EPFL AT A GLANCE IN 2013

383,789 m²
heated and cooled area

9,868 students
55% foreign students, from 120 countries

5,534 staff
headcount, including PhD

5 Schools, 2 Colleges
Basic sciences; Life sciences; Engineering; Computer and communication sciences; Architecture, Civil and environmental engineering
College of Humanities; Management of Technologies

859 million CHF
spent, including 67% on personnel costs

12% female professors
26% women in scientific staff

19% women in executive positions
51% women in non-executive positions

26,739 t CO₂-eq
emitted, 26% from energy, 54% from transport

Energy from renewable sources
- Electricity: 100% renewable from Swiss hydroelectricity production
- Heating: 74% renewable (56% lake water, 18% electricity)
- Cooling: 100% renewable (95% lake water, 5% electricity)
During the nine years I spent as Managing Director of the Davos World Economic Forum (WEF), I was fortunate to be able to assist and contribute to the advent of sustainability issues at the highest level of international governance. I saw how this sustainable development concept, born of the seventies’ growing ecological awareness, gradually succeeded in broadening its approach and ever better integrating social needs, financial realities, and existing laws. Progressively, governmental and non-governmental organizations, companies, and individuals resolutely take up this more systemic, more transparent, and more participatory approach, contributing to a more harmonious development of our societies.

Since almost a year at the head of operations for EPFL, one of the best universities of technology in Europe, I find here the perfect field of application to implement advanced sustainability concepts in a broad spectrum of activities: human resources, infrastructure, energy, mobility, and finances. The University’s excellence also derives from these innovations in terms of accountability and transparency. That is the essence of this sustainability report, established according to the Global Reporting Initiative’s demanding guidelines, that will present every other year our results on the difficult yet promising road to sustainability.

André Schneider
Vice-President for Planning and Logistics,
in charge for sustainability
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Two years have passed since our first sustainability report and already we are seeing the positive effects of changes made over this timeframe. It has been a period of intense growth at EPFL: a 17% increase in student numbers, an 8% increase in staff numbers, new campuses in Neuchâtel and Geneva, substantial renovation of our administrative services building, the construction of a 3,000-seater Convention Center and the creation of 500 new student rooms amongst our major projects. This concentrated development raises considerable challenges from a sustainability point of view, yet our concern for increased efficiency is paying dividends with an overall 4% decrease in final energy consumption per capita.

The arrival of our new Vice-President for Planning and Logistics, André Schneider, has reinforced our sustainability strategy and we are moving towards our goal of reducing EPFL’s CO₂ footprint. To achieve this, the decision has been made to retrofit the heat and power facility, eliminating any fossil source of energy, to switch to a certified 100% renewable electricity mix and to accelerate the implementation of our Mobility Plan.

At the academic level, EPFL has recruited close to ten professors in the areas of environment and renewable energy in order to better meet the pressing needs of society. For students, a compulsory course on Global Issues is being implemented on campus, while our commitment to Massive Open Online Courses (MOOCs) aims to spread knowledge internationally whilst curbing intercontinental travel.

At EPFL, we share many of the ambitious goals of international organizations and the Swiss government with respect to 2050 milestones. Our campus provides a healthy breeding ground for spin offs and start-ups in the “cleantech” domain, including opportunities to set up full-scale prototypes. For example, we recently inaugurated the world’s first exterior architectural implementation of Graetzel cells. These transparent dye-sensitized solar cells, named after EPFL’s renowned professor Michael Graetzel, cover the west façade of the new SwissTech Convention Center.

Regarding sustainability from a social responsibility standpoint, EPFL continues to strive to improve gender equality. Significant efforts have been made in recent years to increase the number of women students, professors and staff in senior positions. Despite small advances, our targets have not yet been reached, and further efforts are essential to narrow the gender gap. On a more positive note, the results of the second satisfaction survey conducted in 2012 among all campus users show significant progress since 2004, particularly regarding the understanding of management strategies, and confirm a very high level of satisfaction.

This second report, established according to the guidelines of the Global Reporting Initiative and the ISCN-GULF Sustainable Campus Charter, underlines our institution’s continued commitment to support and develop sustainability.

Patrick Aebischer, President of EPFL
Introduction

As a world renowned institute for education and research, EPFL has a great opportunity and a key responsibility to influence change and further develop sustainable practices both internally and externally. This report provides a transparent assessment of the progress made relative to objectives in sustainability. It highlights EPFL’s ongoing commitment to sustainability.

EPFL has demonstrated this commitment by building a more sustainable campus, by joining the ISCN-GULF Sustainable Campus Network as a signatory member in 2010, and by serving as the first host organization of this network, jointly with ETH Zurich. EPFL has played a major role in supporting this global forum of universities.

The International Sustainable Campus Network (ISCN) is a global network that aims to enhance universities’ commitments to construct, redesign, and organize their campuses in an exemplary and sustainable way, and to include these experiences in their research and education mission.

As part of the ISCN-GULF Sustainable Campus Charter, signatories commit to uphold three overarching principles that guide sustainable development on their campuses and develop Charter Reports that track progress against these principles.

ONE COMPREHENSIVE REPORT INTEGRATING GRI AND ISCN-GULF REPORTING

This report is the second sustainability report published by EPFL that fulfills both the requirements of the Global Reporting Initiative (GRI) G3 reporting guidelines at Application Level B and of the ISCN-GULF Sustainable Campus Charter reporting frameworks. It is the first EPFL report integrating both ISCN-GULF and GRI reporting into one comprehensive sustainability report. As the previous edition released in 2012, this report covers EPFL’s sustainability performance over a two-year period, 2012 and 2013. EPFL plans to publish a combined GRI and ISCN-GULF report every second year.

GRI is known internationally as the most widely accepted sustainability reporting framework. GRI guidelines cover a broad range of sustainability metrics related to economic, environmental, and social (including labor practices and decent work, human rights, society, and product responsibility) performance. They are intended for organizations in very different sectors and are thus less fully applicable to sustainability disclosures in higher education. Conversely, the ISCN-GULF Sustainable Campus Charter guidelines focus on sustainability metrics specific to universities according to the three ISCN principles.

The three overarching ISCN principles

PRINCIPLE 1
Buildings and their sustainable impacts

PRINCIPLE 2
Campus-wide planning and target setting

PRINCIPLE 3
Integration of research, teaching, facilities and outreach
The École Polytechnique Fédérale de Lausanne (EPFL) is one of two Swiss Federal Institutes of Technology. Like its sister institution ETH Zurich, EPFL has three missions: education, research, and technology transfer at the highest national and international level. Students coming from all over the world experience an environment of the highest quality. EPFL regularly appears at the top of international rankings as one of the best universities in the world. This result was achieved thanks to EPFL's focus on developing an innovative education for tomorrow’s technology leaders, on phase-leading technological research that fosters solutions to major world issues, and on establishing inventive partnerships that fuel the economy.

EPFL's main facilities are located in Switzerland, in the western part of Lausanne, at the heart of the diversified and international Lake Geneva area. As a result of fruitful collaborations with Applied Science Universities, the EPFL campus is spreading into new regions in French-speaking Switzerland. The first research center opened in Neuchâtel in August 2013 and further hubs are planned in the upcoming years in Geneva, Valais, and Fribourg. In 2010, an offshore project baptized EPFL-Middle-East (ME) was launched in Ras Al Khaimah in the United Arab Emirates.

In 2012/2013, EPFL hosted over 10,000 people on campus with 9,306/9,868 students (bachelor, master and doctoral) and 5,381/5,534 faculty and staff (with PhD students). Over the past 15 years, growth has been spectacular, with a 160% increase in the number of students.

EPFL competes with the world’s best universities by establishing international links, by recruiting its academic and research staff worldwide, and by remaining attractive to students from abroad. With 120 nationalities represented on campus and more than 60% of its professors coming from abroad, EPFL is one of the world’s most cosmopolitan universities. 55% of the students registered in 2012/2013 were non-Swiss, versus 48% two years ago. This proportion is particularly high among PhD students of whom 81% come from abroad. In 2013, most of the foreign employees and students came from France, making that country the University’s most important “market” outside Switzerland, followed by Italy and Germany. Among countries outside Europe, Iran, USA, India, and China are the most represented.

EPFL has successfully set up partnerships worldwide. International student exchange programs and research collaborations exist in all five continents. These collaborations are imperative for EPFL to carry out its mission to make its teaching, research, and partnerships available on a global scale. Its reputation as a leading international educational and research hub is now established. EPFL regularly appears at the top of international rankings. In the 2013-2014 QS ranking, EPFL entered the overall top 20 universities and the top ten in the field of Engineering and Technology.
As an institution with a Swiss federal mandate and the majority of funding coming from the Swiss Confederation, EPFL is accountable to the government. It forms part of the ETH Domain, which also incorporates a second Federal Institute of Technology, ETH Zurich, and four national research institutes.

As a national institution with a mandate for research, education, knowledge, and technology transfer, EPFL is to a large extent financed by the Swiss Federal government. In 2013, EPFL received a regular budget of 628 million CHF, representing 73% of its total budget (the remaining budget comes from secondary and third-party funding). Each year, it is assigned to EPFL under the terms of a four-year performance mandate from the Federal Council and on the basis of targets agreed upon with the ETH Board, a strategic and supervisory management body.

The EPFL Executive Board is led by a President and four Vice-Presidents: Academic Affairs, Planning and Logistics, Technology Transfer, and Information Systems.

EPFL Executive Board, from left to right:
André Schneider, Philippe Gillet, Patrick Aebischer, Adrienne Corboud Fumagalli, Karl Aberer


Sustainability goals

To create a learning area dedicated to transdisciplinary training, the Teachings Labs.

To evolve the offer of courses in social and human sciences, and increase the students' ethical, social and responsible commitment.

EDUCATION FOR SUSTAINABILITY: A DIALOGUE BETWEEN TECHNOLOGY AND HUMANITIES

A technology university with a culture of excellence, EPFL’s first mission is education. The 13 Bachelor study programs lay the polytechnic foundations that are its bedrock of learning, followed by 23 Masters programs. Highly specialized Masters may be enriched by Minor programs focusing on sustainability and oriented towards transdisciplinarity. There are also 18 Doctoral programs.

In today’s world, science and technology are increasingly global and complex. Top-notch engineers need to master the skills to bridge disciplines and grasp this complexity. EPFL’s Swiss and European roots help teach students these competences by overcoming too narrow specializations, as the European understanding of a successful university is historically characterized by a willingness to confront all areas of knowledge. The University’s model of development privileges interfaces and bridges between disciplines, technologies, and various forms of knowledge, be it the convergence of exact sciences or the dialogue between the techno-scientific world, the humanities, culture, and art.

This framework has proved its worth. In the 2013-2014 QS ranking, EPFL entered the overall top 20 universities and the top ten in the field of Engineering and Technology.

Over the past 15 years, growth has been spectacular, with a 160% increase in the number of students, reaching over 9,000 today.

A steady increase in the number of degrees

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Today, EPFL’s goal regarding education is to become a leading university of technology in the area of pedagogical innovation, while increasing the students’ ethical, social, and responsible commitment towards sustainable development.
INTEGRATING SUSTAINABILITY

How best to integrate sustainable development education across the board in a university of technology? EPFL’s answer to that is by seeking to broaden its students’ awareness and understanding of the complex issues within which they will be developing solutions, as well as by learning to integrate economic, social, cultural, or environmental concerns into their work.

The College of Humanities (CDH) is the spearhead of this strategy. Founded in 2004, it seeks to foster in students the polyvalence necessary to realize tasks and problems characterized by increasing complexity, in situations that involve ever more numerous and diverse stakeholders – from the developer to the end-user, from innovation to its consequences in social, economic, political, cultural, and environmental contexts.

The CDH offers a range of 120 social and human sciences (SHS) courses, which are an integral part of all study plans at EPFL, from the first year of a Bachelor’s degree to the first year of a Master’s degree. These courses are credited and mandatory for all students. A number of these come under the theme Human and Natural Environment to give future technical school graduates the analytical tools to understand reciprocal relationships between human beings and their natural environment. A few examples of these courses are: Sustainable Development, Growth and Sustainable Development; Environmental Ethics; Social and Political Ethics; Health, Populations, and Society. In another register, CDH offers in collaboration with CODEV (Cooperation & Development Center) the Cooperation and Development course, dealing with the main challenges faced by emerging countries.

During the 2012-2013 period, an ambitious new initiative has been under intense preparation: the compulsory Global Issues curriculum, replacing first-year SHS courses as from January 2014. A human sciences teacher teams up with an engineering sciences teacher to deliver a course on each of the six topics: Food, Communication, Climate, Energy, Mobility and Health (see Highlight on p. x).

SUSTAINABILITY AT THE HEART OF THE CURRICULUM

As for curriculums that focus on sustainable development, EPFL continues to offer three Bachelor degrees: Environmental Sciences & Engineering, Electrical & Electronic Engineering, and Mechanical Engineering. At the Masters’ level, a fourth program is added: Energy Management and Sustainability. A Minor in Energy is offered to the different master programs of EPFL and aims at broadening the scope of each Major by adding the multidisciplinary dimension of energy. Emphasis is put on the efficient use and conversion of energy, renewable energy resources, the environmental impact and sustainable development. An interdisciplinary Minor in Integrated design, Architecture and Sustainability responds to a need to further reinforce the integration of sustainability issues in architecture and civil engineering.

Three Doctoral programs are linked to sustainability: Architecture and Sciences of the City, bringing together the worlds of architecture and social sciences; Civil and Environmental Engineering, a multi-disciplinary program designed to tackle the most challenging problem of fostering a vibrant and productive society while ensuring environmental sustainability; and Energy, applying scientific and engineering principles to the analysis, design, and operation of energy systems in order to solve problems across a wide spectrum of potential applications.

There is one faculty that considers sustainability central to its mission: “The disciplines united in the School of Architecture, Civil and Environmental Engineering (ENAC) seek solutions to the most pressing problem of our time: guaranteeing a sustainable environment for humanity through a successful integration of human activities within the biosphere.” It offers studies for Bachelor’s or Master’s degree in architecture, civil engineering, and environmental engineering, as well as postgraduate course cycles and doctoral programs.

ENAC also hosts the Landolt Chair “Innovations for a Sustainable Future” that welcomes every year a world-renowned specialist in an area essential to sustainable development, and organizes prestigious conferences. During the 2011-2012 academic year, Prof. Jose-Luis Torero focused on the topic Safe Infrastructure in a Sustainable World, while green-solvents specialist Philip G. Jessop held the Chair the following year.

A PRIZE FOR SUSTAINABLE STUDENTS’ PROJECTS

In collaboration with Lausanne University, EPFL rewards every year several students’ projects adopting a sustainability approach through the Durabilis Award. With 19 projects entered last year, the number is steadily increasing, a reliable indicator of the importance students give to this topic. In 2012 and 2013, half or more of the rewarded projects were entered by ENAC students.
TEACHING LABS FOR TRANSDISCIPLINARITY

EPFL’s new Teaching Labs are an instrument designed to support both laboratories for practical work within a discipline and transdisciplinary student projects, some of which are closely tied to the environment and sustainability.

HYDROcontest is one such project. In September 2013, it challenged students around the world to design the fastest boat that also consumes the least energy. Thirteen teams from universities all over the world have risen to the task and will present their boat in Lausanne in July 2014. More projects are in the pipeline, for instance participation in the Solar Decathlon, an international contest to design, build, and operate a self-sufficient house.

EPFL’S MOOC FACTORY

One of EPFL’s highlights in 2012 was the University’s entrance into the world of MOOCs (Massive Open Online Courses) on the Coursera platform. Although online courses will never replace real interactions and practical training, they allow the student to study the material at his own rhythm. By dematerializing higher education, they also give people who are unable to attend universities the opportunity to acquire valuable knowledge. EPFL believes MOOCs are a highly useful tool to help developing countries, especially in Africa, where mobile networks are already well deployed, unlike other infrastructures.

The first course offered in the fall 2012 semester met with unexpected success: more than 50,000 people wanted to learn the Scala programming language developed by EPFL professor Martin Odersky and more than 10,000 of them followed the course all the way through to the final exams. EPFL intends to play a crucial role thanks to MOOCs, especially with basic science courses in places such as French-speaking Africa. Twelve courses were on offer by the end of 2013 and other courses from various departments are being added.

