house facilitation team Middle East (Dubai)
- Development of sustainability guidelines for major developments
- Study of energy growth implications for regional authorities
- Collection and analysis of energy data for Ministry of Economic Development
- Monthly analysis and reporting of energy use in Ministry of Economic Development offices and for other building owners
- Working with the Department of Building and Housing to improve energy efficiency of HVAC systems in commercial buildings
- Installation and operation of domestic solar water heating system
- Analysis and negotiation of energy supply contracts for Tertiary Institutions and commercial buildings
- Management of energy audits for multi site university campus plus conducting audits of commercial buildings and hotels
- Project management of boiler replacement and upgrade of HVAC in CBD buildings
- Installation of time-of-use meters to track electricity usage at Victoria University
- Conducting feasibility study on co-generation plant
- Design of new and upgrades to Building Management Systems for university campus and for Wellington commercial buildings
- Introduction of new lighting technologies including use of T5 lamp fittings, daylight and proximity switching, plus electronic dimming
- Replacement of cooling towers with more energy efficient units having variable speed drives and BMS control
- Introduction of energy use monitoring, targeting, and benchmarking systems as part of Australasian Tertiary Education benchmarking scheme

### **Connie Crookshanks**

#### **Key experience includes:**

- Extensive project management of Public and Private Sector energy projects including operational and policy projects
- Project management of \$1 million project on improving the ability of large electricity users (the "demand side"), to interact with New Zealand's supply-side driven electricity market

- Policy advice (environmental and energy) to leading United Kingdom gas supply and transmission companies
- Development of environmental policies for Public and Private Sector organisations
- Development of social and environmental reports in modern utility companies (energy, waste, and water companies)
- Organisation and management of boutique workshops and seminars on current energy and environmental issues
- Project management of a study into renewable energy, energy efficiency and the role of the Resource Management Act
- Work on an investigation into the direct use of gas in the domestic and light commercial sector
- Management of stakeholder consultation processes
- Project management of New Zealand's first and only Hydrogen focussed workshop

### **Siegfried Zoellner**

#### **Key experience includes:**

- Commercial energy opportunity research, development, consultation and business analysis both in New Zealand and Germany for private sector clients
- Identification of business opportunities around energy technology, particularly small scale distributed renewable electricity generation (solar, gas, wind)
- Business case development and reporting to senior management to support viability of pursuing viable commercial opportunities (e.g. the emerging carbon economy)
- Analysis of business cases and propositions, commercial strategy, risk analysis, and financial appraisal and modelling
- Development of systems and tools for pricing of individual electricity and gas supply contracts as well as pricing of delivered energy tariffs. Development and implementation of pricing and analysis software for gas and electricity supply contract offers to corporate customers
- Development and negotiation for major gas cogenerations projects

### **Darrell Chin**

#### **Key experience includes:**

- Owner's representative for the operation and maintenance of a 155 MW thermal power station
- Project Advisor for the implementation and construction of a 155 MW thermal power station
- Project Advisor in energy projects related to the promotion of gas exploration and energy security of supply
- Project management of a biofuel energy centre development
- Administrator for EECA energy auditing programmes
- Feasibility studies including technical, financial, and commercial analysis through to final report deliverables
- Development of financial analysis tools
- IT systems development
- Project Controller for a 2 x 370 MW Combined Cycle Power Station and a 110 MW Geothermal Power Project
- Site Engineer at cogeneration and combined cycle plants

## Publications

### Publicly available publications, presentation, and reports

- Energy general
- Regional energy studies
- Renewable energy general
- Wind
- Bioenergy
- Geothermal
- Solar
- Energy efficiency
- Climate change related projects
- Hydro

## Publicly Available Publications, Presentations, and Reports

The following reports and publications prepared for clients are publicly available. Other work undertaken by East Harbour for clients is confidential and not able to be referenced. Visit [www.eastharbour.co.nz](http://www.eastharbour.co.nz) for copies of the documents.

### Energy general

*"Lifecycle costs for small to medium generation plant"*, prepared for Energy Efficiency and Conservation Authority (EECA), June 2006.

