Project Summary - Design

PROJECT NAME:	EPA Chemistry Laboratory
LOCATION:	Lidcombe, Sydney
DEVELOPER/CLIENT:	NSW EPA
CONTACTS:	Lorraine Plues, Laboratory Director
DATE COMPLETED:	1996
PROJECT SIZE:	Site (gross land area): 1.96ha Building (gross building area): 2,180m^2 Other:
PROJECT DESCRIPTION:	Analytical chemistry laboratory and offices for 35 staff.
ESTIMATED SAVINGS FROM ENVIRONMENTAL DESIGN:	$3,250/yr saving in lighting power costs.
NOTABLE ENVIRONMENTAL DESIGN:	■ Advanced daylight design measures ■ Roofwater and laboratory water collection and reuse ■ Embodied energy calculation in building fabric selection ■ Alternative materials selection to PVC Advanced filtration of laboratory process air emissions. Life cycle cost planning.

Project Summary – Life Cycle Costing

PROJECT NAME:	EPA Chemistry Laboratories
DEVELOPER / CLIENT:	Environmental Protection Authority
CONTACTS:	Lorraine Plues - EPA
DATE COMPLETED:	1996/7
PROJECT SIZE:	Site (gross land area): Not known Building (gross building area): 2297 m^2 Other:
PROJECT DESCRIPTION:	Construction of new chemistry laboratories with associated administration offices, amenities and site works. The client (EPA) requested the inclusion of the principles of ESD within the design to demonstrate their commitment to environmental issues.
ESTIMATED SAVINGS FROM ENVIRONMENTAL DESIGN:	Capital cost saving in the selection of external walling of $22,000 over the cost plan allowance.
TOTAL RETURN ON EQUITY:	No calculations were done on this specific aspect of the project say as a commercial venture. No figures were obtained for notional returns which may be attracted by the work of the laboratory, such as charging economic fees for their reports and their policing role.
NOTABLE ENVIRONMENTAL DESIGN:	Some of the environmental design factors included were minimal use of PVC, maximum use of low toxicity paints, use of solar power, recycling of some process water and rainwater, use of recycled materials and inclusion of refrigerants with lower ozone depletion potential than CFCs. An exercise to determine the life cycle costs (over 30 years) of five different external wall solutions was carried out. The solutions were also compared for their embodied energy. The preferred option, though not the lowest life cycle cost, was within the cost plan allowance. The inclusion in the decision process of the embodied energy figures was subjective rather than being included in some manner in the life cycle costings.