Two courses linked to sustainable development issues were in preparation at the end of 2013, to be launched in 2014: African Cities – an Introduction to Urban Planning; and Introduction to Household Water Treatment and Safe Storage.

HIGHLIGHT – GLOBAL ISSUES: A COMPULSORY COURSE FOR ALL FIRST YEAR BACHELOR STUDENTS

Although engineers are most often required to develop highly specialized skills, their action is deployed in increasingly complex and global frameworks. To ensure they are aware of their work’s impact, EPFL has created a palette of courses on global issues provided to some 1,800 first year Bachelor students.

The courses, organized by the College of Humanities, seek to raise students’ awareness about major global challenges by encouraging them to go beyond their core discipline and take a holistic approach to their studies from day one. When the time comes, they will be in a better position to make well-founded choices in full knowledge of the facts. And when engineers learn to integrate economic, social, cultural, or environmental concerns into their work, end-users will benefit more from the discoveries they make and the new technologies they develop.

This is why transdisciplinarity is key to EPFL’s strategy. For each course on global issues, a lecturer in the humanities and social sciences from next-door Lausanne University and a lecturer in science or engineering from EPFL will team up, each bringing a fresh perspective on the topic. The lectures will be complemented by videos and online exercises. In 2013, 24 lecturers, supported by the Teaching Support Centre (CAPE) and the EPFL Library, were involved to develop these courses.

First-year students have to choose a course amongst one of the themes belonging to Global Issues for Science and Technology (GIST). The specific issues were selected amongst the fields taught at EPFL: Food, Communication, Climate, Energy, Mobility and Health. As an example of how these courses examine a topic’s broader issues, the one on food focuses on the intermingling of its institutional, social, and technological aspects, and addresses questions related to food security, food safety, functional food, instrumental food, and nutrition-pleasure balance.

The specificity of these worldwide issues is that they extend beyond the frontiers of a discipline or country: they thematize a problem engaging the whole of humanity and its future, and therefore require a transdisciplinary approach. Each one aims, to some extent, to improve human life according to sustainable principles. Their resolution requires cooperation on all levels, scientific, technological, political, economic, and social.
Sustainability goals

To conduct leading-edge research in the five thematic priorities defined by the CEPF with an approach of convergence of the “info-nano-bio-cogno” technologies and by focusing on the activities that meet the needs of society: advanced manufacturing technologies, energy technologies for a sustainable world, engineering of life sciences, environmental systems and technologies, methods and platforms for the advancement of science.

To increase the researchers’ and students’ awareness of issues linked to integrity and ethics in research.

In partnership with cantonal authorities, universities and the concerned universities of applied sciences, to reinforce the regional antennas (Microcity in Neuchâtel, EnergyPolis in Valais) in order to strengthen EPFL’s key focus areas: renewable energies (solar, hydraulic), storage, fusion, and energy efficiency.

To answer the needs of society through research and development programs that implement solutions in areas such as sustainable development, safety, information, or neurosciences.

In today’s changing context, EPFL’s global strategy for research is not rigidly set. Nevertheless, three overall orientations are defined for the 2012-2016 timeframe for which efforts are being stepped up:

- green technologies and sustainable development (energy, sustainable building, urbanism, transportation and sustainable systems for health, safety, and the environment)
- “info-nano-bio-cogno” technologies convergence
- research based on simulation.

Concerning green technologies, research is looking for solutions that limit the use of natural resources and provide better ways of producing goods. Although such a field relies on technological development, EPFL is convinced that paradigm shifts are needed and that only basic research will be able to provide disruptive and innovating solutions.

THE BOUNDLESS POTENTIAL OF TRANSDISCIPLINARITY

EPFL has long advocated transdisciplinarity, and researchers in all areas combine their expertise to provide solutions to practical problems. It is clear that the major issues of our times will only be solved when biologists, computer scientists, civil engineers, and mathematicians can speak the same language and work towards a common goal.

The ETH Board has defined five key focus areas for the coming years, covered in the first goal listed above. Within the portfolio of activities, emphasis is given to items that correspond to societal needs and are considered to hold particular promise within the context of international competition. In each of the key focus areas, EPFL has defined major strategic initiatives integrated into the research strategy 2012-2016.
In the focus areas of advanced manufacturing technologies, green technologies stand out particularly. They encompass a broad spectrum of topics including sustainable manufacturing, power-efficient devices, environment-sensitive processes, energy scavenging, and recycling. EPFL is on its way to play a leading role in this exciting new research dimension, having made green engineering the focus of the Microtechnology Institute in Neuchâtel. In addition, the new EPFL Middle East outpost in Ras Al Khaimah primarily concentrates on research into energy and the environment (see Highlights on next page for a fuller description of EPFL’s outposts).

Regarding energy technologies for a sustainable world, the Federal Council has decided to make energy research a top priority and to establish a related Swiss Action Plan, in which EPFL will play a key role. This research, coordinated by the Energy Center at EPFL, will be conducted in collaboration with the other institutions of the ETH Domain as well as with cantonal universities, universities of applied sciences and industrial partners.

Two important fields in which EPFL will be particularly active and which are included in the Strategic Plan 2012-2016 of the ETH Board are renewable energy conversion and smart energy management.

**RESEARCH CENTERS**

A number of transdisciplinary research centers have been created since 2008 to further the exploration of emerging fields and help bridge academic boundaries. The ones particularly active in green or sustainable matters are the Transportation Center (TraCE), the Energy Center (CEN), the Limnology Center, Nano-Tera, EcoCloud, and the Cooperation and Development Center (CODEV).

The Energy Center and the associated EPFL’s Energy Systems Management Chair foster multidisciplinary research projects and networks to develop sustainable energy production, storage, transportation, distribution, and end-use systems and technologies.

TraCE is the interface between EPFL and the external world (private and public sectors) for all questions related to the transportation and mobility of people and goods. Its main role is to foster technology transfer in this field through the initiation of partnerships with industry and public authorities.

The Limnology Center aims to provide socially-relevant and multi-disciplinary research to ensure the sustainable use and conservation of natural water resources. A Chair of Environmental Science and Limnology was set up in December 2012, aiming to improve the understanding and protection of the fragile ecosystems of lake environments.

The aim of CODEV is to promote and coordinate scientific cooperation activities within EPFL, using all disciplines represented on the campus.

EcoCloud is a consortium of university researchers to pioneer technologies to make cloud computing scalable, cost-effective and sustainable.

**ERC GRANTS: A BENCHMARK OF SCIENTIFIC QUALITY**

The number of grants awarded to an institution is a reliable indicator of the quality of its research. In this area, EPFL ranks as one of the most successful universities in Europe.

European Research Council (ERC) grants are the most prestigious program of FP7, the 7th Framework Research and Development Program. With a budget of 53 billion Euros funded by EU Members and Associated States (such as Switzerland) for a period of seven years, they aim to stimulate innovation across Europe.

At EPFL, no fewer than 76 researchers were awarded an ERC grant – 40 Starting Grants and 36 Advanced Grants – by the end of 2013. This performance places EPFL at the forefront of European research institutions. The University has obtained more than a quarter of the ERC grants in Switzerland, largely standing out by its rate of success.

**SUSTAINABLE AND GREEN RESEARCH PROJECTS**

Specific research projects conducted in 2012 and 2013 in the areas of green technologies and sustainable development are too numerous to be listed here; following are some of the most innovative or emblematic.

ENAC, the School of Architecture, Civil and Environmental Engineering, conducts many such projects in diverse fields. For instance, “Bringing mathematical modeling into mainstream epidemiology” explores how far scientists can go in predicting epidemics of waterborne diseases, including endemic and epidemic cholera; one team is working on an interdisciplinary project that focuses on large-scale cholera epidemic modeling and its use for the emergency management of control measures that are crucial to public health and intervention strategy management.

Other ENAC projects consider the “Past and future landscape dynamics in pasture-woodlands of the Swiss Jura Mountains under climate change” or examine ways of
producing biofuels that are fully compatible with the principles of sustainable development, using plant residue so as to not compete with food production.

In a more technical vein, the School of Engineering’s Photovoltaics Laboratory of IMT focuses on the development of new processes and device structures for silicon solar cells and specialty detectors. In 2012, they patented a novel terracotta-colored module that mimics traditional roof tiles and opens unique opportunities for integrating modules into roofs and building.

Another faculty, the School of Basic Sciences, has redoubled its efforts in the fields of renewables and energy storage. In 2012, scientists from the Laboratory for Molecular Engineering of Optoelectronic Nanomaterials published an article in the journal Nature Photonics describing a device producing hydrogen from sunlight, water, and rust, paving the way for an economic and ecological solution for storing renewable energy.

**COLLABORATIVE RESEARCH ON SCIENCE AND SOCIETY (CROSS)**

The College of Humanities launched in July 2012 a new program bringing together UNIL and EPFL researchers, and supporting transdisciplinary projects that explore contemporary socio-technical challenges. CROSS is intended to kick start collaborations in the domains of social sciences and humanities together with engineering, natural, and life sciences.

The inaugural CROSS grants were awarded to four projects focusing on the theme of energy, amongst which two topics are related to sustainability:

- Power backup and stabilization system for district hospitals in developing countries: business case study for the Cameroon market
- Symbiotic Districts – Innovative design strategies for local energy and resource self-reliance at the district scale by integrating issues related to buildings, infrastructures, mobility, and food.

**HIGHLIGHT – EPFL OUTPOSTS**

Although Switzerland is a small country, it is a mosaic of cultures and geography. Many places have developed specialized skills related to the local traditions, industry or landscape. Rather than import these specific competences to Lausanne, EPFL is creating external campuses to nurture their development locally.

1. **EPFL Valais’s EnergyPolis**

After two years of work, EPFL’s antenna project in Valais was ratified in December 2012 with the Canton of Valais. The EPFL Valais Wallis project will implement a “shared campus” between EPFL and HES SO (Western Switzerland University of Applied Sciences).

The essence of the project consists in setting up a permanent EPFL outpost in Valais, centered on new professors’ chairs in the fields of energy and health research. Part of the research will focus on the hydrodynamic turbomachinery in order to optimize one of the modes of clean energy production predominant in Valais, as well as on water management and optimal use of lakes and rivers. Further research will focus on green chemistry (biomass from agricultural areas, CO₂ capture and processing, etc.).

2. **Microcity is up and running**

In 2009, Neuchâtel University’s Institute of Microengineering (IMT), with its six university chairs, joined EPFL, creating the first campus outside Lausanne. Its new emblematic building was finished in September 2013.

Microcity is the heart of what will become over time one of the biggest microtechnology skills hubs in Europe and is in close proximity to the Swiss Center for Electronics and Microtechnology (CSEM), allowing the creation of powerful synergies.

In 2012, three new laboratories were created at IMT and the PV-Lab participated in the creation of the PV-Center at CSEM that is active in the field of solar cells. A new chair was set up that year, then two in 2013 – mechanical design and integrated circuit design. IMT is currently focused on projects such as green manufacturing, ultra-low-consumption motors, and thin-film solar cells, but aims to expand its activities while maintaining his close ties with the region’s watchmaking industry.

3. **Smart Living Lab at Fribourg**

A partnership agreement signed in April 2013 has laid the foundations for the construction of the Smart Living Lab (SLL), a building shared by EPFL, the University of Fribourg and Fribourg’s College of Engineering and Architecture. Its goal is to develop interdisciplinary knowledge related to future housing and a new center of expertise dedicated to the technology of intelligent buildings of the future. The SLL will play a central role in the positioning of this new site as a “zero carbon” innovation square, which already hosts twenty local startups working on sustainability. The works for constructing the 60,000 m² innovation park are scheduled to begin in 2014.
4. EPFL Middle East outpost

Initiated in December 2008, the EPFL Middle East outpost in Ras Al Khaimah (United Arab Emirates) focuses on global sustainable development challenges: renewable energy, water and energy security, sustainable urban environment, and clean technologies. Regarding education, a master in Energy Management and Sustainability is offered jointly in Lausanne and Ras Al Khaimah since 2011. The second UAE-Swiss Research Day was organized in November 2012 with a focus on “Frontiers in Water, Energy and Sustainability”.
Sustainability goals

To promote entrepreneurship among students and researchers, and support initiatives that are innovative in terms of development and technology transfer.

To continue the development of Innovation Park and reinforce its role of bridge and technological transfer between the scientific world and the industrial world.

START-UPS INNOVATING IN CLEAN TECHS AND ENERGY EFFICIENCY

Open innovation seeks to associate key players in order to create value, mixing entrepreneurs, ideas and research. EPFL contributes to this process of transferring knowledge and technology to the industry by encouraging its most talented scientists and students to be in close contact with leading companies. The aim is to stimulate innovation through start-ups, collaborations with SMEs and partnerships with international firms.

Each year, the EPFL campus is behind the creation of a dozen of start-ups. Most of them arise from one of the researchers’ discoveries. Others are launched through Innogrants, a program of guidance and support for EPFL faculty and students wishing to launch an entrepreneurial adventure.

To create products and services that answer today’s and tomorrow’s challenges, EPFL start-ups invest in a number of fields, the main ones being IT, biotech, and medtech, electronics and clean techs. With a fair share of the University’s research focusing on renewables and low-consumption technologies, it is no surprise that developments in these areas hold much promise, as shown by the following examples.

Composite materials will lead to greener cars

The use of composite materials is rapidly entering the automotive industry thanks to a technique developed by EPFL spin-off EELCEE. This technique promises lighter cars that burn less fuel and, consequently, emit less CO₂.

Lower energy costs thanks to smart plugs

Knowing one’s daily consumption of energy leads to lower consumption. This insight gave birth to eSMART. In October 2012, the EPFL spin-off installed its system of smart plugs in 450 apartments in the Eikenøtt neighborhood, a new eco-development on the shores of Lake Geneva. Interconnected plugs transmit their data to software that displays real-time expenditures of water, heat, and electricity on a touch screen.

A way to reduce the Internet’s energy drain

Researchers at EPFL have developed a device intended to monitor and save the energy consumed by large data centers. Credit Suisse, a partner on this project, already uses this solution on its servers.

Much is at stake, as it is estimated that the Internet currently represents 8% of the total annual energy used in
Switzerland, a figure that could reach 15% to 20% in the coming years. In response, researchers at the Embedded Systems Laboratory (ESL) at EPFL, affiliate of the EcoCloud consortium, have developed a tool to save between 30% and 50% of all electricity swallowed up by the servers in large data centers.

**Quick and cheap detection of heavy metal pollution**

Mercury, when dumped in lakes and rivers, accumulates in fish, and often ends up on our plates. A team of researchers from EPFL and Northwestern University (USA) has devised a simple, inexpensive system based on nanoparticles, a kind of nano-velcro, to detect and trap this toxic pollutant as well as others. This technology makes it possible to easily and inexpensively test for these substances in water.

**Understanding human impact on freshwater lake**

The Elemo Leman-Baikal project also focuses on the quality of freshwater resources. In July 2013, EPFL scientists worked with their Russian counterparts and deployed ultralight aircraft to diagnose the health of an area of Lake Baikal from above. Multispectral aerial survey and analysis of the content of particles and aerosols in the air were made from the ULM. In parallel, water sampling was taken from a boat. Flights above Lake Geneva are planned for 2014.

**Discovery projects**

EPFL has always nurtured a spirit of adventure and elected to commit to innovative projects combining fundamental and applied research, which truly drive innovation and technology transfer. The University is the Official Scientific Advisor to SolarImpulse, the first solar airplane able to fly day and night on solar power. This flagship project supported by the European Community flew across the United States in 2013 and aims to fly around the world in 2015.

**HIGHLIGHT – THE WORLD’S FIRST GLASS FAÇADE COMPOSED OF DYE-SENSITIVE SOLAR CELLS**

Transparent, colored solar panels, fruits of the Graetzel cell technology, were installed on the western façade of EPFL’s SwissTech Convention Center during the fall of 2013. A total of 1,400 solar modules, each one 35 by 50 cm in size, combine to cover a total surface area of 300 m2.

This exterior solar window façade is a world first. The project leverages the potential of dye-sensitive solar cells known as Graetzel cells. They not only produce renewable energy, but they also shade the building from direct sunlight, reducing the need for air conditioning. Operational since December 2013, this innovative solar installation is funded by Romande Energie.

**A first for exterior architectural integration**

Dye-sensitized solar cells, invented in 1991 by EPFL professor Michael Graetzel, reproduce the principles of photosynthesis in plants. The photovoltaic glass panel covering the west façade of the SwissTech Convention Center, scheduled to open its doors in April 2014, is the world’s first exterior architectural integration of this cutting-edge technology. The visually compelling 300 m2 installation is a demonstration of the potential of this kind of solar technology and the first step in their large-scale production and use.

**Successful technology transfer**

This solar façade is a showcase for renewable energy technologies, as well as the culmination of EPFL’s long-standing commitment to innovation and technology transfer. Graetzel cells seem to be destined for success as no fewer than 11 companies have secured a license to market them.
Medical equipment as a first focus

More than 70% of high-tech medical equipment sent to Africa is never used, according to WHO statistics*. When it can be put into service, it often fails after just a few months of use due to unsuitable technology, unreliable electricity supply, costly and fragile components, and the lack of qualified personnel for maintenance.

EssentialTech has four concrete projects to address this critical problem: GlobalDiagnostiX, GlobalNeonat, Energy for Healthcare and H2Ospital.

The first project, GlobalDiagnostiX, was launched in March 2012 and consists of developing a digital medical imaging device that is sturdy, inexpensive, and resistant to electrical instabilities.

The other projects are at the conceptual or idea stage: GlobalNeonat plans to develop an efficient incubator for premature infants that continues to provide heat during power outages; Energy for Healthcare seeks to provide safe power to resource-poor hospitals; and H2Ospital aims to supply drinking water access to district hospitals.

Another CODEV undertaking received the 2012 Dalle Molle Award; the Info4Dourou project implants wireless sensors networks to optimize water distribution in agricultural areas in Africa.

UNESCO Chair in Technologies for Development

Since 2007, CODEV has hosted the UNESCO Chair in Technologies for Development. It works as an international cooperation platform, building bridges between disciplines and sectors, and aims to find adapted technology solutions to bring sustainable development to the greatest possible number of people.

The UNESCO Tech4Dev Conferences, in particular, are rapidly turning into flagship events. CODEV organized the first one in 2010 on technologies and innovations for development and the second one in 2012 on the potential of technologies for poverty reduction, attracting 280 participants from 48 countries.

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4. Environment

Campus

NEW CHALLENGES: DECENTRALIZATION AND DENSIFICATION

As a result of fruitful collaborations with Applied Science Universities, the EPFL campus is spreading into new regions in French-speaking Switzerland. The first research center opened in Neuchâtel in August 2013 and further hubs are planned in the upcoming years in Geneva, Valais, and Fribourg (see map p.4). This progressive decentralization of the EPFL campus is a new challenge for its environmental management. A comprehensive approach needs to be developed, while adapting to local patterns and conditions.

Energy management at EPFL is still one of the main environmental challenges to be met, as the campus area has continuously increased in recent years. Densification has particularly accelerated during the last two years with a 7% increase in the energy reference area. This figure does not include the construction of student housing (516 additional lodgings in 2013) and the development of services, restaurants, and shops.

Further densification is planned for upcoming years with the opening in 2014 of a new conference center seating 3,000 and four new hubs in western Switzerland. Longer-term developments are even more ambitious. It is expected that the total floor area of all EPFL campuses will increase by 75% by 2045. An energy master plan is currently established to adapt the current infrastructures to meet the demands of future growth. The construction of a new heat and power facility increasing the usage of lake water and abolishing any fossil source of energy is planned for upcoming years.

MAJOR CHANGES IN SYSTEMS

LIMITATIONS AND ENERGY REPORTING

As a result of EPFL decentralization, a major change in systems limitations occurred in 2013. The total EPFL area now includes all academic buildings: the ones outside the main campus, but also – unlike figures presented in the previous report – the ones not operated and heated by EPFL, like the ones at University of Lausanne (UNIL). However, buildings that are not dedicated to education or research activities such as the EPFL Innovation Park, the hotel, and student’s lodgings, continue to be excluded.

<table>
<thead>
<tr>
<th>Energy reference area [m²]</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPFL Main Campus</td>
</tr>
<tr>
<td>Academic buildings</td>
</tr>
<tr>
<td>UNIL buildings</td>
</tr>
<tr>
<td>EPFL Lausanne, Renens, St-Sulpice</td>
</tr>
<tr>
<td>EPFL Innovation Park</td>
</tr>
<tr>
<td>Hotel + student housing</td>
</tr>
<tr>
<td>EPFL Neuchâtel</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

Another major change has occurred in energy reporting since the last GRI report. It was decided to no longer consider the floor area but the energy reference area, that is, only areas for which a heating or cooling system is required. As a result, in 2013, the heated or cooled floor space of EPFL academic buildings was 383,789 m² (energy reference area), while the area considered in the previous report was 461.513 m² (floor area). This change negatively influences our indicators based on an energy consuming area basis.
Since 2003, EPFL has been involved with the RUMBA (Resources and Environment Management of the Federal Administration) program whose main objective is to improve the environmental performance of the Swiss Federal Administration. The target for 2016 is to reduce the overall level of pollution per full-time equivalent (FTE) by at least 10% compared to 2006.

Energy

AN OVERALL ENERGY STRATEGY

The main energy focus during the reporting period (2012-2013) was on establishing the energy master plan, which required setting long-term goals and defining priority measures and investments for the next four-year planning cycle. The energy concept 2015-2045 will be released in 2014 and budgets for the main investments are being negotiated for release in 2016.

EPFL's combined heat and power facility, in operation for over 25 years, now reaches saturation. In 2013, it was decided to build a new lake-water pumping station and heat pumps in order to generate 100% of heating and cooling power from lake water and electricity.

ENERGY CONSUMPTION

Sustainability goals

Reduce the total energy consumption by fulltime employee and student (FTE) and by year (base year: 2012)

Final energy: 15% reduction by 2020 and 30% by 2035
Primary energy: 10% reduction by 2020 and 25% by 2035

The total direct energy purchased (natural gas and oil) was 25.3 GWh in 2012 and 23.4 GWh in 2013. 300 MWh were distributed in 2012 and 2013 as heating energy to third parties. Regarding indirect energy use, the electricity purchased was 81.6 GWh in 2012 and 81.1 GWh in 2013. Of this energy, 8 GWh in 2012 and 4 GWh in 2013 were sold to third parties.

During the last two years, the energy consumption increased by 6%, but slightly decreased (1.5%) on an energy consuming area basis and significantly decreased by 8% on an FTE basis. This shows that the energy consumption is proportional to the energy consuming area rather than to population growth.

<table>
<thead>
<tr>
<th>Total final energy [MWh/year]</th>
<th>2012</th>
<th>2013</th>
<th>Δ 12-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total final energy by FTE [MWh/FTE/year]</td>
<td>10.0</td>
<td>9.6</td>
<td>- 4 %</td>
</tr>
<tr>
<td>Total primary energy [MWh/year]</td>
<td>111'279</td>
<td>112'252</td>
<td>1 %</td>
</tr>
<tr>
<td>Total primary energy by FTE [MWh/FTE/year]</td>
<td>11.3</td>
<td>10.8</td>
<td>- 4 %</td>
</tr>
</tbody>
</table>

Regarding objectives, we are on track to achieve them, as, between 2012 and 2013, the energy consumption per FTE decreased by 4%, considering final or primary energy.
FOCUS ON RENEWABLE ENERGY SOURCES

Sustainability goals

- Continue to promote renewable energy.
- Increase the percentage of electricity coming from renewable energy sources.
- Increase the share of power with high ecological standards.

Electricity

A major change occurred in 2012 regarding the quality of electricity with the decision to buy hydroelectricity with guarantees of origin. Since January 2012, 100% of EPFL electricity is from a renewable source, as it comes from local hydroelectric plants. The electricity consumed in UNIL buildings (6% of the overall amount) is even labeled “naturemade star”, the highest Swiss electric ecological standard. This is a significant improvement, as until 2011 the share of renewable electricity reached only 23%.

From 2014 until 2017, 2 GWh, representing 2.6% of total electricity and the equivalent of our solar panels production, will be labeled “naturemade star” (PV solar panels), one of the most demanding ecological standards available. The remainder will still be the current quality (hydroelectricity).

Heating and cooling

Regarding energy sources, 74% of energy used for heating EPFL buildings in 2013 came from renewable energy, as its district heating system uses lake water and its electricity is from 100% renewable sources. This figure is higher than the one presented in the previous report (70%), despite the fact that energy figures now include all buildings used by EPFL for its academic activities, even if not operated by our institution, like the gas-heated buildings at the University of Lausanne (UNIL).

EPFL continued to promote renewable energy by building the second and third phases of the Romande Energie-EPFL solar power plant. By the end of 2013, the solar park was almost completed and 1,833 MWh of electricity was produced from these PV panels, representing 2.4 % of the total electricity purchased in 2013. Until March 2013, EPFL bought 30% of the renewable energy produced at a cost-effective price (compensatory feed-in remuneration), in accordance with its partnership with the external energy provider.

The energy used for cooling EPFL is from 100% renewable sources, as 95% comes from lake water and 5% from electricity.

GHG emissions

Sustainability goals

Reduce CO₂ emissions from energy consumption sources by FTE/year by 30% by 2020 and by 50% by 2035 (base year: 2012)

EPFL greenhouse gas emissions can be divided into four categories corresponding to our operations, including:

- **Energy**: emissions from the use of buildings, including electricity, oil and gas for heating and natural gas for scientific processes
- **Infrastructures**: emissions taking into account the life cycle assessment of buildings’ infrastructures, from the construction to the end of life
- **Transport**: emissions from staff and student commuting and business travel, including cars, train and flights.
- **Activities**: emissions from staff and student activities, such as computers, paper, and waste.

The University’s greenhouse gas emissions inventory is based on a Life Cycle Assessment and on data provided by the ecoinvent Center, which holds the world’s leading database with up-to-date Life Cycle Inventory data.
It includes Scope 1, 2 and 3 emissions, as defined by the Greenhouse Gas Protocol. In 2012 and 2013, direct emissions (scope 1, mainly fossil fuels like oil and natural gas) were 7011/7277 t CO₂-eq. In this category, the increase of emissions is mainly due to colder weather requiring increased use of oil for the heating facility and natural gas for the animal facility. Indirect emissions (scope 2, mainly electricity) were 567/589 t CO₂-eq. In this category, the main change occurred between 2011 and 2012 with the decision to consume 100% of electricity from renewable sources (switch from an EU-mix to a 100% hydroelectricity mix). Using ecoinvent conversion factors for Swiss hydroelectricity, emissions coming from electricity consumption decreased by 98% from 2011 to 2012. Using ecoinvent conversion factors for Swiss hydroelectricity, emissions coming from electricity consumption decreased by 98% from 2011 to 2012. In 2013, electricity represented about 2% of GHG emissions, while it was 53% in 2011. This decision explains the highly significant reduction of global GHG balance in recent years.

However, 2012 was used as reference year for the reduction goals set out in the energy concept 2015-2045 for comparison purposes.

As outlined in its upcoming energy master plan, EPFL is committed to a 30% reduction in greenhouse gas emissions from energy consumption per FTE by 2020 (compared to 2012). We are on track to achieve the objective, as, between 2012 and 2013, CO₂ emissions per FTE decreased by 6%, and by 14% when only considering energy consumption.

Concerning business travel, flights still represent the major part of GHG emissions of business travel (94% in 2013). Overall, GHG emissions from business travel increased by 13% between 2011 and 2013.

Other indirect emissions (scope 3) concern the commuting of staff and students, as well as business travel. In this category, emissions are continuously increasing, representing more than 50% of the overall GHG balance. In 2012 and 2013, transport emissions were 14,030/14,409 t CO₂-eq. Car commuting still represents 88% of GHG emissions.

In 2012, NOₓ emissions from EPFL’s heating facility were 90 mg/m³, about 25% lower than the limits required by the standard (120 mg/m³).
Initiatives for green buildings

Sustainability goals

Optimize the use of electricity in datacenters, ventilation systems and other facilities.

EPFL strives to optimize its buildings’ energy efficiency, promote the use of renewable energy, and foster technology transfer. EPFL has developed several initiatives to modernize its buildings with a focus on optimization and equipment upgrades. Despite its efforts, reductions in energy consumption are typically counteracted by an increase in electricity consumption for the needs of research and development, particularly for data centers and biomedical processes.

VENTILATION OPTIMIZATION

In 2012-2013, the ventilation facilities of three existing buildings (clean rooms of the Microengineering and Physics buildings/ CE5) were upgraded with energy efficient equipment, yielding a 50% expected energy reduction for ventilation. At the CMI building, the ventilation control system was replaced, enabling more efficient functioning of the system, resulting in a 40% expected reduction in heating and cooling.

TELEMETERING

A telemetering project was launched in 2013, consisting of replacing 650 energy meters, in order to monitor them remotely and expand the monitoring frequency from one measuring point per month to one per 15 minutes. This will increase energy managers’ analytical ability and responsiveness and also enable human resources reallocation to more added-value projects. This project will be achieved in 2014.

EXTERIOR LIGHTING

In 2013, 2,000 traditional exterior lights were changed to LED lights, resulting in 70% expected energy savings.

HIGHLIGHT: A NEW GREEN DATACENTER

In May 2012, a new datacenter was inaugurated with a total power capacity of 1 MW, presenting an innovative passive water cooling solution. This special feature consists of using lake water to cool the air flow generated by rack fans instead of using air conditioning, resulting in important savings in terms of infrastructure and consumption. The heated water is for the moment not recovered but projects are under study to do so with heat pumps. Built without air conditioning, forced-air ventilation and backup power supply, the datacenter should have a theoretical Power Usage Effectiveness (PUE), a measure of datacenter efficiency, of minimum 1.06. After more than one year of operation and optimization, the PUE averages 1.3, which is very low. Former EPFL infrastructures have a PUE of 1.8 or even higher. Energy savings related to the free cooling range from 30 to 50%.

HIGHLIGHT: RENEWABLE ENERGIES AT THE NEW CONVENTION CENTER

For its new Convention Center that opened in April 2014, EPFL went even further in its systemic and innovative thinking by making the best possible use of all energy sources available in the vicinity and by showcasing emerging energy technologies.

1. Photovoltaic panels: a world first

On the western façade, a transparent and colored glazing performs the double function of solar protection of the façade and electricity producer. It is the first large-scale implementation of the dyed cells invented by Michael Graetzel, professor at EPFL and manufactured by an EPFL spin off. They produce 2,000 kWh per year, while preventing the inside of the center from overheating. On the roof, a traditional photovoltaic installation completes the system with 250 kW of power.

2. Natural light

Both for users’ comfort and energy savings, the Convention Center primarily makes use of natural light, even in the plenary room that seats 3,000. In the entrance hall, the western façade’s photovoltaic glazing with dyed cells diffuses multicolored, shimmering reflections. Artificial lights make use of the latest available technologies and supply remarkable energetic performances.

3. Lake water for heating and cooling

The core idea of the energetic concept, originally designed by the EPFL operation service, was to exploit the heat of the water used to cool EPFL’s buildings to heat the center thanks to a heat pump. This use of the by-products of
EPFL’s cooling water enables to produce once more heat in winter and cold in summer.

At the end of this heating and cooling circuit, the water is returned to the lake via the river Sorge that flows close by, without causing any harm to the environment.

The sanitary hot water used in the center is 100% renewable. It is produced by the solar panels on the rooftops of the nearby student housing and shops, as well as by heat pumps recovering the waste heat from ventilated air or by the heat produced by the fridges.

**Transportation initiatives**

**Transportation goals**

- Promote cycling as an alternative mode of transportation on campus and to the major transportation hubs.
- Promote sustainable business travel.
- Promote alternatives to air travel.

**COMMUTING**

Concerning the indirect energy use of commuters, EPFL continues to encourage non-motorized modes of transportation. The EPFL Sustainability Unit undertakes several transportation initiatives and proposes numerous incentive programs: a self-service bike-sharing system (three hours free of charge), secured and covered bike parking, and free electric charging stations. It also supports the Campus Bike Center’s operations, a student-operated center offering basic repair at supply costs, sale of repaired second-hand bikes and bike mechanics’ classes. The Campus Bike Center operations are significantly growing: the repair services increased by 30% between 2012 and 2013 (1,300 repairs) and the sales of second-hand bikes by 40% (214 bikes sold). In 2012, EPFL opened a bicycle online shop selling traditional, foldable and electrical bicycles at reduced prices to the community. Online shopping for new bicycles increased by 50% between 2012 and 2013 (42 bikes sold). The first Swiss self-service rent-a-bike system now consists of ten stations on the EPFL main campus, to which one will be added in 2014 at the Neuchâtel campus. An analysis of modal shares since 2003 shows the impact of these gentle mobility measures: bike travel shares have increased from 11% to 16% between 2007 and 2013.

