Learning power

Universities have a vital role to play in advancing the sustainability cause, urges ETH Zurich President Ralph Eichler...

Anyone who climbs up to the new Monte Rosa Hut crosses a wild, expansive alpine world. Boulders, ice and solid rock form a primal landscape, far away from civilisation – and suddenly the hi-tech construction emerges; a reflective giant crystal amid the remote landscape. The futuristic architecture at the foot of Monte Rosa Mountain prides itself in innovative engineering and an almost autarkic energy supply. The site acts as a figurehead for sustainable development. Surrounded by eternal snow, the structure exemplifies a strong positioning in science and technology to reach ecological goals.

Minimising flow of materials

It's all well and good to talk about sustainability and long-lasting development, but achieving it involves a great deal of expense and effort. At modern universities, sustainability must be at the core of all three main areas of business – education, research, and in putting the results into practice. Physically, sustainability means using closed materials cycles as far as possible, or else minimising the flow of materials. This is essential if the planet's steadily rising population – soon to hit ten billion – can ever hope to enjoy a decent life in harmony with the environment.

> *'Sustainable activities demand large, transparent networks within the national and international science community. The 'bridges' with industry must be enlarged in order to transfer knowledge and technology.'*

The global community is today confronted with complex, long-term tasks that are the core business of universities. To meet these great challenges, such as climate change, energy conservation, future cities, clean mobility, food production and our aging society, excellent interdisciplinary research and sustainable solutions are needed. This requires the strengthening of networking and innovation.

The university's commitment to sustainability

Making this vision of sustainability a reality not only requires the right attitude but also efficient technologies that generate less waste. Well thought-out solutions are complex and entail far more than simple energy saving. Science City, ETH Zurich's second campus in the suburban area, is one example of a sustainable development, having been achieved through the consistent use of the technologies that are available today.

New bridges for knowledge transfer

Universities are in flux and the global competition to gain the best talent has intensified. Traditional academic structures are somewhat inadequate in their approach to multi and transdisciplinarity. The organisational separation into departments oriented towards the classical disciplines often gets in the way of interdisciplinary collaboration. So, for sustainability we have to build bridges. Just as engineers built the traffic infrastructure in the last century and established the national welfare, it is important to establish a new kind of intensive relations to network within science, but also with politics, the economy and society.

The modern bridges are knowledge connecting paths, where universities assume new, important tasks. Sustainable activities demand large, transparent networks within the national and international science community. The 'bridges' with industry must be enlarged in order to transfer knowledge and technology.

Finally, it is necessary to develop contacts with stakeholders and decision makers in politics, administration and society. To fulfil their ambitious process towards sustainability, universities and research institutes will increasingly play the role of an honest broker, mediating between the different pressure groups. However, science doesn't find its own way to future users, sponsors, and the general public, and therefore universities are forced to outreach their products and leave the ivory tower.

Ralph Eichler
President
ETH Zurich
Tel: +41 44 632 81 52
www.sustainability.ethz.ch

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich