



## SINCLAIR KNIGHT MERZ

### WHERE TO FIND US:

With offices across Australia, Europe, Middle East, New Zealand, the Pacific, South America and South East Asia our aim is to deliver our leading skills across the globe.

Sinclair Knight Merz employs several thousand staff and our professionals enjoy excellent relationships with business and government contacts in regions where we operate.

We have extensive experience working with the leading financial institutions, aid agencies and other non-government organisations.

### CONTACT:

For further information on our range of services and office locations visit our website or contact:

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Europe: +44 20 7257 8630

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# water and environment

# our commitment to clients



Ensuring our clients **achieve remarkable success** - the result of our passion for excellence in service, technology and business solutions.



"SKM is committed to creating a sustainable future for all by delivering innovative and effective solutions that balance the needs of today with those of tomorrow."

GEOFF LINKE | GENERAL MANAGER

## An Overview

When it comes to project delivery firms, clients want organisations that ensure their teams can achieve remarkable success. This is what we seek to provide at Sinclair Knight Merz (SKM). To accomplish this our people strive to gain a deep understanding of their clients' business.

With this understanding in place, we systematically apply our best people, excellent local knowledge and leading expertise to tailor solutions that meet their needs.

SKM brings the confidence that those needs will be both anticipated and exceeded, such as with the timely delivery of projects to agreed budgets, and the use of appropriately innovative approaches.

This requires a broad range of environmental management, engineering, design, social, economic and strategic skills to be brought to bear on projects.

SKM places significant emphasis on ensuring that our environmental team maintains up-to-date knowledge about relevant laws and regulations, current and emerging issues and environmental best practice.

Furthermore, the safety of our employees and those we work with is critical to our success, along with our ability to care for and protect the environment in which we operate.

We aim to enhance our service delivery by focusing our local operations on key market and client based accounts that have ready access to the right skills anywhere in the organisation through our discipline based sectors of:

- Environmental Engineering
- Natural Resources Management
- International Development Assistance
- Planning and Management
- Spatial

## ENVIRONMENTAL ENGINEERING



The innovative and experienced teams of engineering and geotechnical specialists at SKM offer a comprehensive range of services that have positioned the firm as a leading player in the environmental engineering market.

Through our dedication to thorough, professional engineering, SKM works to improve the quality of life for communities across the globe. Our engineering capability is reinforced by a strong commitment to the principles of safety in design and risk management. Furthermore, through collaboration with our environmental and social planners and community consultation specialists, we strive to ensure the delivery of environmentally and commercially sustainable project solutions.

Our professional services encompass the total water management cycle from dams engineering through to the re-use of treated wastewater, supported by the high level expertise of a strong geotechnical team. These services have kept pace with technological developments arising from climate change and ongoing water



shortages in the Southern Hemisphere, extending the water supply network through to:

- Desalination of sea water
- High level treatment of wastewater to reclaim water for domestic non-potable re-use
- Aquifer recharge, recovery and distribution

While providing leading expertise to the future of the global water industry we also remain committed to assisting our clients with the management of their existing assets through maintenance and renewal programs and process operations assistance. This diverse range of skills is demonstrated in a summary of significant recent projects including:

- The project development of the largest desalination plant in the Southern Hemisphere for municipal water supply in Perth
- The innovative and cost efficient upgrade to the existing spillway of Perth's Churchman Brook Dam originally constructed in 1918
- Geotechnical design for Millbrook Dam upgrade, South Australia

### FROM LEFT

- Aerators for Melbourne Water's new activated sludge plant, 55E Lagoon Western Treatment Plant, Melbourne.
- The upgrade of water and sanitation infrastructure in towns throughout Papua New Guinea.
- Working as part of an Alliance upgrading Sydney's Bondi Wastewater Treatment Plant, including this new outfall tunnel.
- The Prospect Water Filtration Plant supplies water to approximately 80% of Sydney's population.



- A comprehensive program to upgrade Sydney's sewerage pumping systems to prevent overflows and increase community outcomes
- The mechanical and electrical maintenance and renewal of Sydney Water's infrastructure
- The masterplan for the provision of water and wastewater infrastructure to the City of Bangalore
- Development of condition assessment and asset management software for existing bulk water supply networks, Watercare Services Ltd, New Zealand
- Operation and maintenance for Gold Coast's water supply and sewerage networks
- Major sewer design and tunnelling projects in Melbourne and Auckland that include geotechnical services
- The design and commissioning of major augmentations to Melbourne Water's largest sewerage treatment plant
- The design of sewage treatment and water reclamation plants to provide non-potable domestic re-use water to the new community of Aurora in Sydney

### SERVICES

- Water and Wastewater Treatment
- Geotechnical Engineering
- Dam Engineering
- Solid Waste Management
- Irrigation and Drainage
- Groundwater Supply and Control
- Water Re-use, Water Cycle Management
- Asset Management

FROM LEFT

- An artist's impression of the Shafston Avenue connection of the proposed Brisbane North-South Bypass Tunnel. SKM is preparing the Environmental Impact Statement for this major infrastructure development.
- Masterplanning for the \$2.2 billion North Lakes community development located on a 1,000 hectare site in Brisbane.
- Environmental Management Plans have been prepared for the expansion of major iron ore facilities in the Pilbara region of Western Australia.