In addition, EPFL has numerous incentive programs to encourage the use of alternative transportation, such as contributing to public transportation fares, subsidies for carpooling, car-sharing at a preferential rate for staff and students. In 2013, EPFL also developed with the University of Lausanne a shared carpooling platform to encourage their community to share trips.

Since the end of 2012, a driverless electric shuttle has been under test on campus, as part of a European project. This innovative vehicle is designed to complement conventional transportation over “the first and last kilometer”, for instance from the subway hub to the campus’s furthest point.

In 2013, 392 students and staff of EPFL, organized in 104 teams, participated in the national “Bike to work” contest.

**4. Geothermal pillars**

Built on highly unstable land, the Convention Center rests on 30-meter deep pillars. EPFL’s Laboratory of Soil Mechanics used the opportunity of the construction to install four geothermic pillars equipped with absorption tubes in which a heat-transmitting fluid circulates, enabling heat exchanges with the ground.

The scientists use this lab to study the potential of these pillars’ heating and cooling capacity and their deep static deformation.

**5. Sustainable mobility**

The Convention Center can welcome up to 3,000 people, but has only 260 parking spaces. Perfectly located in a loop of the metro, with its own stop, the center invites congress participants to reach the campus using public transport. An efficient route-calculation tool allows to choose the most sustainable solution.

On site, participants find a car-sharing offer with combustion-powered and electric vehicles, close to 500 parking places for bicycles and a new public bike-sharing station for 20 bikes connected to the local network.
Mobility surveys in place since 2003 have been reconducted in 2012-2013 and extended for the first time to the EPFL Innovation Park. The trend regarding modes of transportation is very encouraging: close to 80% of commuters use walking, biking, or public transport. Bicycle usage has increased from 14% in 2011 to 16% in 2013, while car usage has reduced from 21% to 19% during the same period. These statistics are especially notable as the EPFL population has increased by 15% over the same period. In terms of public transportation, the transition is more stable, which may indicate that its capacity to accommodate a greater number of users is reaching its limit.

The modes of transportation observed for students and staff by gender show very pronounced differences. Divergences are significant between staff and students, and narrower between male and female campus users. Here again, the trend is encouraging: the use of public transportation is increasing in almost all categories, except for male students. Regarding the use of bicycles and cars, the results are less conclusive.

The Sustainability Unit promotes alternatives to air travel. In 2012, a new travel search tool was proposed in partnership with the EPFL spinoff routeRANK. This tool enables to compare travel options, considering various means of transport and different priorities such as price.

**BUSINESS TRAVEL**

Between 2011 and 2013, the number of kilometers traveled by car diminished by 4%, while the number of kilometers traveled by rail on the national level increased by almost 20% during the same period, indicating that staff are increasingly relying on trains instead of cars for domestic travel. At the international level, the use of rail increased by 34%, while continental flights increased by 19%. Business travel data per FTE is of particular concern, as it significantly increased in recent years (+7% between 2011 and 2013). EPFL staff are traveling more and more each year: over 12,000 km/FTE were covered in 2013, 90% of which by air.

More specifically regarding vehicles use for business travel, the kilometers covered decreased in all categories between 2011 and 2013, except for car-sharing, which increased by 34% during the same period. Since March 2013, a new car-sharing service with 12 electric cars is available on the EPFL campus. With 26 cars in total, the car-sharing offer on campus has almost doubled.
Waste and recycling

Between 2011 and 2013, the overall amount of waste generated at EPFL significantly increased (+12%). This rise is mainly due to the growing number of people using the campus (+15%). In 2013, a new monitoring system was implemented using barcodes on each waste container. This will ultimately allow us to identify and track the large-scale waste generators. Furthermore, seven solar compactors using photovoltaic technology have been installed to avoid littering and facilitate waste management.

The overall waste volume directed into recycling streams is still 60%. This high level recycling rate has been maintained for the last three years.
Overall, the campus has 21 different recycling streams including paper, plastic, metals, wood, construction debris, electronics and toner cartridges.

Hazardous waste includes biological waste, residues of animals’ carcasses, and nuclear waste. Implemented in 2007, a monitoring and tracing of hazardous substances from purchase to final destruction enables EPFL to address potential problems. Since the introduction of this program, EPFL has eliminated accidents involving dangerous substances, while its researchers have access to more than 80,000 different chemicals, some of them being of acute or chronic toxicity. In Schools, hazardous wastes are managed by security coordinators.

Regarding construction waste, an environmental monitoring of construction waste was carried out for the first time in 2013 for the Microcity research building in the Neuchâtel EPFL hub. In total, 43 tons of waste were disposed of, including waste containing asbestos and lead.

### Microcity (2011)
- **Incinerable**: 400 m³
- **Wood**: 620 m³
- **Metals**: 97 m³
- **Electronics**: 8 m³
- **Inerts**: 968.5 m³
- **Bituminous**: 26 m³
- **Loose soil**: 22,505 m³
- **Rocks**: 33,350 m³

### Convention Center (2012-13)
- **Incinerable**: 7,067 m³
- **Wood**: 2,984 m³
- **Plaster**: 35 m³
- **Plastic**: 14 m³
- **Inerts**: 196 m³
- **Bulky**: 1,708 m³
- **Cardboard**: 14 m³
- **Metals**: 63 m³
- **Toxic**: 8 tons

### Construction waste

Overall, the campus has 21 different recycling streams including paper, plastic, metals, wood, construction debris, electronics and toner cartridges.

<table>
<thead>
<tr>
<th>Disposal method</th>
<th>Type of waste</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>(\Delta) 11-13</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-hazardous waste (in tons) only EPFL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incineration</td>
<td>EPFL domestic waste</td>
<td>589.9</td>
<td>578.8</td>
<td>642.4</td>
<td>13%</td>
</tr>
<tr>
<td>Composting</td>
<td>organic waste (lawn)</td>
<td>28.0</td>
<td>28.0</td>
<td>28.0</td>
<td></td>
</tr>
<tr>
<td>Biogas</td>
<td>organic waste (food leftovers)</td>
<td>64.2</td>
<td>58.8</td>
<td>64.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cooking vegetable oil</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Recycling</td>
<td>paper</td>
<td>164.7</td>
<td>160.9</td>
<td>157.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cardboard</td>
<td>141.2</td>
<td>148.8</td>
<td>188.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plastics</td>
<td>22.0</td>
<td>33.3</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>glass</td>
<td>93.8</td>
<td>58.5</td>
<td>65.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ferrous metals</td>
<td>88.2</td>
<td>115.8</td>
<td>122.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>non-ferrous metals</td>
<td>13.4</td>
<td>17.0</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>electronics</td>
<td>49.6</td>
<td>56.2</td>
<td>52.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>wood</td>
<td>95.4</td>
<td>118.8</td>
<td>106.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PET</td>
<td>12.2</td>
<td>11.8</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>0.9</td>
<td>1.4</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>toner and ink cartridges</td>
<td>3.5</td>
<td>5.4</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inert waste</td>
<td>100.5</td>
<td>68.5</td>
<td>104.1</td>
<td></td>
</tr>
<tr>
<td><strong>Total recycled waste</strong></td>
<td></td>
<td>878.5</td>
<td>882.1</td>
<td>951.3</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Recycling rate</strong></td>
<td></td>
<td>61%</td>
<td>61%</td>
<td>60%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hazardous waste (in tons) only EPFL</strong></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Incineration</td>
<td>163.9</td>
<td>185.9</td>
<td>219.3</td>
<td>34%</td>
</tr>
<tr>
<td>Incineration biological waste, animal carcasses &amp; chemical waste</td>
<td>160.6</td>
<td>182.6</td>
<td>216.0</td>
<td>13%</td>
</tr>
<tr>
<td>Recycling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>batteries</td>
<td>0.6</td>
<td>0.8</td>
<td>0.7</td>
<td>20%</td>
</tr>
<tr>
<td>neon tubes</td>
<td>2.7</td>
<td>2.4</td>
<td>2.6</td>
<td>-2%</td>
</tr>
</tbody>
</table>
**Water use**

Potable water consumption has decreased by 3% since 2011 but by 16% when considering the increase of population on the campus. 29 waterless urinals were implemented in 16 different locations in 2008. By saving about 100,000 liters with each of them, about 3,000 m³ of potable water is saved annually.

From the beginning, EPFL is strongly committed to minimize the use of hot water on campus. Hot water represents a very small proportion of the overall potable water consumption. Restrooms only have faucets with a single connection to cold water, and hot water is only provided for restaurants, showers, and labs. More efficient taps are being tested.

Lake water is used for heating and cooling purposes. About 12 million m³/year are pumped and distributed through the district system. 100% of this water returns to the lake, 40% of which does so via the river Sorge. A study carried out in 2012 showed that discharges into the river generally have positive effects on the river’s temperature conditions and that they even guarantee optimal conditions for aquatic life when the natural state would be considered bad (Sidler 2012).

---

**Products and services**

**PAPER**

Significant reductions in paper consumption were achieved during the last two years. The overall paper consumption decreased by 15% while EPFL population increased by 15%. However, the percentage of A4 recycled paper decreased slightly from 31% in 2011 to 29% in 2013. In 2013, non-recycled A4 paper use was 87 tons and recycled A4 paper use 35 tons. With the objective that all future office paper (A3 & A4) purchases be from 100% recycled paper labeled with the demanding standard blue Angel, a pilot experience was conducted in one of the departments in 2013. As the results seem very conclusive, the switch to 100% recycled paper should occur in 2014.

**PRINTERS**

The myPrint service was set up in 2010 to provide students with multifunctional printers and introduce print quotas for students. Gradually, the service has been expanded to the staff with the objective of centralizing printing areas and the management of printing devices. The goal of this strategy is to reduce the number of printers purchased and discourage the use of individual printers, largely under-utilized and costly. This should also reduce the use of consumables.

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**HIGHLIGHT: CLEANING PRODUCTS**

**MADE OF WATER, SALT AND ELECTRICITY**

A pilot project regarding cleaning products has been led by the Facility services since 2012. Based on water electrolysis, an onsite machine produces two products from water, salt and electricity: a cleaner and a disinfectant. About 15% (42,500 m²) of EPFL cleaned surfaces have been cleaned with this technology since July 2012. This system replaced up to 80% of the detergents conventionally used at EPFL for cleaning surfaces and contributed to help protect the environment and employees’ health.
In 2013, the 95 multifunctional myPrint devices, which make up about 4% of the total fleet, produced 33% of the total paper. This demonstrates a costly and disturbing under-utilization of most printing devices throughout the institution. It also shows that the myPrint strategy must be pursued.

**Biodiversity**

After first receiving it in 2002, EPFL was once more awarded the quality seal from the Swiss Foundation Nature and Economy in 2011 for promoting biodiversity on site. This certification requires that 30% of the land surrounding the building is constructed in a natural way, with specific procedures like:

- Maintain natural landscaping configuration, planted with native or adapted species, and excluding exotic and invasive species
- No use of biocides (fungicides and insecticides), herbicides, and fertilizers on natural surfaces
- Allow for rainwater infiltration whenever possible, employ permeable paving surfaces
- Create habitats supportive of native wildlife.

**Food**

In 2012, the Sustainability Unit started to support initiatives aimed at reducing environmental impacts of food. It actively contributes to the development of the Food Sustainability Index Beelong, led by the Ecole hôtelière de Lausanne (EHL), as a member of the advisory board and of the scientific committee. This innovative tool is designed to assess the environmental impact of food and beverage purchases for the restaurants and catering industry. The pilot phase of this project is expected to finish by the end of 2014.

Since August 2012, the Sustainability Unit launched three electric barbecues with the help of the EPFL Student Foundation (FEE). The use of the three grills is free of charge for EPFL students and staff. These electric grills are very popular and release fewer pollutants into the atmosphere.

In May 2013, UniPoly launched the first Meat-free Day in all campus restaurants. The event will be repeated in 2014, four times a year, with the support of the Sustainability Unit.

**Student associations and activities**

UniPoly is the students’ association dedicated to sustainable development. It brings together about 80 students from the University of Lausanne and EPFL, and provides an excellent gateway for sustainable campus projects such as: supportive purchasing, sustainable food, weekly market, annual sustainable calendar, beekeeping, garage sales, etc. This association plays an active role in raising students’ awareness regarding campus sustainability, with initiatives such as river cleanup, distribution of pamphlets with sustainable tips, organization of conferences, and film projections.

The Sustainability Unit provides financial support to UniPoly initiatives. It is also closely involved in some of their projects, especially in 2012 when UniPoly celebrated its tenth anniversary with a one-week event. Also in 2012, the Sustainability Unit supported Unipoly’s “Beekeeping project”. Four hives are now on campus. Students installed three colonies in 2012 and produced 15 kg of honey in 2013. However, the group’s priority is to maintain healthy bees and develop new colonies. Three of them were created in 2013 and given to young beekeepers.

“Engineers of the world” is a student association aimed at promoting scientific cooperation in developing countries and increasing awareness in the academic community about development issues. This association also functions as a platform for exchanges between the academic world and associations, NGOs, universities, and other institutions. It brings together 45 students from the University of Lausanne and EPFL.

In addition, two major events organized by students on the EPFL campus, Forum (144 companies) and Balelec (15,000 participants) are certified ISO 14001. Forum is also a “carbon neutral event”.

**Management responsibilities**

The Real Estate and Infrastructure Department, reporting to the Vice-President for Planning and Logistics, is responsible for planning and managing credits allocated to buildings and infrastructure, and ensuring the operation and management of technical infrastructures (heating, ventilation, sanitary, electricity, etc.). As a result, this department is responsible for the planning and implementation of all measures that concern energy, construction, waste, water, and transportation. It is also responsible for data tracking in these areas.
RAPID GROWTH AT EPFL

EPFL population has continuously increased over the past decade (+58% since 2003), but the growth pace has significantly accelerated in recent years. Since 2010, the number of students has increased more significantly (+27%) than staff (+12%) – more than twice as much – while until 2009 the growth pace was comparable. The increase is particularly strong in bachelor and master students (+31% and +42%), whereas the number of PhD students has grown less rapidly (+8%). With 9,869 students, the target set to reach 10,000 students by 2019 was almost reached in 2013. This is not the case for professors, whose numbers are far from reaching the objective of 500 (329 in 2013).

If the students’ growth is strongly supported by the Direction, it nonetheless becomes an increasing burden for professors and administrative staff. The infrastructure’s adaptation is another challenge associated with this growth. EPFL has faced a shortage of teaching facilities and some overcapacity problems in recent years, with a very high classrooms’ occupancy rate of about 80%. To address this acute issue and maintain the quality of teaching, EPFL adapted its infrastructure to expand the number of lecture halls and laboratories available, undertaking building renovations or video broadcasting. A former library seating 250 people will be transformed in 2015 and an auditorium seating 450 people is planned for 2016.

Regarding operations, major changes have occurred during the last two years. Administrative staff has increased by 30% since 2011, while technical staff decreased by 10%. The significant reinforcement of administrative staff was due to several factors, including the opening of a new convention center and of new hubs outside the main campus, as well as the development of the human brain project, a European Flagship project. However, the proportion of scientific staff has remained stable at about 70%, despite the reinforcement of administrative staff.
The percentage of staff by age group has remained steady since 2010. However, it is worth mentioning that almost 70% of staff is under 40, reflecting the composition of academic staff: mainly PhD students and young scientists. The proportion of women is approximately 30% in each age group, except for the category over 40.
GENDER DIVERSITY AND EQUAL OPPORTUNITIES FOR WOMEN

Launched in 2004, the Equal Opportunities Office strives to, on the one hand, introduce measures and actions for equal opportunities at all levels at EPFL and, on the other hand, develop specific actions to attract women into scientific fields and encourage them to carry out a long-term career in science. In concrete terms, these measures involve making it easier to reconcile family life and professional activity, promoting EPFL subject areas to young women and encouraging female academic and administrative careers.

