

**SUSTAINABLE**

Building  
foundations  
for  
society's  
future



**Holcim** foundation  
for sustainable construction



## **Sustainable construction – an obligation**

Sustainability requires that the present generation meets its needs without limiting the opportunities of future generations. For an approach to enable long-term viability, it must integrate economic, environmental and social impacts – the three elements of the triple bottom line.

The construction industry can contribute greatly to global sustainability because everything that is built shapes the way people live today, and in the future. Buildings account for up to 40% of primary energy consumption. Handling building design and management, material selection, and also energy and resource consumption in a sustainable manner would be a significant step toward ecologically and responsible development. In addition, advanced responses in terms of ethical and social responsibility and financially feasible projects that provide long-term economic benefits illustrate the important role that architecture, engineering, urban planning and construction have in achieving a more sustainable future.

Revitalization of a historic town square by combining cultural and commercial requirements in an integrated public space: “Metropol Parasol – redevelopment of Plaza de la Encarnación” in Seville, Spain, by Jürgen Mayer H. (Holcim Awards Bronze 2005 Europe). Photos: David Franck (top) and Fernando Alda.



### **Committed to sustainability worldwide**

As a leading global provider of building materials, Holcim Ltd shares responsibility for the future of our planet and society. That is why Holcim produces building materials as sustainably as possible in around 70 countries in which it is present. For many years, the Group has been committed to the sustainable application of its products and was confirmed as a member of the Dow Jones Sustainability World Index in 2010/2011 for the building materials industry. Holcim has been included in both the Dow Jones Sustainability World Index and the Dow Jones STOXX Sustainability Index for eight years.

To promote sustainable construction even more decisively, Holcim established the Holcim Foundation for Sustainable Construction in 2003. The Foundation is supported by Holcim, but remains independent of its commercial interests.

Innovative technology applied to reduce energy consumption and CO<sub>2</sub> emissions is a key element of the sustainable construction approach: the “Autonomous alpine shelter” in close proximity to the iconic Matterhorn in the Swiss Alps is the impressive result of the collaboration by a team of students at the ETH Zurich, led by Andrea Deplazes (Holcim Awards Bronze 2008 Europe).



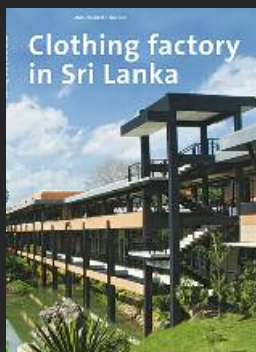
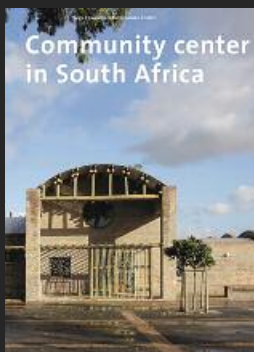
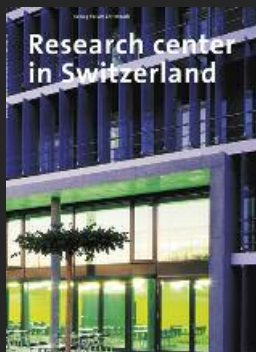
## **Creating awareness, promoting excellence**

The Holcim Foundation aims to build awareness of the importance of sustainable construction among professionals and the public. It seeks to globally interlink knowledge and to promote a mindset that views sustainability not only in terms of immense technical challenges, but that also incorporates architectural excellence and leads to a higher quality of life.

## **Partnerships**

To pursue its goals, the Foundation collaborates closely with some of the most renowned technical universities: Swiss Federal Institute of Technology (ETH Zurich), Switzerland; Massachusetts Institute of Technology (MIT), Cambridge, USA; Universidad Iberoamericana (UIA), Mexico City, Mexico; Ecole Supérieure d'Architecture de Casablanca (EAC), Morocco; Indian Institute of Technology (IIT Bombay), Mumbai, India; Tongji University (TJU), Shanghai, China; Universidade de São Paulo (USP), Brazil; and University of the Witwatersrand (Wits), Johannesburg, South Africa.

Generating sustainable urban development by improving transport infrastructure in the poorest communities: "Urban integration of an informal area" in Medellín, Colombia, led by Gustavo Restepo, connects the informal and formal parts of the city (Holcim Awards Gold 2008 Latin America).



### **Three focuses of activity**

Together with its partner universities, the Holcim Foundation advances the academic discussion of sustainable construction by issuing technical publications and holding international conferences, the Holcim Forum (page 13). The Foundation presents Holcim Awards on regional and global levels; these competitions are open to everyone involved in construction (page 15). Through Holcim Grants, the Foundation supports research in sustainable construction (page 19).

### **Network of stakeholder groups**

Around the globe, the Holcim Foundation participates in many events and exhibitions for sustainable construction – particularly in cooperation with architectural associations or Holcim Group companies. Through its activities, the Foundation has developed a close-knit global network of stakeholder groups, and it has grown to assume the role of information hub. This function can be seen for example in the Foundation's extensive website and social media presence which includes an events calendar where third parties can publicize events pertaining to sustainable construction.

