A *lternative &*
C *onservation*
E *nergies Inc.*

HANOVER EXPO 2000 - HEALTHY HOUSING & SUSTAINABLE COMMUNITIES

EUROPEAN SPEAKING TOUR, October 18 - November 9, 2000

Preamble: Jorg Ostrowski (Fig.1) was born in Heidelberg Germany in 1947. He received his first professional degree in Architecture at the University of Toronto in 1973. In 1975, he received his second professional degree in Architecture (Environmental Design Program) from the Massachusetts Institute of Technology in Boston. He has specialised in architectural/environmental design, consulting, application research and practical education re: sustainable buildings and communities since 1976. All 4 talks below will be delivered in English with German translation, on October 18, 2000 in Hannover, from 15:00 to 18:00. Attendees should contact the speaker or web site, for any updates and further details. Invitations for other speaking engagements (with Honoraria) are being accepted at this time from Schools of Architecture, Environmental Programs, Universities, Research Institutes, builders, architecture & planning firms, government agencies, etc.

Fig. 1: Jorg Ostrowski, in front of solar collector & greenhouse.

1. The Alberta Sustainable Home/Office (Fig. 2a&b): This 170 m^2 demonstration home/office in suburban Calgary Alberta was the first sustainable, autonomous and energy-credit home built in Canada. It has been visited by 40,000 visitors, several foreign delegations and thousands of students. It does not use city gas, water, or sewer lines. It has no furnace or boiler. It relies on internal heat gain, solar and a masonry heater for backup heating during cold weather (5354 heating Degree Days). One technical highlight is a 5-pane prototype window with a U-Value of 0.06 (believed to the highest insulated window in the world at this time.) It is integrated into the electrical grid. Its construction, in 1993-1994, saved 225 trees and an estimated 60% of all construction waste. Today, after 5 years of continuous use, it uses 0.75 wh/DD/m^2 of purchased energy, and saves 150 GJ of natural gas (100% reduction), 331,000 litres of water (100% reduction), 211,00 litres of sewage (100% reduction), 4,900 kWh of coal-generated electricity (74% reduction) and 49 kg of household garbage (95% reduction) through prudent use of resources, renewable energy and a conserver lifestyle. It is still open to the public on a regular basis. The lessons of this project and previous work since 1976 are the basis for concepts, materials, products, and technologies for our "EcoVillage" project.

Fig. 2a: Alberta Sustainable, view from West (street).

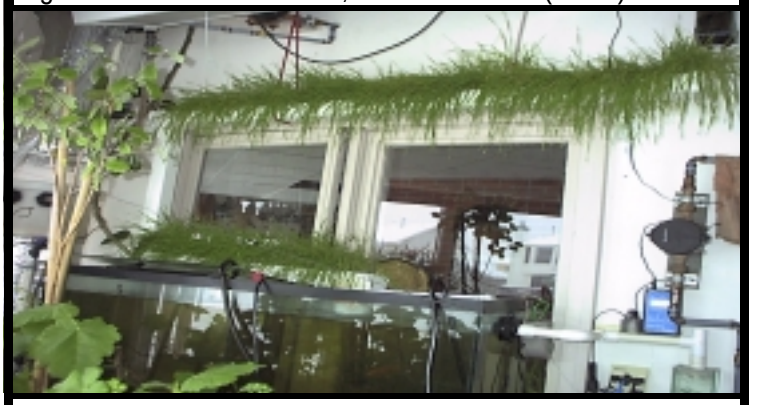

Fig. 2b: Hydroponics & Solar Aquatic System.

2. EcoVillages: "Planning a mixed-use, self-sufficient "EcoVillage" (Fig.3): This talk will describe initial work in environmental mapping, ecological planing,community design and "pattern language" of a small "EcoVillage" for 25-50 housing units. Alternative construction methods such as strawbale, rammed earth and structural insulated panels will be used. There will be no gas, water or sewer connections. Electrical connections will be made to export surplus green, clean electricity in a province dominated by coal. In addition, it would be a "combustion-free" community, without any combustion appliances, whether gas, coal, oil or wood. Organic gardens, greenhouses, nature trails, a healing center, neighborhood squares, a community centre, corner store, home schooling, inherent disaster protection, (i.e. "Great Ice Storm"), common facilities and on-site job creation will highlight this sustainable community. Community income will be generated by the sale of environmental credits, renewable energy and rental of permaculture space inside and outside. It will converge and utilize the lessons & experience of 24 years of professional work in the sustainable building field.

Fig. 3: EcoVillage: energy & water independent.

3. "Healthy Materials and Green Products: for Sustainable Buildings and Communities": (Fig.4) This talk will review some significant building materials and products that are environmentally sound. They address several priorities required in our professional mandate: occupant health, safety, comfort and indoor air quality; environmental foresight and stewardship; resource, space and land-use conservation; energy and water efficiency; appropriate technology; small ecological footprint; design, construction and product innovations; alternative, indigenous and reused materials; recycled content; low embodied energy; renewable and alternative energy; high performance benchmarks; ergonomics and handicapped access; a conserver lifestyle; optimal cost -effectiveness; reductions in air, water, and land pollution; reductions in GreenHouse Gas emissions and utility costs; income generation opportunities; self-sufficiency to cope with natural disasters, Global Warming and the Kyoto protocol. Local action for global solutions.


Fig. 4: Healthy Materials, Green Products.

4. Strawbale Construction: (Figs. 5 a&b) Our "hands-on" work with strawbales started in 1978. Since then, many residential and some commercial projects has been designed and built. Testing of "Momentary Deformation" of strawbale compression constituted the first indications of structural capacity of bales. Both the "Nebraska Style" and "Post & Beam" (and combinations) have been used. Air-tightness tests have also been conducted. "Hands-on" construction workshops have been given in several provinces, to show the general public, First Nations, business people, government, and professionals how to build with strawbales. Figs. 5 a&b shows a 930 m^2 2-story commercial building in the City of Calgary, believed to be the largest urban strawbale structure in Canada at this time. It also featured: reused materials (solar collectors, heavy wood timbers, windows and doors, and masonry block), a passive solar greenhouse, structural insulated panels (SIPs), and radiant floor heating. Strawbale construction has many environmental advantages, with some limitations. Many homes in our EcoVillage will built using strawbales and strawboard.

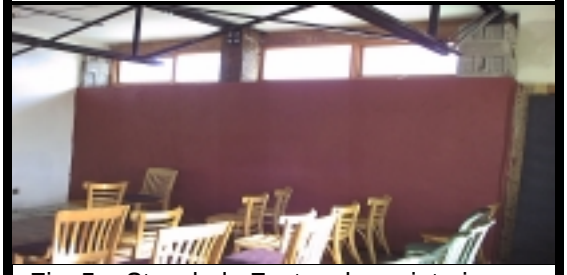
Fig. 5a: Strawbale Factory,large interior.


Fig. 5b: Strawbale Factory, view from East.

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