Women in academic career

While significant progress was achieved in the past, the percentages of women (students and employees) at EPFL haven’t changed since 2011 (around 29%). In 2013, women still accounted for 27% of the overall EPFL’s student population (including PhD students). Only the proportion of women PhD students increased between 2011 and 2013 (+3%).

<table>
<thead>
<tr>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women students</strong></td>
<td>1'015</td>
<td>1'567</td>
<td>2'099</td>
<td>2'293</td>
<td>2'528</td>
<td>2'678</td>
<td>17%</td>
</tr>
<tr>
<td><strong>Men students</strong></td>
<td>4'165</td>
<td>4'799</td>
<td>5'663</td>
<td>6'149</td>
<td>6'778</td>
<td>7'190</td>
<td>17%</td>
</tr>
<tr>
<td>% women students</td>
<td>20%</td>
<td>25%</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>% men students</td>
<td>80%</td>
<td>75%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td><strong>BA + MA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women students</td>
<td>771</td>
<td>1'159</td>
<td>1'516</td>
<td>1'709</td>
<td>1'912</td>
<td>2'020</td>
<td>18%</td>
</tr>
<tr>
<td>Men students</td>
<td>3'343</td>
<td>3'578</td>
<td>4'159</td>
<td>4'616</td>
<td>5'205</td>
<td>5'588</td>
<td>21%</td>
</tr>
<tr>
<td>% women students</td>
<td>19%</td>
<td>24%</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>% men students</td>
<td>81%</td>
<td>76%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td><strong>PhD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women students</td>
<td>171</td>
<td>352</td>
<td>533</td>
<td>542</td>
<td>586</td>
<td>608</td>
<td>12%</td>
</tr>
<tr>
<td>Men students</td>
<td>612</td>
<td>1'055</td>
<td>1'368</td>
<td>1'433</td>
<td>1'455</td>
<td>1'450</td>
<td>1%</td>
</tr>
<tr>
<td>% women students</td>
<td>22%</td>
<td>25%</td>
<td>28%</td>
<td>27%</td>
<td>27%</td>
<td>29%</td>
<td>30%</td>
</tr>
<tr>
<td>% men students</td>
<td>78%</td>
<td>75%</td>
<td>72%</td>
<td>73%</td>
<td>71%</td>
<td>70%</td>
<td></td>
</tr>
</tbody>
</table>

Significant efforts have been made in recent years to increase the number of female professors, which has risen from six (3%) in 2000 to 38 (12%) in 2013. However, the goal of 13% women professors announced in the strategic planning 2008-2011 (renewed for 2012-2016) has not yet been reached, demonstrating that further efforts are essential. Of the 27 newly appointed professors in 2012, five (19%) were women. The scientific staff category is still significantly increasing (from 23% in 2010 to 26% in 2013), but has not reached its target of 30% either.
Women in executive positions

After a good progression (+27%) between 2007 and 2011, the number of women in executive positions (senior management positions, earning the equivalent or more than the salary category 10) is now stabilizing. This means that EPFL should pursue its efforts to reach the target of 25% set in the strategic plan 2008-2011 (renewed for 2012-2016). Women continue to face limitations as they are underrepresented in executive positions, whereas there is an equal gender representation under the salary category 10 (51% women in 2013). Women are overrepresented in the administrative category.

Initiatives to encourage women

The measures in place encouraging women to continue an academic career and assume executive positions include mentoring, organization of networking events, courses, lectures, round tables and lunches, development of part-time working and flexible working hours, and expansion of day-care facilities. Regarding work-life balance, in order to make it easier to reconcile family life and professional activity, 27 additional childcare places were created in 2012 and a new childcare center was opened in 2013, hosting 44 additional children. The three centers, highly subsidized by EPFL, offer 187 childcare places.

In 2012 and 2013, EPFL continued to develop its program aimed at developing interest for careers in engineering for girls under 13 by organizing girls-only workshops such as “Robots are indeed for girls”, scientific weeks and other events. In addition to courses organized in EPFL, “Internet for young girls” courses were also organized in the cantons of Jura and Fribourg, and robotics courses in canton Jura and the French-speaking part of the canton of Berne.

In 2012 and 2013, the program “Les sciences, ça m’intéresse!”, the widest program in Switzerland for the promotion of science among youngsters (7-15) with a marked gender dimension, continued with several actions such as a bus touring campaign in different Swiss cantons or introductory courses to robotics for more than 50 classes.

In terms of salary, between 2010 and 2013, the average salary of women belonging to the administrative staff increased slightly, while the average wage of men decreased significantly. Regarding scientific staff, the average salary decreased for both men and women, but in greater proportion for men. This resulted from the increase in post-doc researchers and the decreased number of senior scientific staff. Among technical staff, the average wage is stable for both men and women. The comparison of average salaries between men and women cannot be viewed as an inequity of remuneration based on gender. It reflects rather that
the proportion of women in executive positions is still low (19% in 2013) compared to men. The decrease of the overall average salary is related to the continuous decrease of the average seniority and is a consequence of EPFL’s renewal strategy.

Regarding discrimination, no incidents were reported on the grounds of race, color, gender, religion, political opinion, national extraction, or social origin during the last ten years. Discrimination is currently not a concern. EPFL has managed to develop a multicultural environment without any incidents. Figures presented above confirm that there is a strong policy to increase the number of women in executive positions, to promote women’s careers in general and to attract faculty and students from other countries.

### Student assistance and welfare

Established in 2002 with assets from the Social Foundation, the EPFL Students Foundation (FEE) is dedicated to supporting students registered at EPFL, in particular when their financial situation makes it difficult for them to complete their studies. The Foundation may provide scholarships, assistance with accommodation, health support measures and any other form of material aid. In addition, the Foundation supports projects (for instance the bike-sharing system) in favour of the whole student community. In order to ensure equal opportunities for people from all social horizons, EPFL has also implemented a social welfare system complementing cantonal support and developed strategies to promote bachelor studies in high schools for pupils of all social strata.

### STAFF RECRUITMENT, RETENTION AND TURNOVER

The employee turnover has remained stable at 20% since 2006. This is also the case for the resignation turnover, which is very low (about 5%). The employee turnover is consistent with the desired policy of recruiting staff with fixed-term contracts. It also reflects the dynamic nature of academic institutions: the highest turnover occurs mostly among young scientific staff and PhD students, and there is a notable increase in staff turnover among young people. The average age of departing employees is 34 years old, which is low and confirms EPFL’s position as an institution training students and young scientists.

The number of recruitments slightly increased (+14%) between 2010 and 2013, in comparison with the number of departures (+23%). These numbers illustrate the dynamic demographic of EPFL during these years.

### STAFF TURNOVER 2010 2012

<table>
<thead>
<tr>
<th>Age</th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;30</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>30-50</td>
<td>69%</td>
<td>58%</td>
</tr>
<tr>
<td>&gt;50</td>
<td>6%</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>women</td>
<td>29%</td>
<td>29%</td>
</tr>
</tbody>
</table>
**TRAINING AND EDUCATION**

**Internal training program**

As an educational institution, EPFL encourages its employees to take advantage of the great resources it has to offer. The Staff Training Service (STS) offers a non-academic training option. The courses are intended for all EPFL staff, in the following areas: working techniques and personal development, team and work management, and professional improvement (non-academic). Since 2004, the number of courses offered by STS has almost tripled and the number of participants more than quadrupled. The number of professors participating to STS training programs has been multiplied by ten from 2004 to 2013, while their participation rate increased from 2% to 10% during the same period.

In order to advise new employees on EPFL internal procedures and accelerate their integration, there is a strong focus on workplace integration courses, which represented 55% of STS courses offered in 2013. A new compulsory basic administrative training (FOBA) will be implemented in 2014.

In 2013, a course entitled “Sustainability: taking action on EPFL campus” was offered for the first time to EPFL staff by the Sustainability Unit. The objective was to present the EPFL approach to sustainability and raise awareness amongst participants regarding their own responsibility and role within their working environment.

**Other training programs**

In addition to its own internal training program, STS funds 50% of the registration fees for language courses, which are offered to employees at the EPFL Languages Center run by the University of Lausanne. It also funds individual training courses taken outside EPFL. When applicable, EPFL provides sabbatical periods with guaranteed return to employment. Participants who complete training programs (internal, external and languages) mainly represent categories of scientific, administrative and technical employees.

**Apprentices**

With more than 80 apprentices in eight professions, EPFL makes a significant contribution to supporting vocational training. One hundred apprentices is a priority goal for 2015-2016.
A STRONG INTERNATIONAL ORGANIZATION

Profound changes have occurred in the last decade regarding campus diversity, reflecting the globalization of the economy. EPFL continues to be characterized by a strong internationalization, especially at the academic level. 48% of bachelor and master students, and 81% of PhD students came from outside Switzerland in 2013, while more than 60% of professors came from abroad. In the administrative and technical staff, percentages are much lower, respectively 23% and 25% in 2013.

Foreign academic employees and students continue to be drawn to EPFL, in particular PhD students. Their number increased by 10% within just the last two years. Regarding bachelor and master students, the growth is even more significant: +18% since 2011.

The diversity of nationalities is impressive, with 120 countries represented in 2013 (compared to 75 in 2002).

ACTIVITY RATES AND CONTRACT TYPES: FLEXIBILIZATION

EPFL encourages part-time work, although especially for administrative and technical employees. An analysis of activity rates reveals that at the end of 2011, 28% of employees were working part-time. This proportion has barely changed since, remaining around 30%. In 2013, women represented 70% of employees working part-time and 55% of women were working part-time, while this proportion was only of 14% for men.

Regarding employment contracts, EPFL is pursuing its strategy to reduce permanent contracts and increase fixed-term contracts, in order to provide the flexibility for scientists and young professors to enhance their collaborative efforts and knowledge exchange internally and with other institutions. The percentage of fixed-term contracts has significantly evolved, from 57% in 2006 to 66% in 2013. From 2010 to 2013, the growth of scientific staff (without PhDs) was essentially led by the significant increase of post-doc researchers with 100% fixed-term contracts. The consequences of this renewal strategy are a strong internationalization, a continuous decrease of the average seniority, an increase in turnover and rejuvenation.
Temporary staff plays an increasingly important role at EPFL. It mainly consists of assistant students and lecturers, and represents about 2.5% of the payroll. The number of temporary contracts has increased by 53% since 2006.

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Δ 11-13</th>
<th>Δ 06-13</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Term Contract</strong></td>
<td>57%</td>
<td>62%</td>
<td>63%</td>
<td>65%</td>
<td>66%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permanent Contract</strong></td>
<td>43%</td>
<td>38%</td>
<td>37%</td>
<td>35%</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Temporary Contract</strong></td>
<td>1'241</td>
<td>1'532</td>
<td>1'754</td>
<td>1'759</td>
<td>1'896</td>
<td>8%</td>
<td>53%</td>
</tr>
<tr>
<td><strong>Average seniority</strong></td>
<td>7.3</td>
<td>6.4</td>
<td>6.3</td>
<td>6.1</td>
<td>6.0</td>
<td>-5%</td>
<td>-10%</td>
</tr>
</tbody>
</table>

**WAGE FLEXIBILITY AND PERFORMANCE REVIEW**

For several years now, total salary has represented 70% of the EPFL total annual expenditures. 70% of the payroll is covered by the ordinary federal budget, the remaining 30% by research funding or mandates. An important issue in terms of risk management is to diminish the proportion of permanent contracts financed by research funding, which are less stable.

The New Remuneration System (NRS) in place since 2007 is based on valuing experience and performance through management by objectives. It is more flexible and consists of putting a premium on experience and rewarding individual or group performance. The system requires regular private meetings between managers and employees, in order to discuss more transparently their respective priorities and expectations (management by objectives).

The most reliable information regarding feedback for performance reviews comes from the 2004 and 2012 ATMOS satisfaction surveys. With the introduction of the new remuneration system, the proportion of employees who had set objectives with their supervisor significantly progressed, from 39% in 2004 to 69% in 2012. The proportion of employees who had an annual performance review increased in the same way: they were over three-quarters in 2012. The STS provides courses every year on Assessment and Objectives Setting Interviews for supervisors as well as for employees.

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees who had set objectives with their supervisor</td>
<td>39%</td>
<td>69%</td>
</tr>
<tr>
<td>Employees who had an annual performance review in the last 24 months</td>
<td>47%</td>
<td>77%</td>
</tr>
</tbody>
</table>

The same benefits are offered to all employees, regardless of their employment contract, including banking privileges, Career/Professional development training, access to EPFL childcare and to the sports center.

**BENEFITS PLAN**

The occupational pension plan of the ETH Domain is based on defined contributions that are paid by both employee and employer, the latter paying a more substantial portion (about 60%, depending on the wage category). In 2012, the retirement capital amounted to 1.251 million CHF, with 5,232 contributors. The coverage ratio reached 105% the same year, indicating that the fund is in good health.
HEALTH AND SAFETY

The Safety, Prevention and Health Department (DSPS) is responsible for the safety requirements related to the expansion of the EPFL campus and the extreme diversity of research activities. The current safety network is composed of DSPS occupational health and safety specialists (10 staff) and the School Safety Coordinators (CSFs, seven staff), making it the center for implementation of health and safety measures.

The DSPS supervises the School’s security, safety, and health organization and may intervene directly through audits, technical inspections, and potentially closures. It acts as an interface with official supervisory bodies for matters related to health and safety in the workplace. It advises and assists the network in order to simplify and rationalise processes. It also conducts basic safety trainings that are mandatory for all new employees in addition to other courses. The DSPS reports directly to the EPFL Executive Board through the Vice-President for Planning and Logistics.

Application of safety measures at the prevention and operational level are currently decentralized in the Schools. The current network, composed of seven Safety Coordinators (CSF) and 250 Safety Correspondents (COSEC), will be reduced and directly attached to the DSPS in 2014.

The number of interventions by the DSPS has significantly increased by more than 60% since 2010. Health cases are more or less stable, while the number of interventions for infrastructure safety increased by 400% from 2010 to 2013.

The Safety, Health and Prevention Domain organizes a certain number of courses. Among them, the obligatory basic safety training (FOBS), which is a two-hour course concerning general safety at EPFL, prevention awareness in health and safety and first-aid measures.

PRIVACY AND DATA PROTECTION

The protection of its students’ personal privacy is an important concern for EPFL. Processes and regulations for data protection follow the Federal Law of 19 June 1992 on data protection, which is intended to protect the personality and human rights of persons who are subject to personal data processing. An electronic document management system has been used since 2008 to store students’ and professors’ data and to ensure their security. In the reporting period, there were no substantiated complaints regarding breaches of privacy or loss of students’ data.

HUMAN RESOURCES MANAGEMENT

At EPFL, a fast-growing organization of higher education and research, human resource management faces a number of challenges. These include that the Human Resources Department delegates key competencies and resources to the individual Schools, while it has to maintain a coordinating role and ensure that a cohesive corporate culture is fostered. Similarly, it needs to make sure that EPFL’s academic activities and central services stay connected and in tune with each other.

The Human Resources Department promotes an adaptive management and efficient tools, such as satisfaction surveys and annual performance reviews, to adjust to changing circumstances and staff needs.

In 2012 and 2013, three main administrative projects were carried out to streamline human resources management processes and to improve staff personal data:

- Digitization of all files
- Launch of a standardized absence management, with the development of a software tool
- Launch of basic administrative trainings enabling staff to integrate better on arrival

Overall, EPFL has had a lower accident rate than other Swiss universities since 2008 (except for 2010). The number of cases also significantly decreased by 24%, from 21 cases for 1000 full-time equivalent in 2008 to 16 cases in 2008. The number of professional accidents covered by the SUVA (the Swiss National Accident Insurance Fund) is fairly stable, at about 78, except for 2010 (110 cases).
Questions regarding sustainability were first asked in the second edition. Results were positive and encouraging on operational issues like waste management or transportation. However, results were disappointing in terms of communication, as only 63% of employees considered themselves as informed on campus sustainability actions. Serious efforts need to be made to inform the community.

57% of employees participated in ATMOS II (51% in 2004), which can be considered very satisfying. EPFL was characterized by an overall satisfaction rating of 4.7 out of 6, which means that 90% of respondents are satisfied with their job and their working environment. Results show a clear improvement compared to 2004. The main gains were experienced in priorities set by the Presidency and in the teaching and research strategy, which seem better understood.