An effective tool to encourage the exchange of ideas and transfer of innovation: a monographic series showcases world-class projects. Summaries on Holcim Awards winners as well as Holcim Forums are also published.



## **“Target issues”: Assessing sustainability**

Sustainability is one of the world’s most talked about but least understood words. To make the criteria of sustainable construction concise and transparent, the Holcim Foundation and its renowned partner universities have defined five so-called “target issues”. They consider sustainability from a holistic perspective:

### **Progress – Innovation and transferability**

The project must demonstrate innovation at the forefront of sustainable construction. Breakthroughs and trend-setting approaches, irrespective of scale, must be transferable to a range of other applications.

### **People – Ethical standards and social equity**

The project must adhere to the highest ethical standards and support social equity at all stages of construction, from planning and building processes to long-term impact on the fabric of that community. The project has to provide an advanced response in terms of ethical and social responsibility.

### **Planet – Environmental quality and resource efficiency**

The project must exhibit a sensible use and management of natural resources throughout its

The “target issues” serve as the basis for the adjudication process of the Holcim Awards competitions and also illustrate the strength of diverse approaches to sustainable construction: demonstrated at the IUCN Conservation Centre in Gland, Switzerland, by agps.architecture, including the Holcim Think Tank on top of the new building.



life cycle, including operation and maintenance. Long-term environmental concerns, whether pertaining to flows of material or energy, should be an integral part of the built structure.

**Prosperity – Economic performance and compatibility**

The project must prove to be economically feasible and innovative as far as the deployment of financial resources is concerned. Funding must promote an economy of means and be compatible with the demands and constraints encountered throughout the construction's life span.

**Proficiency – Contextual and aesthetic impact**

The project must convey a high standard of architectural quality in the way it addresses cultural and physical factors. With space and form of utmost significance, the construction must have a lasting aesthetic impact on its surrounding environment.

Measuring up to the "target issues" for sustainable construction (from top): "Living with Lakes Centre for freshwater restoration and research" led by John Gunn in Sudbury, Canada (Holcim Awards Bronze 2008 North America); "Coastal fog-harvesting tower" by Alberto Fernández and Susana Ortega in Huasco, Chile (Holcim Awards "Next Generation" 1<sup>st</sup> prize 2008 Latin America); "Alternative economy city in a former slaughterhouse" by Luciano Cupelloni in Rome, Italy (Holcim Awards Acknowledgement prize 2005 Europe); "Stabilized earth visitors' center" by Peter Rich in the Mapungubwe National Park, South Africa (Holcim Awards Acknowledgement prize 2008 Africa Middle East); and "Library and Classroom Building, Langara College" by Stephen Teeple in Vancouver, Canada (Holcim Awards Acknowledgement prize 2005 North America).



### **Professional exchange**

In cooperation with its partner universities, the Holcim Foundation organizes symposiums on sustainable construction, known as the Holcim Forum. These technical conferences offer architects, engineers, building professionals and experts from all generations and geographic locations an interdisciplinary academic platform for exchanging ideas and information.

### **International and interdisciplinary dialog**

The inaugural Holcim Forum was held in Zurich in 2004 on the subject of “Basic Needs”. It investigated the rudiments of every modern society – housing, water, education, infrastructure, and access to goods and services. In 2007 experts from 41 countries met in Shanghai for the 2<sup>nd</sup> International Holcim Forum “Urban\_Trans\_Formation”, dedicated to the reshaping of cities. The 3<sup>rd</sup> International Holcim Forum took place in Mexico City in 2010 and focused on “Re-inventing Construction”. The symposium attracted some 270 participants from all continents to examine how approaches to the design, fabrication and use of built structures can be aligned with the principles of sustainable development.

The 4<sup>th</sup> International Holcim Forum will be held in Mumbai in April 2013.

Thom Mayne (2005 Pritzker Prize for Architecture Laureate and member of the Global Holcim Awards jury 2006) at the Holcim Forum 2010, hosted by Universidad Iberoamericana in Mexico City and (below) the exchange of ideas in a workshop at the Holcim Forum.





# Holcim awards

for sustainable construction

## **Recognition of forward-looking projects**

The International Holcim Awards competitions recognize innovative projects and future-oriented concepts on regional and global levels. The competition is designed to encourage architects, planners, engineers and project owners to go beyond conventional notions of sustainable construction in their work and to harmonize economic, ecological and social concerns. Projects and concepts in the fields of architecture, landscape architecture, urban design, civil engineering, mechanical engineering and related fields are eligible for entry in the competition.

## **A two-stage global competition**

Each competition cycle spans three years, from announcement to completion. A total of two million US dollars in prize money is awarded in each cycle. The competition is handled in two stages. In the first stage the best projects and concepts are sought in the five world regions: Europe, North America, Latin America, Africa Middle East and Asia Pacific.

The 15 projects that receive Holcim Awards Gold, Silver or Bronze in these five regions are then qualified for the competition for the Global Holcim Awards Gold, Silver and Bronze. All prize-winning projects and visions from the five

The Holcim Awards trophy symbolizes “balance” and the objectives of sustainable construction. Pictured: Christoph Ingenhoven, co-winner of the first Global Holcim Awards Gold in 2006 (top) and exhibition of prize winning projects at the Regional Holcim Awards ceremony in Mexico City.



Regional Holcim Awards competitions (Awards, Acknowledgements, and “Next Generation” prizes) are eligible to be considered for the Global Holcim Innovation prize for up to three winners.

### **International Holcim Awards juries**

Independent juries evaluate the entries in the regions, a global jury assesses the finalists’ entries at global level. The juries, supported by the partner universities, are comprised of highly-regarded members of science, business and society.

### **Promoting innovative ideas**

The 3<sup>rd</sup> International Holcim Awards competition closed at the end of March 2011 with more than 2000 accepted submissions, around 20% more than in the previous cycle. Participants from 126 countries entered projects and visions living up to the criteria of sustainable construction that are to be realized in 146 countries around the globe. More than 50 projects will be honored with Holcim Awards, Acknowledgement or “Next Generation” prizes in the last quarter of 2011 at ceremonies in Buenos Aires, Casablanca, Milan, Singapore and Washington DC.

Find out more about the Holcim Awards at [www.holcimawards.org](http://www.holcimawards.org).

Achieving a tangible change from project to realization: the multi-sited project by Aziza Chaouni and Takako Tajima “River remediation and urban development scheme” revitalizes the medina of Fez, Morocco, through the recovery of the river, creating public spaces, and renovating traditional buildings (Global Holcim Awards Gold 2009).

# Poster\_Competition

# Poster\_Competition



Holcimforum  
THE SUSTAINABLE CONSTRUCTION





# Holcimgrants

for sustainable construction

## **Supporting new ideas**

The Holcim Foundation promotes and accelerates sustainable construction with seed funding for research projects. These contributions allow interesting and important new ideas, regardless of origin, to be realized and to be followed by an audience of professionals. Projects nominated for seed funding are assessed according to the five “target issues”. Grants are only provided with co-funding together with a Holcim Group company which then supports and monitors the ongoing project.

## **Encouraging the next generation**

The Holcim Foundation recognizes the importance of engaging with the next generation to promote innovative approaches to sustainable construction in diverse ways. Post-graduate students compete in a poster competition at the Holcim Forum, providing an opportunity for dialog and networking with some of the world’s leading practitioners, in addition to bringing the visions of young professionals to the symposium.

The International Holcim Awards competitions feature a “Next Generation” category for concepts and visions created within university programs at final-year bachelor level or above (including masters and PhD).

Stimulating discussions on, and prizes for approaches to sustainable construction by students from seven of the world’s leading technical universities at the 3<sup>rd</sup> International Holcim Forum 2010 in Mexico City.

## **Advisory Board**

The Advisory Board of the Holcim Foundation ensures that the activities of the Foundation remain in line with current interpretations of sustainable construction. Members of the Advisory Board are:

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Rolf Soiron (Chairman), Chairman of Holcim, Switzerland

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Yolanda Kakabadse, President of WWF International, Chair of the Advisory Board of Fundación Futuro Latinoamericano, Ecuador

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Amory Lovins, Chairman and Chief Scientist of the Rocky Mountain Institute, USA

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Enrique Norten, Principal and founder of TEN Arquitectos, Mexico/USA

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Klaus Töpfer, former United Nations Undersecretary-General and Executive Director of the United Nations Environment Programme (UNEP), Germany

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Simon Upton, Director of the OECD Environment Directorate, New Zealand/France

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Muhammad Yunus, Founder of Grameen Bank, and 2006 Nobel Peace Prize Laureate, Bangladesh

Hans-Rudolf Schalcher

Alexander Biner

Klaus Töpfer

Enrique Norten

Yolanda Kakabadse

Roland Walker



Amory Lovins

Harry Gugger

Muhammad Yunus

Markus Akermann

Simon Upton

Rolf Soiron



## **Management Board**

The Management Board of the Holcim Foundation determines its strategy and initiatives, provides guidance, and appoints experts who support the Foundation's activities. Members of the Management Board are:

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Markus Akermann (Chairman), CEO of Holcim, Switzerland

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Roland Walker (Delegate), Head Corporate Communications of Holcim, Switzerland

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Harry Gugger, Professor of Architecture, Civil and Environmental Engineering, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

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Alexander Biner, Partner of MS Management Service, Switzerland

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Hans-Rudolf Schalcher, Professor em. of Planning and Management in Construction, Swiss Federal Institute of Technology (ETH Zurich), Switzerland

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