

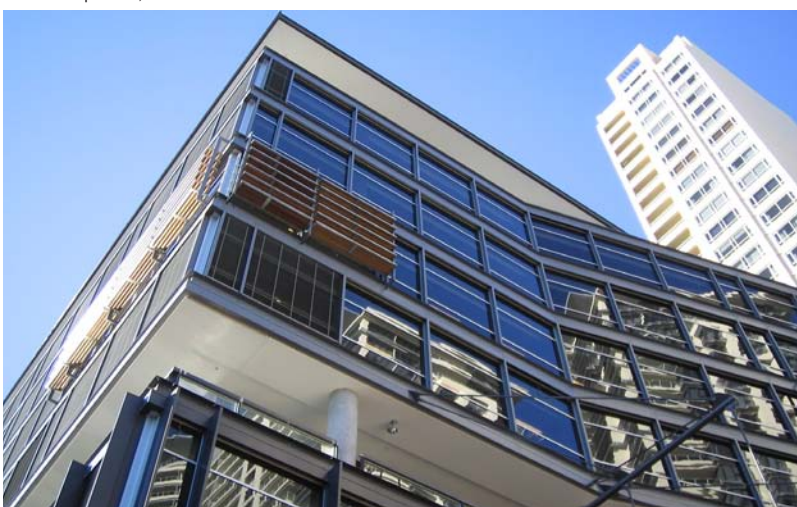
Environmentally Sustainable Design (ESD) for Buildings



DPI Queenscliff Centre, Melbourne



NAB Headquarters, Melbourne



30 The Bond, Sydney

Arup has a long history of applying ESD principles to the design of buildings both locally and internationally. The aim of ESD is to create social, economical and environmental balance and efficiency.

It takes into account building physics, the comfort and well being of building occupants and the correct use of a building post completion. We support the contention that the social impact of design and the need to develop proposals that satisfy economic aspiration is as important as the minimisation of environmental impact.

Arup's aim is always to work in harmony with the vision of a building's design team while striving to reach the optimum set of compromises between the conflicting requirements such as: view, vision, daylight, glare and solar control, thermal comfort and indoor environmental quality (IEQ), user interface, ventilation effectiveness, system operability and energy efficiency.

Arup has developed an approach that sets out a long-term sustainable strategy for building design, internal environment and building operation and maintenance. This includes:

- A holistic approach to the integration of the building, its systems and user needs
- Minimising the environmental impact of buildings in terms of energy efficiency and utilising materials recognised for their low embodied energy and ability to be recycled
- The use of advanced building physics modelling techniques to optimise energy and comfort
- The developing of a living model which develops in complexity as the design develops
- Maximising the use of natural light and ventilation whilst controlling the implications of glare
- Waste and water management
- The development of an internal evaluation routine (SPeAR®) that helps to quantify the benefits of various complex ESD design considerations that are not easy to compare