*"Microgeneration Potential in New Zealand – A Study of Small-scale Energy Generation Potential"*, prepared for Parliamentary Commissioner for the Environment, May 2006.

*"Heating and Electricity Generation Costs, Graphs"*, March 2005.

*"Heat Plant in New Zealand"* – Database Report prepared for EECA and Bioenergy Association of New Zealand, August 2004.

*"National Issues vs Local Concerns, Assessing Options for Infrastructure Projects"*, presentation at NZAIA Forum.

*"Co-generation and Embedded Generation"*, report to Forest Industries Engineering Association, Balclutha, July 2003.

*"Managing within the New Zealand Energy Market"*, report to Forest Industries Engineering Association, Balclutha, July 2003.

*"Distributed Generation Market Potential"*, presentation to CAE Distributed Generation Workshop, June 2003.

*"The Barriers to Cogeneration"*, presentation to Utilicon Conference, March 2003.

*"The Barriers to Cogeneration"*, discussion background paper to Utilicon Conference, March 2003.

*"Opportunities for Distributed generation in New Zealand – The Drivers and what's in it for you"*, presentation to CAE Distributed Generation Workshop, June 2002.

*"Costs of Fossil Fuel Generating Plant"*, report to Ministry of Economic Development, May 2002.

*"Overview of Overseas DG Activities and Experiences"*, presentation to CAE Distributed Generation Workshop, November 2001.

### Regional energy studies

*"Bay of Plenty Regional Energy Strategy – for wealth and wellbeing via energy"*, report for Bay of Plenty Regional Governance Group, July 2009.

*"Status and Opportunities: Energy Supply in the Rotorua District"*, report for Bright Economy Advisory Board, Rotorua, March 2007.

*"Rotorua Energy"*, presentation to Energy Workshop, December 2006.

*"Issues Paper for an Auckland Regional Council Role in Energy Management"*, Auckland Regional Council, November 2005.

*"National Issues vs Local Concerns"*, April 2005.

"Statement of opportunities – Identification of Potential Electricity Generation Opportunities – Nelson, Marlborough and north Westland", report for Electricity Commission, November 2004.

"Tarawhiti Regional Energy Assessment", prepared for Tarawhiti Development Taskforce, January 2004.

"Assessment Of The Opportunities And Constraints Affecting Energy Supply To The Tairawhiti Region, And The Options Available For Improving Stability And Price Of Supply To Energy Users", report to Tairawhiti TaskForce.

"Southland Regional Energy Assessment", report for Venture Southland, November 2003.

"Southland Regional Energy - Appendices", report for Venture Southland, November 2003.

"Wairoa Energy Supply – Scoping Study", report to Wairoa District Council, June 2003.

### **Renewable energy general**

"Renewables in NZ: stocktake and prospects", presentation to Victoria University School of Geography, February 2008.

"Small Scale Wind and Other Renewable Energy", report January 2007.

"Renewable Energy Supply Potential", discussion starter presentation to workshop, July 2006.

"Renewable Energy Industry Status Report", prepared for EECA, May 2004, 2005, and 2006 editions.

"Assessing the Impacts of Renewable Energy Projects", presentation to NZAIA Conference, July 2005.

"Availabilities and Costs of Renewable Sources of Energy for Generating Electricity and Heat", report for Ministry of Economic Development, 2002, 2003, and 2005 editions.

"Renewable Energy and the Efficient Implementation of New Zealand's Current and Potential Future Greenhouse Gas Commitments", joint report with Motu for Ministry of the Environment, August 2002.

### **Wind**

"Review of Wind Energy Potential in New Zealand, May 2001.

### **Bioenergy**

"The Opportunities and Realities of NZ Becoming Self Sufficient in Liquid Biofuels, presentation to The NZ Society for Sustainability Engineering and Science, May 2008.

"An Overview of Recent FIDA Funded Projects & What is Needed to Unleash the Potential of Bioenergy from Woody Residues", March 2008.

"Where may Gasification fit in the NZ Bioenergy Market", February 2008.

"Assessment of Possible Renewable Energy Targets – Direct Use: Woody Biomass", paper by East Harbour Management Services & Scion, August 2007.

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