

GEM approached three people in Geneva who work at the local, government and international level about their experiences in promoting sustainable development.



STÉPHANE FUCHS

OCCUPATION:
Architect

SNAPSHOT CV:

I studied architecture from 1986 to 1991 at the Ecole d'Ingénieur de Genève, and then worked and trained as a project director in a large company in Geneva for six years. Following this job, I was able to put my experience to the test, undertaking several projects with different architectural firms, and in 1999 I started the architectural firm ATBA, where I began to consider the effects of the building ma-

terials and building techniques on inhabitants. In 2001, a friend of mine, Laurent Jaques, joined me to keep up the passionate beliefs of this office.

Geneva in the 1990's promoted itself as an environmental centre. Has the city lived up to this expectation? I think that Geneva is starting to realise the necessity of suiting the action to the word when it comes to sustainable development. As with all big changes, this one will take place over several years. But I am pleased to see that the Canton has already made a good start. For example, there are subsidies for renewable energy, interesting buildings using innovative renewable energy, grants provided for sustainable development events and projects, the promotion of cooperative buildings, information on potentially harmful problems in housing etc.

BEST PERSONAL ACHIEVEMENT?

To have made the decision to integrate the concept of sustainable development to its maximum in my professional life and the fact that this puts into question all I had previously learnt.

PERSONAL DISLIKES OR FRUSTRATIONS?

It has to be said that Geneva possesses great knowledge when it comes to sustainable development, but it is completely scattered. Therefore, it is difficult to find training courses in French-speaking Switzerland – you have to go to German-speaking Switzerland or neighbouring countries to find the relevant courses. From another angle, I have many frustrations when carrying out projects that are entirely based on financial criteria, and ignore the sustainable development components since they are seen as irrelevant.

WISH FOR THE FUTURE?

I hope that all the modifications and changes that we need to make in order to reduce pollution, come from both individual and collective consciences, without drastic laws having to be enacted. The more people rediscover a new self-respect thanks to new urban planning including the many aspects of daily life, the more they will become conscious and respectful of the places and people surrounding them, their accommodation, town squares, cities,

countries – and the planet. I would also like to be able to better communicate the knowledge already gathered in these last few years by both professionals (companies, architects), and individuals so that everyone can enjoy health and appropriate living conditions.



CLAUDINE DAYER FOURNET

OCCUPATION:

Local Agenda 21 Coordinator (Déléguée à l'Agenda 21)

SNAPSHOT CV:

Diploma in Biology (University of Geneva), Masters in Environmental Sciences (Ecole Polytechnique Fédérale de Lausanne), one year implementing environmental impact studies in the Valais (93-94), 5 years at the International Academy of the Environment (94-99) as project manager:
 o Project work with the Mediterranean Environmental Technical Assistance Programme (METAP) financed among others by the World Bank and UNDP;
 o Environmental education project in Hungary financed by the Swiss government;
 o Study on the access to genetic re-



GREEN ARCHITECTURE IN GENEVA

Why is an environmentally friendly building important? The answer is surprisingly simple. After agriculture, construction is the second largest industry in the world, and one of the largest polluters. The pollution from heating and cooling of buildings exceeds that from cars, even in the US. We just don't see it, except maybe from the chimneys in the Old Town on a cold winter day. The most pollution comes from the factories where the building materials are made and the power plants that supply us with energy for our homes.

Few buildings in Geneva can fully match the definition of a 'green building.' As the city expands, new 'green' buildings will be built and slowly old buildings will be upgraded to be more environmentally friendly. These types of buildings will become the norm in the future. GEM looks at one of them

Things are slowly changing in architecture around the world. New materials and ways of construction are taking over from the old methods. This new form of construction is referred to as Environmental Architecture (sometimes called Sustainable Architecture). The idea is simple: attractive, comfortable, affordable shelter that does minimal harm to the Earth in its manufacture and use.

Just as architects were taken to task in

the 1980s for designing monumental flops that deny occupants' needs, architects are again taken to task for ignoring the fundamental needs of the environment. A dramatic rethinking in the way new buildings are designed is taking place; eliminate needless consumption, minimise use of natural resources, save energy and reduce pollution.

There is a social dimension as well. Green buildings aim to induce harmony within the structure (the living space) of the building. Concern is given to humidity and temperature levels, acoustics, electromagnetic fields, visual effects and odour (not using materials that give off harmful vapour over time) – and air and water must be of the highest quality.

Yet, within Geneva, there is only a passing reference by architects about the relationship between architecture and climate and the geographical environment. There are no courses in schools of architecture in the country that provide information on 'green buildings.'

Maybe Geneva, by virtue of its size, does not need to think too closely about how its architecture impacts the environment. Yet this is a mute point – architects have a responsibility to carry meaning in their designs that should reflect the concerns and needs of the wider society. Secondly, architecture

should protect human beings and their activities, and prolong their activities as efficiently as possible.

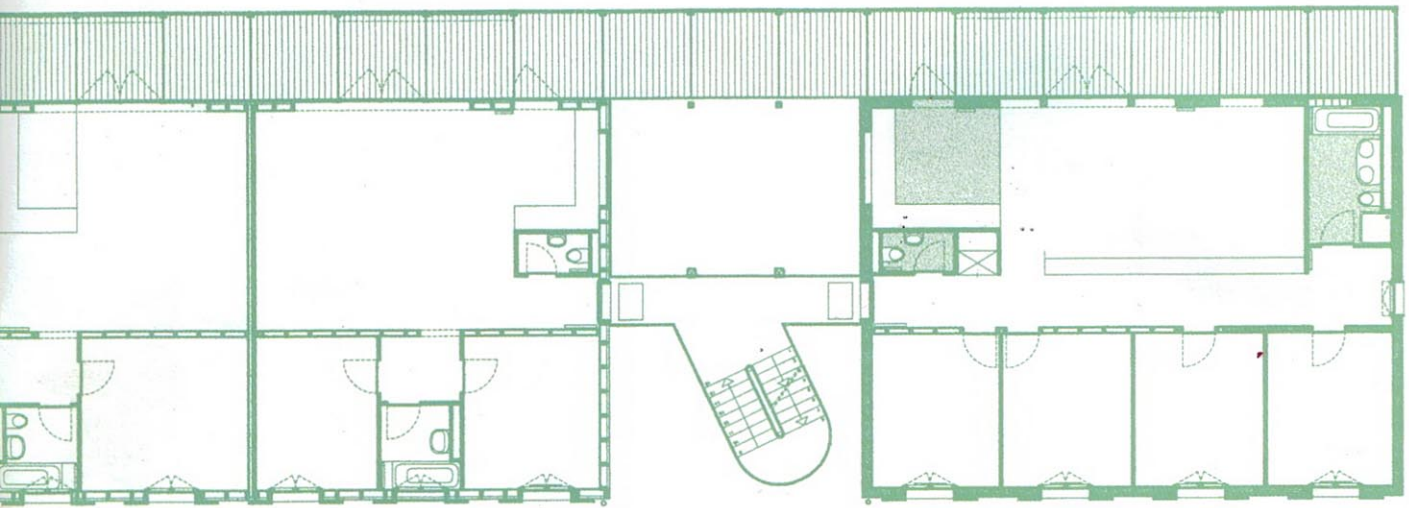
One Community; One Building

One of the few who have taken the opportunity, and had the chance, to design a 'green' building in Geneva is Stéphane Fuchs (see our portrait section on page 16), of the architectural firm ATBA.

The building is passed the design stage, and construction will begin in Plan les Ouates later this year. The building is an apartment complex, with 10 residences. The design incorporates three ideals; ecologically friendly in its construction and use, communal input to the design, and economically sustainable.

The communal input into the design of the structure seemed a unique idea and worked well since many future residents were involved. GEM asked Fuchs if this was an extension of the idea that the architects who design buildings should live in them as well. In fact, he will be one of the residents.

Through the communal input, much space is given over to public usage. The building contains a number of rooms for everyone to use, designed to allow integration and places for children to safely play.



Low cost construction is also an important component of the design. The building's design is very uniform, with sections factory built and all of the same design. As a result, the per unit costs were substantially reduced.

Low cost is important for the long term. It has been calculated that a 20 percent reduction in cost doubles the number of families who can build a green residence. The Swedish government estimates that one environmental house prevents half-a-million pounds of pollution over thirty years. The energy saved by 30,000 fuel-free homes can displace one nuclear plant.

Wood is extensively used throughout the building. Wood makes a major contribution to improving the overall environmental performance of any commercial or residential building by reducing energy use, reducing resource use, and reducing environmental impacts. Best of all it is a renewable resource, and a recyclable one. In an astonishing figure from the United States, every week in that country enough wood is grown to build 5,000 homes.

Much of the power for the building comes from natural sources. Buildings designed for passive solar heating and maximum use of daylight incorporate design features such as large south-facing windows and building materials

that absorb and slowly release the sun's heat. No mechanical means are employed in passive solar heating, and incorporating passive solar designs can reduce heating bills as much as 50 percent. (Active solar system, by contrast, captures solar energy in specialised collectors, stores it, and uses it to heat or cool.) In Fuchs' design, all energy requirements will be met by solar power during the summer and energy from a wood burner will make up the needs over winter. Efficient insulation also helps to capture and store energy. In Geneva, the average insulation is 10 centimetres, whereas Fuchs' uses around double that.

Many of the materials and means of construction employed in 'green' building will become the norm in another decade. 'Green' building may become so common that it may lose its title 'green.' But we are a long way from this goal.

It takes social pressure, state incentives and greater awareness for the construction industry to change and adapt. Thankfully, it is not a static in-

dusty and its history is one of innovation and flexibility.

We may never return to pre-industrial levels of pollution. Yet, architects, among others, are leading the way to incorporate new social, technological and economic developments to improve the conditions of the built environment.

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POLLUTION CREATED BY A BUILDING OVER A 75 YEAR SPAN:

During Construction: 20 – 30 percent

During Usage: 60 – 70 percent

During Demolition: 10 – 20 percent

We are surrounded by technical innovations - in our cars, our communications, and our computers. Yet our largest lifetime purchase, our house, is built essentially the same as it was eighty years ago. The home that will literally define our lives for twenty, thirty, forty years into the future, is not future oriented.