## PLANNING AND MANAGEMENT



Government, business and communities around the globe are all responding to the increasing pressures being placed on protecting and enhancing the environment we live in. The growing population in our cities and rural centres expects to see development that enhances quality of life in a balanced manner, not only today, but well into the future.

SKM is highly regarded for the depth of its skills and experience in sustainable management and development of land and water resources and biodiversity. Our team provides integrated services in many fields, reflecting the diversity of challenges faced by environmental planners and managers.

The Environmental Planning and Management team at SKM assists clients to achieve sustainable environmental outcomes for their projects. We do this firstly by seeking the best possible use of land, with the most desirable environmental, social and economic outcomes, while minimising impacts on the environment.

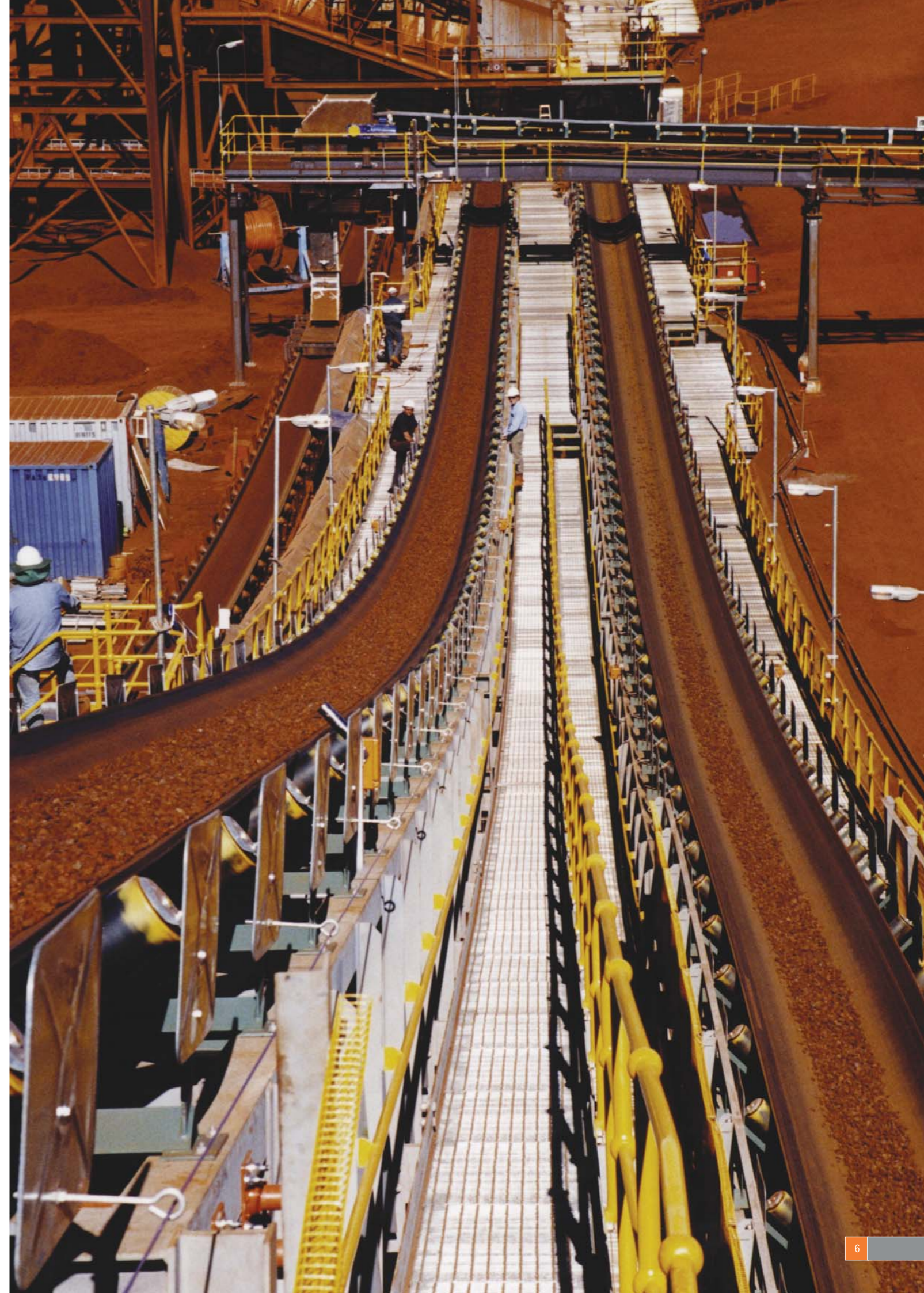


We encompass the outcomes of our investigations in effective and feasible environmental management plans and develop environmental management systems for their efficient implementation.

Environmental Planning and Management involves a wide range of disciplines and skills.

### SERVICES

- Defence Environmental Management
- Mining Environmental Management
- Sustainability Advisory Services
- Statutory and Master Planning
- Integrated Land Use and Transport Strategies
- Social Planning and Community Consultation
- Environmental Impact Assessment
- Environmental Management Systems
- Site Investigation
- Soil and Water (Freshwater and Marine) Sciences
- Waste Management
- Air Quality Modelling/Monitoring and Acoustics



## INTERNATIONAL DEVELOPMENT ASSISTANCE



SKM considers its work in International Development Assistance as a fundamental commitment to disadvantaged people and areas throughout Asia and the Pacific. Our presence in International Development Assistance work has been strengthened through integration with the Overseas Project Corporation of Victoria (OPCV) and the merger with Seatec International, two highly respected and internationally recognised managing contractor companies.

SKM has extensive experience in managing diverse teams and programs in remote and challenging locations throughout the world. Key services include project and asset management, project feasibility, design and evaluation, institutional strengthening and capacity building and community development assistance.



Through our International Development Assistance Group SKM is currently managing more than \$100 million of aid-funded contracts in more than 15 countries around the world. SKM has an enviable track record in areas such as Public Safety and Justice, Health, Public Administration and Financial Management, Education and Training, and Natural Resources and Infrastructure.

SKM has recently acquired a Procurement Group and this has further strengthened the available services.

SKM has numerous offices throughout the Asia-Pacific region, many of which are focused primarily on development assistance work. For the last three decades the SKM International Development Assistance Group has worked with a variety of donors/agencies including AusAID, the Asian Development Bank, World Bank, EU, Japan International Cooperation Agency, NZAID and a number of national, state and regional Governments.

### FROM LEFT

- SKM joined other Engineers Australia members in the Maldives to inspect the structural safety of at least 80 schools damaged by the Indian Ocean tsunami.
- Planning, engineering, community health and institutional development for the Central Visayas Water and Sanitation Project, Philippines.
- Working with ASEAN nations on the AusAID sponsored Energy from Biomass Project.
- SKM was a joint venture partner in carrying out feasibility studies, detailed design, contract documentation and project management for the first bridge across the Mekong River, connecting Thailand and Laos.



Our experience in International Development Assistance includes the award-winning Mekong River 'Friendship Bridge' between Thailand and Laos, the upgrade of water and sanitation in most towns throughout Papua New Guinea, education and training projects throughout Cambodia, Laos and the Philippines and major environmental projects in the Philippines, Thailand, Vietnam, and the Pacific.

### SERVICES

- Program/Project Management
- Technical Assistance
- Project Design
- Detailed Design
- Project Implementation
- Construction Supervision
- Procurement



### SPECIALISATION AREAS

- Agriculture and Rural Development
- Buildings
- Education and Training
- Energy
- Finance and Governance
- Health
- Justice
- Natural Resource Management
- Sanitation & Solid waste
- Social Development
- Transportation
- Urban Development
- Water Supply

FROM LEFT

- Providing advice on the rehabilitation of the Delatite River in Victoria that was previously modified by the operations of a quarry.
- SKM, in association with the Murray-Darling Freshwater Research centre, is managing the largest biological survey attempted in South Eastern Australia to provide critical information for ongoing wetland management.
- Award winning assessment of environmental water requirements, Onkaparinga Water Catchment, South Australia.

## NATURAL RESOURCE MANAGEMENT



SKM has demonstrable expertise in developing strategies, technologies and capability for adaptive management of natural resources and landscapes.

The traditional approach to development and the demands of modern society have placed enormous stress on our natural resources and the environment. Today we recognise the need for careful resource management, rehabilitation of natural ecosystems and the maintenance of productive uses as they underpin our economy and quality of life. Natural resource managers are required to balance the variety of economic, social and environmental demands on the land, rivers, forests, minerals, the coast and oceans.

Our experienced specialists provide quality service and innovative solutions, helping business, government and the community to manage the complex interactions and demands on natural systems.

