Doors to Sustainability 2001

Engineering

1	Acres	Sustainable Hydroelectric Energy
2	BC Gas	The southern Crossing Pipeline Project
3	EarthTech	PMC Sierra World Headquarters
4	Keen Green	BC Gas Operations
5	Translink	Aircare Program

Landscape Architecture

6	Durante Kreuk	BC Gas Coastal Facilities
7	Durante Kreuk	Burnaby Mountain Secondary School
8	Phillips Farevaag Smallenberg	Hasting Park Restoration Plan

Architecture

9	Architectura	Liu Centre for Study of Global Issues
10	Busby + Associates Architects	1220 Homer Street
11	Busby + Associates Architects	APEGBC Building
12	Busby + Associates Architects	AIBC
13	Busby + Associates Architects	Material Testing Lab
14	Busby + Associates Architects	NVIT University Building
15	Busby + Associates Architects	One Wall Centre
16	Busby + Associates Architects	Revenue Canada Office Building
17	Busby + Associates Architects	Sustainable Prototype
18	Busby + Associates Architects	Telus Building
19	Busby + Associates Architects	York University - Computer Science facility
20	CJP Architects	Taylor Park Elementary School
21	CEI Architecture Planning Interiors	Chancery Place
22	Hotson Bakker	Richmond City Hall
23	Hotson Bakker and Durante Kreuk Ltd	Burnaby Mountain Secondary School
24	Johnson Davidson Architecture + Planning	Sechelt Justice Services Building
25	Larry McFarland Architects ltd	Northwest Community College
26	Matsuzaki Architects Inc	The CK Choi Building
27	Musson Cattell mackey Partnership	BC Gas Coastal Facilities Project
28	Musson Cattell Mackey Partnership	Electronic Arts
29	Musson Cattell Mackey Partnership	PMC-Sierra in Burnaby
30	Williams + D'Ambrosio	Malasipina University College
31	Williams + D'Ambrosio	Richard Blanshard Bldg – Pandora Wing
32	Williams + D'Ambrosio	University of Victoria – Engineering Wing

For more information including digital files of each exhibit, please see the APEG Sustainability website located on the APEG website at www.apeg.bc.ca. The APEG website is currently being updated so a direct url link to the sustainability website is unavailable at this time.

Sponsors

Doors to Sustainability 2001 is brought to you by the Sustainability Committee of the Association of Professional Engineers and Geoscientists of British Columbia, the Energy and Environment Committee of the Architectural Institute of British Columbia, and the Greater Vancouver Regional District. The sustainability doors, which are recycled, were kindly donated by Litchfield.

Have exhibition, will travel….

"Doors to Sustainability 2001" will be shown at: the GVRD Green Building seminar (Oct. 3, 2001), the AIBC Gallery (Oct. 5-23) and the APEGBC AGM (Oct. 25-27). Subsequently, the exhibition will be available upon request. We encourage organizations that would be interested in displaying the exhibit in a public space such as a municipal hall or at a conference to contact Rob Dies at APEGBC 412-4860 (e-mail rdies@apeg.bc.ca) for details.

Professional Engineers and Geoscientists of BC
www.apeg.bc.ca

Greater Vancouver Regional District

Doors donated

Litchfield

ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA

Overview

"Doors to Sustainability 2001" presents 32 sustainability case studies from architects, professional engineers & geoscientists, landscape architects, and interior designers.

What is Sustainability?

Here is one definition by Paul Hawken, author of The Ecology of Commerce: Sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations. It can also be expressed in the simple terms of an economic golden rule for the restorative economy: leave the world better than you found it, take no more than you need, try not to harm the life of the environment, make amends if you do. (Paul Hawken, The Ecology of Commerce)

How to Apply the Principles of Sustainability?

This exhibition illustrates three methods of practicing sustainability in a professional environment: systems thinking, using available guidelines, and keeping it simple.

Systems Thinking

It is becoming increasingly clear that all areas of our physical, economical and social environment are interrelated. Sustainability requires new ways of designing and building, such as system thinking (that is understanding the relationship between the various elements of a project as well as with its environment), working beyond the traditional discipline boundaries, and early multidisciplinary collaboration. To illustrate this point, "Doors to Sustainability 2001" regroups a collection of projects from very distinct practices. Although each project is quite unique, a common theme and focus between the projects is noticeable throughout the exhibit.

Using Available Guidelines

A number of tools and guidelines exist to help professionals achieve sustainable development. The exhibition illustrates two important guidelines: the APEGBC Sustainability Guidelines and the LEED Green Building rating system (shown on the last two pages). The participants were asked to illustrate at least one of these guidelines in their display.

