

WWF & WIENERBERGER / AN INNOVATIVE PARTNERSHIP FOR A LIVING FUTURE

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Summary

In recent years the concepts of sustainability and the reduction of our ecological footprint have become hot topics in the business world, public awareness, the political discussion, in scientific research and legislation. They are also on the minds of stakeholders all over the world and have evolved into an important factor for long term business success. Most industries use extensive natural resources and, through this process, change the face of our planet forever. On the other hand, their effort can play a major role to stop the degradation of our natural environment.

Brick is a natural product that allows sustainable production and use. On these foundations Wienerberger and WWF decided to engage in a strategic alliance to promote sustainability and raise awareness for sustainable use of our resources. Briefly outlined here, you find one best-practice example of how a business leader in the building materials industry can contribute to our common goal – the reduction of our ecological footprint!

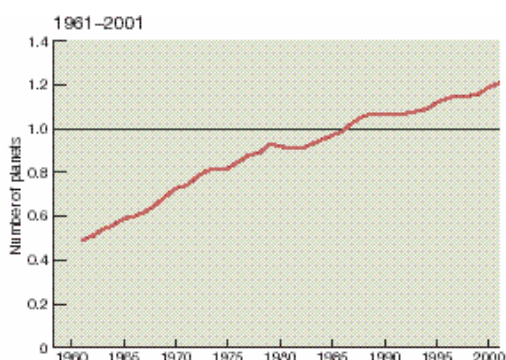


Figure 1 *Humanity's ecological footprint 1961-2001*

1. WWF Austria & Wienerberger – a strategic alliance

1.1. The product – applied sustainability

Brick is one of the most ancient and at the same time most popular building materials with the brick industry flourishing since centuries. The extraction of clay, the production of bricks and their usage offers numerous possibilities for responsible management of natural resources.

Wienerberger, as the world's business leader in brick production, is committed to pro-active sustainable development and is turning this into a positive asset for its own future business as well as for the environment. Together with WWF Austria, Wienerberger built an innovative partnership to ensure the conservation and sustainable use of natural resources and biodiversity.

2. Sustainable production and innovative usage

2.1 Extraction of Clay

Brick is made mainly of clay, which needs to be extracted with more or less significant effect on landscapes. Mining always causes environmental damage or at least major environmental disturbance. Over the last few decades, conditions for the survival of many plants and animals have continuously deteriorated as a result of changes to river courses, the development of previously open spaces, the building of towns and hydroelectric power stations. It is therefore important to consider these aspects and to find sustainable options. The building industry and their partners have come up with creative solutions to restore some areas into valuable living spaces.

2.1.1 Pits turn into biotopes

With relatively simple measures pits can often be converted into small lakes, which offer a unique habitat. They can very quickly become home to fauna and flora which has evolved specially to the conditions of quarries and gravel pits, enabling these areas to develop into valuable biotopes. Important ecological niches and new biospheres are created.

In the course of a very successful project in Austria, involving WWF and numerous partners in the building industry, more than 160 million Euros have been invested in the sustainable use of abandoned quarries over the last ten years. Highly endangered species like dragonflies, bee-eaters, natterjacks, green toads and eagle owls have found a refuge in such newly created biotopes. Furthermore these new lakes create additional value for the public as recreational areas.



Figure 2 Former clay pit

2.1.2 Living rivers – a best-practice, high-level conservation engagement

Another option for the sustainable production of bricks is to identify regions where controlled extraction of clay can actually restore the original landscape. In the Netherlands, WWF and Wienerberger have started the project Living Rivers with the aim to restore a more natural river and to revitalize the ecosystem already in 1991. By carefully peeling off the clay blanket the old pattern of the river with its side channels is restored (see illustration).



Figure 3 Extraction of clay - Netherlands

While the main river remains open as a shipping route, the newly created side channels provide living and breeding grounds for an immense amount of water organisms, once fish is plentiful again also birds like herons, cormorants and larger birds of prey return, a biological purification of the river water takes place and natural fish passages are provided.