We draw on our extensive skill base and world-leading expertise to deliver signature projects including:

- The groundwater management strategy for China (providing specialist advice on artificial recharge)
- Salinity mitigation and management works for the

Murray-Darling Basin and other Australian and overseas localities

- The Sustainable Diversion Limits, and bushfire impact assessment, for rivers across South-Eastern Australia
- Sophisticated extreme flood estimation techniques and design inputs with application to over 100 large dams
- Capacity building, social and scientific advice in developing a coastal protection belt for the Mekong River in Vietnam

### SERVICES

- Integrated Catchment Management
- Surface Water Management (Hydrology)
- Groundwater Resource Management
- Ecosystem Management
- Salinity Management
- Flooding and Floodplains
- Irrigation and Drainage
- Water Use Efficiency
- Forestry



## SPATIAL



SKM is one of Australasia's largest and most diverse spatial information consultancies. As a key player in the information services industry, SKM provides leading-edge spatial information services encompassing:

- Geographic Information Systems (GIS) consulting
- Systems integration
- Photogrammetry
- Remote sensing and image analysis
- Surveying
- Data conversion
- Mapping
- Spatial databases



SKM also develops related products to enable use of this information.

The SKM Spatial Division team is able to extend its services and capability by utilising a wider pool of expertise comprising scientists, engineers and planners. SKM works with clients to plan, design, build and integrate complex information management systems, with an aim to enhancing our clients' operational efficiency, management effectiveness, decision-making and planning capabilities.

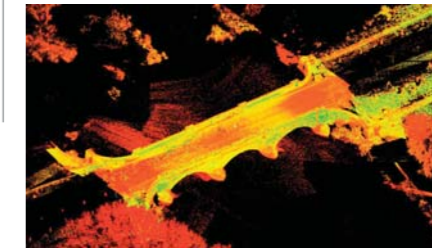
### FROM LEFT

- SKM produces AUSIMAGE®, a series of ortho-rectified seamless imagery captured from aerial photography.
- Providing spatial services relating to proposed aviation developments in Antarctica.
- SKM is the Australasian distributor of DigitalGlobe satellite imagery - Canberra pictured.
- 3D laser scanning and documentation of historic stone carving, Ross Bridge, Tasmania.



Collectively the products and services provided by SKM support public administration, defence and emergency services, resources and environmental management, agriculture, forestry, tourism, transport and communication, real estate mining and construction.

There are more than 200 professional and technical staff within our Spatial Division employed across a network of offices in each Australian State and Territory. Our clients' projects are located throughout Australia, New Zealand, Antarctica, the Pacific and South East Asia.



### SERVICES

- Feasibility Studies
- Economic Analysis of System Implementation Options
- Organisational Benchmarking
- Alignment of Information Management Strategies with Strategic Business Directives
- Asset Management Strategies
- Organisational Structure Reviews
- Infrastructure Definition or Review
- Post-Implementation System Effectiveness Reviews
- Open Standards Architectures

FROM LEFT

- The extension of the Docklands Light Railway to London City Airport reinforces SKM's reputation for delivering sustainable transport solutions across the globe.
- Principal engineering consultant for Couran Cove Resort, Queensland, one of the world's first five star resorts designed according to sustainable engineering practices.
- SKM Anthony Hunts completed structural and civil design for the biomes and external works of the highly acclaimed Eden Project in Cornwall, a project taking a worked out 60 metre deep pit and turning it into a showcase for demonstrating the interdependencies between people, plants and resources, contributing to building a sustainable future.

COMMITTED TO SUSTAINABILITY



At SKM we understand the criticality of protecting the environmental and human capital that is the foundation of our economy and society.

We also recognise that to remain relevant and competitive, governments and business need to pursue sustainability through their operations and the delivery of goods and services. Businesses are shifting their focus to the broader interests of shareholders and other stakeholders. They are recognising that adopting a sustainability approach presents an opportunity for them to improve their financial bottom line while reducing risks, enhancing their public profile and satisfying employee expectations.

SKM is committed to helping clients to pursue sustainability and to improve the sustainability of their operations.

This requires a shift in our thinking, together with the application of techniques and solutions that are appropriate and practical.

We have developed a high level of expertise and experience in sustainability - from public policy development and corporate strategy, to its translation into practical technical solutions. Skills drawn from a wide range of disciplines are applied in an integrated, outcome-focused manner to effectively deliver projects that are ecologically, socially, and economically sustainable.

Consideration of sustainability is particularly important in developing major infrastructure projects where a balance needs to be achieved between functional requirements and the direct and flow-on environmental, social and economic outcomes.

In short, SKM provides the skills and technology to develop strategic and technical solutions for sustainability. This ensures that our clients can achieve remarkable success now and the sustainability of our own operations.