Keeping it Simple

Application of sustainability principles need not be rocket science. Often, good design is simply common sense. The exhibit itself uses salvaged doors coming from (and donated by) the demolition yard of Litchfield in Port Coquitlam. The perfect condition of these doors, which have not been retouched, is a striking example of how much our society's waste is readily reusable.

Preface

Buildings are a human necessity – both functionally and culturally. Functionally, they provide the spatial and environmental context for human activities – providing sufficient space and comfort conditions consistent with the task in hand are essential design requirements. Culturally, buildings provide a manifestation of the aspirations and technological capabilities of the society to which they belong. Buildings also embody the attitudes and priorities that their owners and designers have toward the natural world and broader environmental issues.

International attention and concern for global warming will eventually translate into increasing political intent and commitment to reduce greenhouse gas emissions and other pressing environmental issues. This will translate into more demanding environmental policy and subsequently into more demanding regulations and environmental performance requirements for buildings. Concurrently, the changing environmental context will act as a catalyst for the building industry to voluntarily offer environmental solutions - either to remain competitive within the market or, more ideally, as a result of an increasing ethical commitment to environmental responsibility. Leading edge buildings embodying creative and innovative environmental strategies demonstrate performance benefits that can initially inform and eventually influence mainstream practice. Scott [1998] notes that if a certain agenda, such as environmental responsibility or sustainability is absorbed into the design process, "somewhere down the line it manifests itself in the formal composition of the building's physical and spatial parts." Beyond this, it is also reasonable to speculate that within any transition to a sustainable future we will have to more fundamentally reassess human values, expectations and priorities and to reconfigure our political, economic and social systems accordingly.

Architects can and must offer leadership in environmental responsibility within this evolving environmental context. The range of projects presented in this exhibition is considerable, as is the extent and ways that environment strategies have been executed. But collectively they illustrate the shaping of an architecture that begins to re-establish environmental issues as a significant and integral part of the process and practice of architecture.

Ray Cole
School of Architecture

Scott, A., (1998) Introduction: A Time for Change and Innovation, IN: Dimension of Sustainability, Ed. A. Scott, E & FN Spon: London

APEGBC Sustainability Guidelines

1. This exhibit reflects an understanding of the goals of, and issues related to, sustainability. ☐

2. During the design and building phases of this project the individual and cumulative social, environmental and economic implications of the project were accounted for. ☐

3. The professionals responsible for this project took into account the short- and long-term consequences of the project. ☐

4. The professionals responsible for this project took into account the direct and indirect consequences of the project. ☐

5. Reasonable alternative concepts, designs and/or methodologies were considered by the professionals responsible for this project. ☐

6. The professionals responsible for this project sought appropriate expertise in areas where their knowledge was inadequate. ☐

7. The professionals responsible for this project cooperated with colleagues, clients, employers, decision-makers and the public in the pursuit of sustainability. ☐

LEED™ Criteria

Sustainable Sites

Erosion and Sedimentation Control	☐	Reduced Site Disturbance	☐
Site Selection	☐	Stormwater Management	☐
Urban Redevelopment	☐	Landscape and Exterior Design to	
Brownfield Redevelopment	☐	Reduce Heat Islands	☐
Alternative Transportation	☐	Light Pollution Reduction	☐

Water Efficiency

Water Efficient Landscaping	☐
Innovative Wastewater Technologies	☐
Water Use Reduction	☐

Energy and Atmosphere

Fundamental Building Systems	☐	Renewable Energy	☐
Commissioning	☐	Additional Commissioning	☐
Minimum Energy Performance	☐	Elimination of HCFC's and Halons	☐
CFC Reduction in HVAC & R		Measurement and Verification	☐
Equipment	☐		
Optimize Energy Performance	☐	Green power	☐

Materials and Resources

Storage & Collection of Recyclables	☐	Recycled Content	☐
Building Reuse	☐	Local/Regional Materials	☐
Construction Waste Management	☐	Rapidly Renewable Materials	☐
Resource Reuse	☐	Certified Wood	☐

Indoor Environmental Quality

Minimum IAQ Performance	☐	Low-Emitting Materials	☐
Environmental Tobacco Smoke		Indoor Chemical and Pollutant Source	
Control	☐	Control	☐
CO2 Monitoring	☐	Controllability of Systems	☐
Increase Ventilation Effectiveness	☐	Thermal Comfort	☐
Construction IAQ Management Plan	☐	Daylight and Views	☐