Two job satisfaction surveys were carried out at EPFL: ATMOS I in 2004, the first of its kind in the Swiss academic world, and ATMOS II in June 2012. These surveys provide a means for assessing employees’ experience based on a wide range of perspectives, including diversity, gender equality, participation, and sustainability. They provide valuable insights for Human Resources to further develop and adapt the staff policy. The objective of the second survey was to assess evolving expectations and identify the current and recurring problems.
**Society and Outreach Goals** according to the Convention of Objectives with ETH Board 2013-16

- Reinforce the dialogue between scientific, political, and economic communities, as well as with society, in order to promote a more attractive image of the engineer, to defend the value of scientific research, and to contribute to the public debate on the challenges of society and technological stakes.

- Pursue and reinforce science promotion activities for young people.

- Organize a general public event once a year to create public debate on an actual theme and to attract the population on campus.

- Reinforce the multicultural openness, international partnerships, and relationships, as well as an increased presence in the world.

**Providing Specific Public Services**

Alongside its core responsibilities of education, research, and technology transfer, EPFL directs its scientific and technical expertise to a number of public service tasks on behalf of the federal government.

An important role of EPFL Centers is to inform the Swiss policy-makers and the general public about emerging challenges, such as energy, transportation, nanotechnologies, etc. The EPFL Energy Center organizes various conferences all year long. In addition, it launched in 2007 the Roundtable for Sustainable Biomaterials (RSB), a leading multi-stakeholder initiative that supports the development of sustainable biofuels. Since January 2013, the RSB has become an independent organization and a world reference in biofuel sustainability. The Energy Center also represents EPFL, and even Switzerland, within national and international bodies active in the energy arena, such as the Federal Energy Research Commission (CORE), Competence Center for Energy and Mobility (CCEM), Electrosuisse, Centre de Recherches Énergétiques et Municipales de Martigny (CREM), The Ark Energy Foundation Canton Valais, the International Energy Agency (IEA), and the STS Forum.

EPFL has a strong program for promoting science. The Communications Team organizes more than 1,200 events each year (exhibitions and conferences), with a large portion open to the public. About 1,500 press clippings are released each year. The number of scholarly events related to environment and sustainability is around 50 each year. Among the highlights were Al Gore’s conference in October 2013 on the six drivers for global change in the future and Dame Julia King’s conference entitled “Climate Change: Challenge & Opportunity” in April 2013.

In a more informal and accessible format, Science Cafés entitled “Science! on tourne” have been organized since February 2012. Once a month, one or more researchers are interviewed and filmed on a current issue in the public area of the Rolex Learning Center. Themes discussed often include sustainability issues such as One Year Later: has Fukushima really changed the game?, Why don’t we see electric cars everywhere?, Future Cities: jam-packed or just right?, Technology will save the world... right?, Melting ice – a sublime drama.

In addition, EPFL supports and advises high-visibility projects such as Solar Impulse (solar flight around the world), which represent important symbolic landmarks for the public. Beyond the technological challenge, some of these projects have more far-reaching implications. The Solar Impulse project for instance sets out to promote maximum use of renewable energies in order to safeguard our planet’s sustainability.
RELATIONS WITH STAKEHOLDERS

EPFL holds an ongoing dialogue with all the stakeholders who influence its ability to fulfill its mandate, and who are influenced by EPFL’s operations or its “products” in terms of students, ideas, and technology.

Internal stakeholders

Internal stakeholders (as defined by the ETH Board and EPFL) are students, assistant professors, professors, scientific, administrative, and technical staff.

Satisfaction surveys, called ATMOS, are conducted at EPFL in order to evaluate employees’ commitment in terms of satisfaction with EPFL’s overall strategy and implementation, motivation for professional activity, and job satisfaction. They are designed to strengthen dialogue at all levels, promote innovation, and improve personal commitment. Two satisfaction surveys were conducted, the first one in 2004 and the second in 2012.

On the same basis, surveys are conducted in order to evaluate Bachelor and Master students’ satisfaction (CAMPUS survey) and PhD students’ satisfaction (DOCTORANT survey). The latter was carried out again in 2012 and revealed an encouraging level of satisfaction of the doctoral students.

Strong national and international relationships

EPFL has developed relationships with many stakeholders, at the national and international level. It is primarily through relationships developed by its scientists that EPFL engages with international networks, associations, and federal commissions. Tailored partnerships are also developed with industry leaders encompassing research collaboration, technology transfer, visits, and exchanges of key personnel. In addition, two Public Affairs Officers represent EPFL: one at the Swiss Parliament and one at the European.

At the federal level, EPFL maintains collaborations with the six institutions of the ETH Domain and Federal Offices. The “DIALOGUE” are annual talks between the ETH Board and the EPFL Executive Board and they provide a forum for discussing matters about stakeholders.

EPFL has a particularly privileged relationship with its neighbor, the University of Lausanne. The numerous collaborations concern teaching (e.g. exchange of teaching hours), research (e.g. technological platforms), and campus development (e.g. sport center, mobility plan). In light of a collaborative approach, the development of the University of Lausanne and of EPFL are closely interconnected.

Cooperation between EPFL and Swiss universities of applied sciences and research institutes supported by the Confederation has considerably increased in the past four years, both with the original partners (Universities of Lausanne and Geneva) as well as with institutions beyond the Lake Geneva area (Neuchâtel, Bern, Basel, Zurich, Valais, etc.).

Additionally, EPFL is involved in the inter-university coordination conducted by the Rectors’ Conference of Swiss Universities (CRUS). Among its major projects, the CRUS is responsible for the implementation of the Bologna process in Swiss universities.

EPFL is also asserting its role as ambassador of Switzerland by building partnerships with Swiss diplomacy to promote the country’s strengths in science and technology outside narrow research circles. These partnerships include those with the “Presence Switzerland” organization, as well as with the “Swissnex” network of consular outposts specializing in science, education, art, and innovation.
### INTERNAL ENGAGEMENT

<table>
<thead>
<tr>
<th>Students</th>
<th>Representation in EPFL Assembly (13 meetings per year), Campus and Doctorant survey (every 6 years), course evaluation (every semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>Representation in EPFL Assembly (13 meetings per year), ATMOS survey (every 6 years)</td>
</tr>
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### EXTERNAL ENGAGEMENT

<table>
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<tr>
<th>Former students, alumni</th>
<th>A3-EPFL Association (on-going involvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future students</td>
<td>Visiting days for secondary schools (twice a year), programs for promotion of science for children, especially girls (6 weekly workshops, 40 one-day workshops, bus tour “Les Sciences ça m’intéresse” in western Switzerland during 15 weeks)</td>
</tr>
<tr>
<td>International networks</td>
<td>ISCN, GULF, RESCIF, EUroTech, CLUSTER, TIME, CESAER, EAU, AUF, SEFI (regular involvement throughout the school year)</td>
</tr>
<tr>
<td>Industries</td>
<td>Tailored partnerships: research collaborations, technology transfers, visits, and exchange of key personnel. VPIV Innovation Network, Innovation Square, Science Park, Forum, Alliance, Sections’ Advisory Committees, Future network</td>
</tr>
<tr>
<td>ETH Board</td>
<td>Dialogue two-day meetings (annual talks between the ETH Board and the institutions)</td>
</tr>
<tr>
<td>ETH Domain</td>
<td>EPFLZ, EMPA, PSL, WSL, EAWAG (regular meetings throughout the school year)</td>
</tr>
<tr>
<td>Higher Education Institutions of western Lausanne Commission (COH)</td>
<td>4 meetings per year</td>
</tr>
<tr>
<td>University of Lausanne</td>
<td>Executive boards meeting (twice a year), Neighbor Day: day of dialogue between EPFL and UNIL staff (annually)</td>
</tr>
<tr>
<td>Universities of Applied sciences Western Switzerland</td>
<td>1 annual meeting with the Direction</td>
</tr>
<tr>
<td>Federal Offices</td>
<td>RUMBA: annual reporting of environmental statistics</td>
</tr>
<tr>
<td>Canton Vaud</td>
<td>1 annual meeting Executive Board and Canton Board</td>
</tr>
<tr>
<td>Canton Valais, Neuchâtel, Genève</td>
<td>Integration in steering committees of EPFL new outposts</td>
</tr>
<tr>
<td>City of Lausanne</td>
<td>1 annual meeting Executive Board and City Board</td>
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<tr>
<td>Agglomeration</td>
<td>One annual meeting with the Town development plan team (SDOL) and participation in Higher Education project on urban planning and mobility</td>
</tr>
<tr>
<td>Research funding bodies</td>
<td>Swiss National Science Foundation: one representative at the Foundation Council, while EPFL Professor Martin Vetterli is President of the National Research Council Commission for Technology and Innovation; participation in commissions European research programs: creation of a Public Affairs Officer at the European Parliament</td>
</tr>
<tr>
<td>Clients, suppliers, sponsors, donors</td>
<td>EPFL Strategic Advisory Board, composed of high-profile external people and consulted for large-scale projects and fund raising. Also Advisory committees composed of external persons in some Schools.</td>
</tr>
<tr>
<td>General public</td>
<td>About 2,000 conferences held during the year, around 50 of them related to environment or sustainability</td>
</tr>
<tr>
<td>Media</td>
<td>Articles, conferences, seminars, press releases (on-going involvement)</td>
</tr>
</tbody>
</table>

### STRATEGIC PARTNERSHIPS IN EUROPE AND WORLDWIDE

EPFL has considerably developed and strengthened its international presence over the past ten years. In terms of visibility, the institution has become far more attractive to applying students, scientists, and professors worldwide. But the global reputation is also expressed through the many agreements and partnerships developed with the best international partners.

EPFL will continue to pursue and develop its contribution to international networks such as the Global University Leaders Forum (GULF), the International Sustainable Campus Network, which EPFL has been a member of since 2009, and the Réseau d’excellence des sciences de l’ingénieur de la Francophonie (RESCIF). RESCIF is a cooperative network developed under the sponsorship of EPFL, bringing together 14 French-speaking research universities in Europe, Canada, Africa, the Middle East, and Vietnam. Its focus is on promoting collaborative scientific programs, especially in the areas of water, nutrition, and energy management.

In addition, EPFL is a member of twelve academic networks dealing mainly with education. These networks are useful to promote the mobility of students and professors, to collect information on higher education, and to increase EPFL’s visibility.
ETHICAL CONDUCT IN ALL ACTIVITIES

EPFL is a publicly funded institution with an excellent reputation to uphold. It is fundamental that it operates under high ethical standards, regarding both internal operations and research activities.

The EPFL Ethics Commission is the first element of its compliance structure. Composed of 12 members, of whom four are external to EPFL, it is an advisory body for the Executive Board regarding ethical behavior and integrity. Created in 2000, the Ethics Commission carries out reflections and communication on ethics at EPFL. It contributed to establish several policies and procedures, including the EPFL Charter of Ethics (2000) and the Directives concerning whistleblowing (2008).

In terms of rules regarding internal operations and applying to all faculty and staff, EPFL follows the principles and values defined in its Charter of Ethics. Appropriate Directives (2005) are intended to avoid and deal with any conflicts of interest that may result from interactions with the industry, the economy, and other institutions. In case of breach of internal regulations, Directives allow EPFL members to report any serious misconduct and ensure the protection of the whistleblower.

Regarding ethical responsibilities in research, the Guidelines for Research Integrity and Good Scientific Practice (2009) define the authoritative rules that apply to all researchers at EPFL in all disciplines. They are mainly intended to serve as guiding principles for the planning, execution, presentation, and assessment of research work at EPFL. An appropriate internal procedure dating from 2009 enables to confront and deal rapidly with any allegations of scientific misconduct on the part of a member of the EPFL community. The General Counsel is responsible for handling suspected scientific fraud and issuing penalties. In November 2013, the EPFL Human Research Ethics Committee was established to ensure that projects involving non-invasive human research are designed in compliance with fundamental ethical principles.

EPFL adheres to the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, which include general principles that specify the role, rights, and obligations of researchers and the authorities that recruit them. The precautionary principle is addressed in the EU Charter for Researchers and risk management procedures.

Students are also committed to respect the Honor Code, a text referring to the EPFL Ethical Charter that underlines their ethical responsibilities. EPFL introduced a plagiarism awareness course to PhD students in 2012 and plagiarism detection software has been provided to professors in case of suspicion. From 2013, all PhD and Master’s thesis are checked with this software by EPFL Educational Affairs.

These initiatives demonstrate EPFL’s commitment to upholding strong values and ensuring responsible management. All these Directives and Charters are available on the Internet.
Funding and procurement goals according to the Convention of Objectives with ETH Board 2013-16

The funding proportion of second- and third-party funding should be one-third of the overall funding by 2016.

Pursue measures aimed at enhancing efficiency in terms of procurement.

Realize a saving of 10% over procurement costs by 2016.

FEDERAL AND THIRD-PARTY FUNDING

As a national institution with a mandate for research, education, knowledge, and technology transfer, EPFL is to a large extent financed by the Swiss Federal government. In 2012 and 2013, EPFL received a regular budget of 575 and 628 million CHF. This federal contribution represents 73% of the EPFL total budget in 2013 (72% in 2012). Each year, it is assigned to EPFL under the terms of a four-year performance mandate from the Federal Council and on the basis of targets agreed upon with the ETH Board.

The EPFL resources allocated by the Confederation are one key component of its budget. However, third-party funding has steadily grown over the years, increasing by 69% between 2006 and 2013, compared to 32% for the federal contribution. In 2013, 60% of this third-party funding came from European or Swiss research programs such as the Swiss National Science Foundation (SNSF) and the Swiss Commission for Technology and Innovation (CTI). The remaining came from industry funding and other non-profit entities (fondations, local governments). Third-party funding contributed 231 million CHF or about 27% of the overall funding in 2013. The ambitious goal of 33% set in the Convention of Objectives with ETH Board 2013-2016 has not yet been reached.
FUND ALLOCATIONS AND EXPENDITURES

One of EPFL’s greatest expenses is personnel costs. In 2012 and 2013, they reached 557 and 577 million CHF, or about 69% and 67% of overall expenditures. Other significant expenditures included spending approximately 22% (172/191 million CHF) on operation, and 11% (75/91 million CHF) on investments. According to the cost accounting system, about 30% of resources are dedicated to education, the rest being mainly allocated to research and innovation.

The total EPFL expenditures continuously increased from 2006 to 2013, proportionately to the growth of staff and students. Personnel (all staff considered) and operation costs steadily increased during the same period (about 45% increases), while investments (mainly expenditures for construction) remained more or less stable, with exceptions in 2008, when construction expenditures were unusually high, and in 2010, when they were unusually low.

Regarding sustainability, energy contracts were renegotiated in 2012 and a supplementary budget was provided to purchase electricity produced from 100% renewable sources. The same year, the renovation of buildings was also integrated into the regular budget.

INDIRECT ECONOMIC IMPACTS

Indirect economic impacts generated by EPFL are significant but difficult to quantify. The presence of EPFL has a multiplier effect on local and national economies. This includes the role of EPFL in attracting and creating firms, its capacity to reverse the “brain drain” by drawing leading researchers to Switzerland, and bringing significant positive benefits to the local economy through the hotel industry and job market.

As one of the top ten employers in the French part of Switzerland, EPFL significantly contributes to the region’s prosperity through its total payroll. Students also bring added value by means of their housing, purchasing and traveling. In addition, the strong construction and maintenance activities on campus during the last 40 years have contributed to the growing numbers of companies and services around the campus. To promote continued positive impacts on the economy, the Vice-President for Technology Transfer has launched several initiatives aimed at promoting links between EPFL and the business world, as well as at developing a dynamic regional center of innovation.

PROCUREMENT PRACTICES

The Strategic Procurement Office was created in 2011 with the mission to centralize and optimize the procurement management. This strategy is a driver for value creation to support teaching and research activities. Centralization is also a key advantage for sustainability as it leads to economies of scale and facilitates greater cooperation and collaboration. In 2012 and 2013, the Procurement Office implemented a procurement strategy in order to identify EPFL strategic suppliers and potentials for optimization and savings. The focus was on professionalizing the procurement staff and building a new procurement structure. The Procurement Office achieved an average of 10% cost reduction on expenditures for which it is responsible. This systematic approach still needs to be pursued in all procurement categories throughout EPFL. Embedding sustainability in the procurement process is still ongoing, like Green IT for instance.

EPFL suppliers are primarily located in Switzerland. Their sustainability performance is currently not screened when signing a contract, but several social and environmental questions are gradually integrated to tendering processes as a selection criterion, such as was the case for the gas procurement tender in 2013.

Human rights clauses are integrated in agreements with general contractors, particularly regarding moonlighting, but there is no data on screenings undertaken.

RESPONSIBLE FINANCIAL MANAGEMENT

The Planning and Finance Department, reporting to the Vice-President for Planning and Logistics, is in charge of financial planning, budgetary strategy, strategic control of planning objectives, and establishment of strategic rationale for the federal agencies and parliamentary circles. In collaboration with the School’s finance managers, the Financial Service Department, coordinated by the Chief of Finances, assumes the management and control of accounting operations. It ensures that reports are issued to the ETH Board and the Executive Board, defines and implements financial standards and guidelines, and provides support and advice to users. EPFL has established an internal controlling system following the guidelines of the
Swiss Federal Audit Office. It covers all processes with a potential financial impact, such as purchasing and payroll. It is an important management instrument, together with the risk management schemes in place. This monitoring is completed by two external oversight bodies (ETH Board and Federal Finance Administration).

With the added flexibility given to the institutions in terms of treasury and cash management, EPFL has implemented an advisory board with members external to the university in order to define the investment strategy and supervise asset management.

RISK MANAGEMENT

The ETH Board’s Directives concerning risk management (2004) define the risk management principles applicable to the EPFs and research establishments. Each institution is responsible for managing the risks that arise in each of their respective fields, including financial risks. Thus, the Presidents of the two Federal Institutes of Technology and the Directors of the four research institutes bear ultimate responsibility for risk management in their respective institutions.

Regulations concerning risk management were established in 2010 and revised in October 2013. They defined the organization of Risk Management (RM) at EPFL, the organization and decision-making powers of the Risk Management Committee (CRM) and of the seven committees attached to the latter.

The Risk Management Committee reviews at least once a year the development of risk analyses originating from various databases, including the financial risk register in order to limit incidents of corruption.

In 2013, a comprehensive risk management system was launched in each EPFL vice-presidency. The objective was to identify risks and opportunities associated to each risk domain and establish a risk register that includes a mitigation action plan. Workshops were held throughout the institution and attended by each leader of the different EPFL divisions and departments. The objective was to evaluate and monitor the necessary adjustments to be made to ensure the University’s evolution, in terms of organization, resources and processes. Results will be presented to the Direction in 2014 and updated every year in autumn. The Sustainability Office participated in the risk analysis process, drawing attention to cross-cutting risks.

ACCOUNTABILITY AND PERFORMANCE

As an institution with a Swiss federal mandate and the majority of funding coming from the Swiss Confederation, EPFL is accountable to the government. EPFL forms part of the ETH Domain, a strategic management body which also incorporates a second Federal Institute of Technology, ETH Zurich, and four national research institutes (PSI, WSL, EMPA, and EAWAG). It is the ETH Board’s responsibility, (elected by the Swiss Federal Council) to provide leadership for the ETH Domain. The responsibilities, structure and tasks are regulated in the ETH Act, the ETH Domain’s legal foundation.

The ETH Board consists of the presidents of ETH Zurich and EPFL, the director of one of the research institutes, one member nominated by the School assemblies, and up to seven other members, including the Board’s President and Vice-President. In 2012, two women and one man were inducted onto the board, making the current gender composition four women and seven men.

Every four years, the Swiss Federal Council and the Parliament issue a performance mandate to the ETH Domain, which sets out the strategic goals for the next four years. The latest performance mandate was issued for the 2013-2016 period. The ETH Board is responsible for the execution and implementation of that mandate, the definition of the ETH Domain’s four-year strategy, and the allocation of federal funds to its six institutions. The ETH Board annually reports to the Federal Council on the degree of target achievement. During the annual reporting period, the institutions inform the ETH Board of their accomplishments with respect to the Confederation’s performance mandate and the Convention of objectives between the ETH Board and each institution. This includes aspects regarding economic, environmental, and social performance. The annual credit allocation from Parliament is provided in light of the ETH Domain’s performance. Based on this decision, the ETH Board agrees upon objectives and funding allocations across the six institutions, prepares an annual budget, and accounts for approval by Swiss Parliament. At the end of the four years reporting period, the ETH Board submits a final performance report to the Swiss Federal Council that includes the results of a midterm evaluation. Both the midterm review and the final performance report serve as basis for the next performance mandate. In addition, the ETH Domain is evaluated by external experts every four years.

Operational management of the ETH Domain’s institutions is the responsibility of the two Federal Institutes of Technology and the four research institutes.

EPFL also produces annual reports for the public. The first sustainability report based on the Global Reporting Initiative (GRI) was published in 2012.
GOVERNANCE STRUCTURE

A major change occurred in EPFL governance structure in September 2012, with the creation of a new Vice-Presidency for Information Systems, as these have become key elements for EPFL development. The EPFL Executive Board is now led by a President and four Vice-Presidents: Academic Affairs, Planning and Logistics, Technology Transfer and Information Systems. The Secretary General coordinates the activities of the Executive Board. The General Counsel acts as legal adviser and is responsible for risk management on an institutional level. They both participate in EPFL executive meetings in an advisory capacity for matters that concern them.

In terms of research and education, EPFL is structured into five Schools and two colleges.

Each School consists of Education Programs (“sections”) and Research Institutes. Institutes are comprised of chairs (academic level) and laboratories (technological level). They are responsible for teaching, research, and outreach to academic, industrial and public community in one of the School’s scientific domains. Centers for Transdisciplinary Research, which are scientific and technological infrastructures serving the Institutes and Education Programs, and are dedicated to teaching and conducting research, report to the Vice-President for Technology Transfer.

The bodies of each School are the School Board and the School Council. The School Board comprises a Dean and a varying number of members. The School Council pays particular attention to information and participation in the School’s four bodies: professors, administrative and technical staff, scientists, and students.

Funding is primarily federal, and by law, EPFL is a public institution, autonomous, established under public law and with its own legal personality (Art. 5 HT Act). This status allows EPFL to effectively execute its mission that focuses on education, research, and technology transfer. EPFL’s organization is autonomously led in the areas of academia, internal finance, and staffing.

EVALUATION OF SCHOOLS AND COLLEGES

EPFL has a Quality Assurance system with two facets. On the one hand, Bachelor and Master Educational Programs now have dual accreditation: the OAQ standard, a quality management standard which has been adapted to the federal context by the Swiss Center of Accreditation and Quality Assurance (OAQ), and the CTI standard, developed by the French Engineering Titles Commission (CTI), as well as the European label for engineering programs EUR-ACE. On the other hand, an evaluation cycle for Schools and colleges forms an integral part of Quality Assurance in the ETH domain, with the ETH Board as the monitoring body. The evaluation, based on the peer review principle, differs from the accreditation since it scrutinizes all the services provided by the unit: teaching, research, transfer of knowledge and technologies, as well as innovation. It also assesses the School’s leadership and management, as well as its visions and strategies, and their implementation.

PARTICIPATION OF GROUPS

The EPFL Assembly (AE) is the highest participatory body. Constituted on the basis of equal representation, it is entitled to make proposals concerning all the normative acts of the EPFL Executive Board, the budget and planning, the creation or abolition of teaching and research units and the participation structures. The AE also comments on the strategic planning reports of the ETH board and of EPFL. It ensures participation within the various EPFL units.
The AE is consulted before the EPFL Executive Board or EPF Board makes decisions of general interest. It consists of 16 members elected within each group of persons: four faculty members, four PhD students or scientific staff members, four students and four administrative or technical staff members.

A Delegate, who is currently a member of ETH Zurich, represents both School Assemblies (EPFL and ETH Zurich) within the ETH Board. The communication between the AE and its Delegate Board is ensured by the latter, who is a permanent guest at both School Assemblies. The latter holds discussions on a regular basis with the members of the EPFL Executive Board, and a delegate of the EPFL Executive Board is invited at each plenary meeting of the AE to communicate the Executive Board’s recent decisions and to assure an exchange of information.
GRI and ISCN Indices

ON THE EPFL SUSTAINABILITY REPORT 2012-2013

In an effort to transparently communicate progress made and future targets, this sustainability report was developed to incorporate both EPFL’s annual reporting under the ISCN-GULF Sustainable Campus Charter and the Global Reporting Initiative (GRI) guidelines for sustainability reporting. The GRI is a nonprofit, multi-stakeholder organization that strives to provide companies with a systematic basis for disclosure regarding sustainability performance. Its framework provides the means for facilitating comparison and understanding of disclosed information.

This report’s structure integrates both ISCN-GULF and GRI reporting into one comprehensive sustainability report. It was modeled on the ETH Zurich Sustainability Report 2011-2012 that integrated both reports for the first time. This makes its reading more straightforward and avoids some duplication and overlap. The report covers EPFL’s sustainability performance over the course of years 2012 and 2013. When available and relevant, comparisons with previous years were included.

The EPFL Sustainability Report 2012-2013, together with this GRI-Index, fulfills the requirements of the GRI-G3 reporting guidelines at Application Level B. This was checked and confirmed by GRI on June 30, 2014.

This index document provides the reader with references to where in the Sustainability Report 2012-2013 topics mentioned in ISCN-GULF and GRI reporting guidelines are discussed. While ISCN-GULF Charter Reporting guidelines were developed specifically for sustainability reporting by universities and most of the topics mentioned in these guidelines are covered in the report, GRI reporting guidelines are intended for use by organizations in very different sectors and are thus less fully applicable to sustainability disclosures in higher education. This means that it was neither possible nor meaningful to incorporate every GRI performance indicator into this report’s format.

To focus our sustainability reporting on the most pertinent issues, we conducted a systematic assessment of the relevance or “materiality” of all indicators in the GRI framework for our reporting. To achieve this, all GRI performance indicators were assigned as possible content for one of the chapters in our sustainability report section. The importance of each of those indicators was assessed from our external stakeholders’ and our internal organization’s perspectives during five dedicated workshops. Indicators that were found to be relevant both from an external and internal viewpoint form the core of our report’s sustainability section. The indicators reported on are discussed to the extent that data was available.
Statement
GRI Application Level Check

GRI hereby states that Ecole Polytechnique Fédérale de Lausanne (EPFL) has presented its report “EPFL Sustainability Report 2012-2013” to GRI’s Report Services which have concluded that the report fulfills the requirement of Application Level B.

GRI Application Levels communicate the extent to which the content of the G3 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines. For methodology, see www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 30 June 2014

Ásthildur Hjaltadóttir
Director Services
Global Reporting Initiative

The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world’s most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. www.globalreporting.org

Disclaimer: Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 30 June 2014. GRI explicitly excludes the statement being applied to any later changes to such material.
1. ISCN-GULF Charter reporting reference index

This is the third ISCN-GULF Charter report by EPFL.

The following reference tables provide information directly in the table or point to chapter titles and pages in the sustainability report.

### Introduction and Profile

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<th>EPFL</th>
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### PRINCIPLE 1: TO DEMONSTRATE RESPECT FOR NATURE AND SOCIETY,
SUSTAINABILITY CONSIDERATIONS SHOULD BE AN INTEGRAL PART OF PLANNING, CONSTRUCTION, RENOVATION, AND OPERATION OF BUILDINGS ON CAMPUS.

A sustainable campus infrastructure is governed by respect for natural resources and social responsibility, and embraces the principle of a low-carbon economy. Concrete goals embodied in individual buildings can include minimizing environmental impacts (such as energy and water consumption or waste), furthering equal access (such as nondiscrimination of the disabled), and optimizing the integration of the built and natural environments. To ensure buildings on campus can meet these goals in the long term and in a flexible manner, useful processes include participatory planning (integrating end-users such as faculty, staff, and students) and life-cycle costing (taking into account future cost-savings from sustainable construction).

### MANAGEMENT APPROACH PRINCIPLE 1

Management approaches related to the Principle 1 topics covering resource use, waste, recycling and emissions, and building design aspects are described within the Environmental GRI Disclosures on Management Approach (DMA) included in this document in addition to descriptions in the Environment chapter of the EPFL Sustainability Report 2012-2013, on page 40.

<table>
<thead>
<tr>
<th>Resource use</th>
<th>Goals</th>
<th>Initiatives and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy consumption</td>
<td>Energy, 22</td>
<td>Energy, 22</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Energy, 22</td>
<td>Energy, 22</td>
</tr>
<tr>
<td>Building efficiency</td>
<td>Initiatives for green buildings, 25</td>
<td>Initiatives for green buildings, 25</td>
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<tr>
<td>Water</td>
<td>Goals to be evaluated in master planning 2014-2016</td>
<td>Water use, 30</td>
</tr>
<tr>
<td>Material consumption</td>
<td>Goals to be evaluated in master planning 2014-2016</td>
<td>Products and services, 30</td>
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<tr>
<td>Waste, recycling, local emissions, and non-compliance</td>
<td>Waste and recycling, 28</td>
<td></td>
</tr>
<tr>
<td>Building design aspects</td>
<td>Initiatives for green buildings, 25</td>
<td>Initiatives for green buildings, 25</td>
</tr>
</tbody>
</table>
**PRINCIPLE 2: TO ENSURE LONG-TERM SUSTAINABLE CAMPUS DEVELOPMENT, CAMPUS-WIDE MASTER PLANNING AND TARGET-SETTING SHOULD INCLUDE ENVIRONMENTAL AND SOCIAL GOALS.**

Sustainable campus development needs to rely on forward-looking planning processes that consider the campus as a whole, and not just individual buildings. These processes can include comprehensive master planning with goals for impact management (for example, limiting use of land and other natural resources and protecting ecosystems), responsible operation (for example encouraging environmentally compatible transport modes and efficiently managing urban flows), and social integration (ensuring user diversity, creating indoor and outdoor spaces for social exchange and shared learning, and supporting ease of access to commerce and services). Such integrated planning can profit from including users and neighbors, and can be strengthened by organization-wide target-setting (for example, greenhouse gas emission goals). Existing low-carbon lifestyles and practices within individual campuses that foster sustainability, such as easy access for pedestrians, grey water recycling, and low levels of resource use and waste generation, need to be identified, expanded, and disseminated widely.

**MANAGEMENT APPROACH PRINCIPLE 2**

Management approaches related to the Principle 2 topics covering institution-wide carbon targets, and transportation aspects are described within the Environmental DMA included in this document in addition to descriptions in the Environment chapter on page 40. Management approaches related to the Principle 2 topic covering social inclusion and protection are described within the Human Rights and Labor Practices and Decent Work DMA’s in this document in addition to descriptions in the Students Faculty and Staff chapter, on page 33.

<table>
<thead>
<tr>
<th>Institution-wide carbon targets</th>
<th>Goals</th>
<th>Initiatives and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG emissions</td>
<td>GHG emissions, 23</td>
<td>GHG emissions, 23</td>
</tr>
</tbody>
</table>

**Transportation**

| Commuting                       | Transportation initiatives, 26 | Transportation initiatives, 26 |
| Business travel                 | Transportation initiatives, 26 | Transportation initiatives, 26 |

**Social inclusion and protection**

| Diversity                       | Gender diversity, 35          | Students, faculty and staff, 33 |

**Land-use and biodiversity**

| Biodiversity preservation       | Maintain quality seal status  | Biodiversity, 31 |
**PRINCIPLE 3:** TO ALIGN THE ORGANIZATION’S CORE MISSION WITH SUSTAINABLE DEVELOPMENT, FACILITIES, RESEARCH, AND EDUCATION SHOULD BE LINKED TO CREATE A “LIVING LABORATORY” FOR SUSTAINABILITY.

On a sustainable campus, the built environment, operational systems, research, scholarship, and education are linked as a “living laboratory” for sustainability. Users (such as students, faculty, and staff) have access to research, teaching, and learning opportunities regarding connections between environmental, social, and economic issues. Campus sustainability programs have concrete goals and can bring together campus residents with external partners, such as industry, government, or organized civil society. Beyond exploring a sustainable future in general, such programs can address issues pertinent to research and higher education (such as environmental impacts of research facilities, participatory teaching, or research that transcends disciplines). Institutional commitments (such as a sustainability policy) and dedicated resources (such as a person or team in the administration focused on this task) contribute to success.