The project has been so successful, that over the last 10 years more than 2.000 hectares of land have been returned to a natural state, while boosting the local brick industry. The once biologically almost dead Rhine is making a stunning come-back.

2.2. The production cycle

During the production cycle bricks also offer a positive ecological balance. Hardly any chemicals have to be added to the process and the energy consumption used for burning the clay remains the only major concern, though in general the amount of energy needed to produce brick is lower than for most competing building materials. To reduce the consumption of fossil fuels, a lot of production sites have switched to natural gas as their energy supply with a positive result on the emission of waste gas.

2.3. Benefits from the usage of bricks

Brick's mass prevents temperature extremes on the outside of a building from effecting the temperature on the inside. This process translates into year-round comfort and energy savings. As an additional benefit brick walls require less insulation than lightweight walls to reach the same levels of insulation. Brick is also known for its excellent qualities of sound insulation and its ability to create a pleasant and healthy room climate. Furthermore brick is incombustible and regulates the exchange of humidity through its natural porosities.

Buildings made out of brick have a very long life expectancy. Some of the impressive examples are the Ziggurat at Ur, a Mesopotamian temple-tower made of fired clay brick between 2113 - 2095 BC and the famous Great Wall of China, constructed around 210 BC. both stand today, very well preserved. Even modern housing has a life span for more than 100 years with a positive impact on building waste and energy consumption for new housing.

2.4. Recycling of bricks

Because of its unique appearance the popularity of old brick is on the rise, sometimes with "antique" brick already commanding a higher price than new one. It is used as a fashionable alternative in residential construction, as an interior design element for fireplaces and in the garden styling for walkways and passages. Damaged brick is grinded and used as filling material for road building, as a plant substrate and as sand for tennis courts and other sports facilities. A recently developed brick, which is made to 70% out of recycled brick grit even boosts improved physical properties like a better sound and heat insulation. It closes the lifecycle of a product with an extremely high productivity in resource usage.

3. Action and Communication

In June 2004 Wienerberger and WWF Austria presented their new brochure “Living with bricks. Natural building – living brick”. The brochure gives an insight in the history of brick, its production, its possibilities of use and the brick’s positive attributes, as also discussed in this paper. An overview of the project Living Rivers and the ecological balance of the brick does complete the information. The aim of the brochure is to inform the broad public about bricks as natural product and to raise the public awareness for topics like sustainability and our ecological footprint.

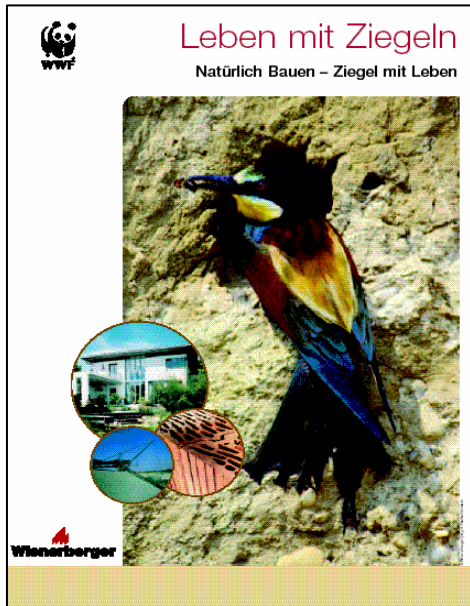


Figure 4 Brochure: Living with Bricks

In addition to this strategic cooperation Wienerberger cultivates an open and active dialogue with the WWF to promote environmental protection which led to various other joint projects. For example, Wienerberger sponsors the RAMSAR-Centre in Schrems, Austria, a documentation-, adventure- and research centre for wetlands. WWF ensures continuing environmental consulting for Wienerberger in order to further improve the eco-balance of the brick production.

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