**MANAGEMENT APPROACH PRINCIPLE 3**

Management approaches related to the Principle 3 topics covering topical integration and social integration aspects are described within the Product Responsibility, Society, and Labor Practices and Decent Work DMA’s included in this document, in addition to descriptions in the following chapters: Education page 9, Research page 13, Society and Outreach page 43.

<table>
<thead>
<tr>
<th>Topical integration</th>
<th>Goals</th>
<th>Initiatives and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education programs related to sustainability</td>
<td>Education, 9</td>
<td>Education, 9</td>
</tr>
<tr>
<td>Sustainability research projects</td>
<td>Research, 13</td>
<td>Research on sustainability issues, 13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social integration</th>
<th>Goals</th>
<th>Initiatives and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and technology transfer</td>
<td>Knowledge and technology transfer, 17</td>
<td>Knowledge and technology transfer, 17</td>
</tr>
<tr>
<td>Campus community engagement</td>
<td>Educate campus community on campus sustainability</td>
<td>Students associations and activities, 31</td>
</tr>
<tr>
<td>External dialogues supporting sustainability</td>
<td>Society and Outreach, 43</td>
<td>Society and Outreach, 43</td>
</tr>
</tbody>
</table>
2. GRI Content Index

To help readers locate specific GRI-related information, this GRI-Index provides an overview of the main GRI elements discussed in this report, including: Economic (EC), Environmental (EN), Human Rights (HR), Labor (LA), Society (SO), and Product Responsibility (PR) performance indicators, as well as Disclosures on Management Approach (DMA) to these topics. The detailed content table below shows the location of Profile Disclosure, Management Approach Disclosure, and Performance Indicators within the EPFL Sustainability Report 2012 to 2013. If nothing is specified, this means the indicator was not found particularly material.

### PROFILE

<table>
<thead>
<tr>
<th>1</th>
<th>STRATEGY AND ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Statement from the most senior decision-maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy</td>
</tr>
<tr>
<td>1.2</td>
<td>Description of key impacts, risks and opportunities (impacts of the organization on sustainability and stakeholders, and impacts of sustainability trends on long-term prospects and financial performance of the organization)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>ORGANIZATIONAL PROFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Name of the organization</td>
</tr>
<tr>
<td>2.2</td>
<td>Primary brands, products, and/or services</td>
</tr>
<tr>
<td>2.3</td>
<td>Operational structure of the organization</td>
</tr>
<tr>
<td>2.4</td>
<td>Location of organization’s headquarters</td>
</tr>
<tr>
<td>2.5</td>
<td>Number of countries where the organization operates</td>
</tr>
<tr>
<td>2.6</td>
<td>Nature of ownership and legal form</td>
</tr>
<tr>
<td>2.7</td>
<td>Markets served</td>
</tr>
<tr>
<td>2.8</td>
<td>Scale of the reporting organization, including number of employees, net sales, total capitalization, quantity of products or services provided</td>
</tr>
<tr>
<td>2.9</td>
<td>Significant changes during the reporting period regarding size, structure, or ownership</td>
</tr>
<tr>
<td>2.10</td>
<td>Awards received in the reporting period</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>REPORT PARAMETERS</th>
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</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Reporting period</td>
</tr>
<tr>
<td>3.2</td>
<td>Date of most recent previous report</td>
</tr>
<tr>
<td>3.3</td>
<td>Reporting cycle</td>
</tr>
<tr>
<td>3.4</td>
<td>Contact point for questions regarding the report or its contents</td>
</tr>
</tbody>
</table>
### REPORT SCOPE AND BOUNDARY

<table>
<thead>
<tr>
<th>Section</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>Process for defining report content, including explanation of how the organization has applied the 'Guidance on Defining Report Content' and the associated Principles. In defining priority topics for the report, EPFL followed the provisions laid out in the “materiality” section of the “Reporting Principles for Defining Content” in the GRI guidelines. The “test questions” provided there formed the basis of the materiality assessment procedure which is also described in “On the EPFL Sustainability Report”, p. 55. Topics found material both from a stakeholder and international strategic point of view form the core of EPFL Sustainability Report. The stakeholders that the Sustainability Report is intended for are EPFL internal and external partners, as listed in the table on page 44-45.</td>
</tr>
<tr>
<td>3.6</td>
<td>Boundary of the report. On the EPFL sustainability report, 55 Major changes in systems limitations and energy reporting.</td>
</tr>
<tr>
<td>3.7</td>
<td>Specific limitations on the scope or boundary of the report, if any. There were no specific limitations.</td>
</tr>
<tr>
<td>3.8</td>
<td>Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations. On the EPFL sustainability report, 55.</td>
</tr>
<tr>
<td>3.9</td>
<td>Data measurement techniques and bases for calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report. On the EPFL sustainability report, 55.</td>
</tr>
<tr>
<td>3.10</td>
<td>Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement. No significant re-statements.</td>
</tr>
<tr>
<td>3.11</td>
<td>Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report. Major changes in systems limitations and energy reporting.</td>
</tr>
</tbody>
</table>

### GRI CONTENT INDEX

<table>
<thead>
<tr>
<th>Section</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.12</td>
<td>Table identifying the location of the Standard Disclosures in the report. This detailed content’s index.</td>
</tr>
</tbody>
</table>

### ASSURANCE

<table>
<thead>
<tr>
<th>Section</th>
<th>Text</th>
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</thead>
<tbody>
<tr>
<td>3.13</td>
<td>Policy and current practice with regard to seeking external assurance for the report. No assurance was sought from third parties.</td>
</tr>
</tbody>
</table>

### 4 GOVERNANCE, COMMITMENTS, AND ENGAGEMENT

#### GOVERNANCE

<table>
<thead>
<tr>
<th>Section</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight. Governance structure, 50 Accountability and performance, 49.</td>
</tr>
<tr>
<td>4.2</td>
<td>Indicate whether the Chair of the highest governance body is also an executive officer and, if so, their function within the organization’s management and the reasons for this arrangement. This is not the case. The strategic lead of the ETH Domain, of which EPFL is part, is under the responsibility of the ETH Board. The ETH Board’s president has no executive function within EPFL.</td>
</tr>
<tr>
<td>4.3</td>
<td>For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members. This is not the case. There are two boards: the ETH Board and EPFL’s Executive Board.</td>
</tr>
<tr>
<td>4.4</td>
<td>Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body. Relations with stakeholders, 44 Governance structure, 50.</td>
</tr>
<tr>
<td>4.5</td>
<td>Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization’s performance (including social and environmental performance). Since EPFL is a non-profit institution there is no linkage between the remuneration of the Executive board and the university’s performance.</td>
</tr>
</tbody>
</table>
4.6 Processes in place for the highest governance body to ensure conflicts of interest are avoided

4.7 Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization’s strategy on economic, environmental, and social topics

4.8 Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation

4.9 Procedures of the highest governance body for overseeing the organization’s identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles

4.10 Processes for evaluating the highest governance body’s own performance, particularly with respect to economic, environmental, and social performance

COMMITMENTS TO EXTERNAL INITIATIVES

4.11 Explanation of whether and how the precautionary approach or principle is addressed by the organization

4.12 Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses

4.13 Memberships in associations (such as industry associations) and/or national/international advocacy organizations

STAKEHOLDER ENGAGEMENT

4.14 Stakeholder groups engaged by the organization

4.15 Basis for identification and selection of stakeholders with whom to engage

4.16 Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group

4.17 Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting

5 MANAGEMENT APPROACHES AND PERFORMANCE INDICATORS

ECONOMIC

ASPECT: ECONOMIC PERFORMANCE

EC1 Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments

Partial: Funding and governance, 47
Providing specific public services, 43

EPFL is a national institution, largely financed by the Swiss National Government. As it is publically financed, EPFL does not have a mandate to make charitable financial contributions but provides services with public benefit which include and extend beyond its education and research mandate.

EC2 Financial implications and other risks and opportunities for the organization’s activities due to climate change

EC3 Coverage of the organization’s defined benefit plan obligations

Benefits plan, 40

EC4 Significant financial assistance received from government

Funding and governance, 47
### ASPECT: MARKET PRESENCE

**EC5** Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation

**EC6** Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation

**EC7** Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation

EPFL has no policy of discrimination for or against employees based on their nationality.

### ASPECT: INDIRECT ECONOMIC IMPACTS

**EC8** Development and impact of infrastructure investments and services provided primarily for public benefit

As a public University, our research and teaching is delivered primarily for public good.

Providing specific public services, 43

Indirect economic impacts, 48

**EC9** Understanding and describing significant indirect economic impacts, including the extent of impacts

Indirect economic impacts, 48

### ENVIRONMENTAL

#### ASPECT: MATERIALS

**EN1** Materials used by weight or volume

Partial: Products and services, 30

**EN2** Percentage of materials used that are recycled input materials

Partial: Products and services, 30

#### ASPECT: ENERGY

**EN3** Direct energy consumption by primary energy source

Energy consumption, 22

Total direct energy was 91 TJ in 2012 and 84 TJ in 2013. 35 TJ of oil was consumed in 2012 and 25 in 2013 while 55 TJ (2012) and 58 TJ (2013) of natural gas was purchased.

**EN4** Indirect energy consumption by primary source

Energy consumption, 22

Total indirect energy was 294 TJ in 2012 and 292 TJ in 2013

**EN5** Energy saved due to conservation and efficiency improvements

Energy consumption, 22

Initiatives for green buildings, 25

**EN6** Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives

Initiatives for green buildings, 25

**EN7** Initiatives to reduce indirect energy consumption and reductions achieved

Initiatives for green buildings, 25

Transportation initiatives, 26

#### ASPECT: WATER

**EN8** Total water withdrawal by source

Water use, 30

**EN9** Water sources significantly affected by withdrawal of water

**EN10** Percentage and total volume of water recycled and reused

Water use, 30

#### ASPECT: BIODIVERSITY

**EN11** Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

Partial: Biodiversity, 31

**EN12** Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas

**EN13** Habitats protected or restored

**EN14** Strategies, current actions, and future plans for managing impacts on biodiversity

Biodiversity, 31

**EN15** Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations
### ASPECT: EMISSIONS, EFFLUENTS, AND WASTE

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN16</td>
<td>Total direct and indirect greenhouse gas emissions by weight</td>
<td>GHG emissions, 23</td>
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<tr>
<td>EN17</td>
<td>Other relevant indirect greenhouse gas emissions by weight</td>
<td>GHG emissions, 23</td>
</tr>
<tr>
<td>EN18</td>
<td>Initiatives to reduce greenhouse gas emissions and reductions achieved</td>
<td>GHG emissions, 23</td>
</tr>
<tr>
<td>EN19</td>
<td>Emissions of ozone-depleting substances by weight</td>
<td></td>
</tr>
<tr>
<td>EN20</td>
<td>NO\textsubscript{x}, SO\textsubscript{x}, and other significant air emissions by type and weight</td>
<td>Partial: Air emissions, 25</td>
</tr>
<tr>
<td>EN21</td>
<td>Total water discharge by quality and destination</td>
<td>Water use, 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wastewater is discharged to sewer and is unmetered</td>
</tr>
<tr>
<td>EN22</td>
<td>Total weight of waste by type and disposal method</td>
<td>Waste and recycling, 28</td>
</tr>
<tr>
<td>EN23</td>
<td>Total number and volume of significant spills</td>
<td>No significant spills reported</td>
</tr>
<tr>
<td>EN24</td>
<td>Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally</td>
<td>Waste and recycling, 28</td>
</tr>
<tr>
<td>EN25</td>
<td>Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization’s discharges of water and runoff</td>
<td></td>
</tr>
</tbody>
</table>

### ASPECT: PRODUCTS AND SERVICES

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN26</td>
<td>Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation</td>
<td>Partial: Knowledge and technology transfer, 17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Products and services, 30</td>
</tr>
<tr>
<td>EN27</td>
<td>Percentage of products sold and their packaging materials that are reclaimed by category</td>
<td></td>
</tr>
</tbody>
</table>

### ASPECT: COMPLIANCE

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN28</td>
<td>Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations</td>
<td></td>
</tr>
</tbody>
</table>

### ASPECT: TRANSPORT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>EN29</td>
<td>Significant environmental impacts of transporting products and other goods and materials used for the organization’s operations, and transporting members of the workforce</td>
<td>GHG emissions, 23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transportation initiatives, 26</td>
</tr>
</tbody>
</table>

### ASPECT: OVERALL

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN30</td>
<td>Total environmental protection expenditures and investments by type</td>
<td></td>
</tr>
</tbody>
</table>

### LABOR PRACTICES AND DECENT WORK

### ASPECT: EMPLOYMENT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA1</td>
<td>Total workforce by employment type, employment contract, and region</td>
<td>Rapid growth at EPFL, 33</td>
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<tr>
<td></td>
<td></td>
<td>Activity rates and contract types, 39</td>
</tr>
<tr>
<td>LA2</td>
<td>Total number and rate of employee turnover by age group, gender, and region</td>
<td>Staff recruitment, retention and turnover, 37</td>
</tr>
<tr>
<td>LA3</td>
<td>Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations</td>
<td>Wage flexibility and performance review, 40</td>
</tr>
</tbody>
</table>

### ASPECT: LABOR/MANAGEMENT RELATIONS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA4</td>
<td>Percentage of employees covered by collective bargaining agreements</td>
<td></td>
</tr>
<tr>
<td>LA5</td>
<td>Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements</td>
<td></td>
</tr>
</tbody>
</table>

### ASPECT: OCCUPATIONAL HEALTH AND SAFETY

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA6</td>
<td>Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs</td>
<td>Partial: Health and safety, 41</td>
</tr>
<tr>
<td>LA7</td>
<td>Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region</td>
<td></td>
</tr>
<tr>
<td>LA8</td>
<td>Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases</td>
<td>Partial: Counselling, prevention, and risk-control programs exist in case of pandemic crisis</td>
</tr>
<tr>
<td>LA9</td>
<td>Health and safety topics covered in formal agreements with trade unions</td>
<td></td>
</tr>
<tr>
<td><strong>ASPECT: TRAINING AND EDUCATION</strong></td>
<td></td>
<td></td>
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<tr>
<td>----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA10 Average hours of training per year per employee by employee category</td>
<td>Partial. Training and education, 38</td>
<td></td>
</tr>
<tr>
<td>LA11 Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings</td>
<td>Training and education, 38</td>
<td></td>
</tr>
<tr>
<td>LA12 Percentage of employees receiving regular performance and career development reviews</td>
<td>Wage flexibility and performance review, 40</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th><strong>ASPECT: DIVERSITY AND EQUAL OPPORTUNITY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>LA13 Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity</td>
</tr>
<tr>
<td>A strong international organization, 39</td>
</tr>
<tr>
<td>Accountability and performance, 49</td>
</tr>
<tr>
<td>LA14 Ratio of basic salary of men to women by employee category</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>HUMAN RIGHTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASPECT: INVESTMENT AND PROCUREMENT PRACTICES</strong></td>
</tr>
<tr>
<td>HR1 Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening</td>
</tr>
<tr>
<td>HR2 Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken</td>
</tr>
<tr>
<td>HR3 Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ASPECT: NON-DISCRIMINATION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>HR4 Total number of incidents of discrimination and actions taken</td>
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<tr>
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<tr>
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<td>HR6 Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor</td>
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<td><strong>ASPECT: COMMUNITY</strong></td>
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<td>SO1 Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting</td>
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<td>SO7 Total number of legal actions for anti-competitive behaviour anti-trust, and monopoly practices and their outcomes</td>
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**PRODUCT RESPONSIBILITY**

**ASPECT: CUSTOMER HEALTH AND SAFETY**

| PR1 Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures |
| PR2 Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes |

**ASPECT: PRODUCT AND SERVICE LABELING**

| PR3 Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements |
| PR4 Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes |
| PR5 Practices related to customer satisfaction, including results of surveys measuring customer satisfaction | Atmos satisfaction survey, 42 |

**ASPECT: MARKETING COMMUNICATIONS**

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| PR7 Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes |

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| PR8 Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data | Privacy and data protection, 41 |

**ASPECT: COMPLIANCE**

| PR9 Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services |
3. Appendix: Disclosures on Management Approaches – DMAs

DMA ECONOMIC

The economic performance of EPFL is overseen by the EPFL Presidency, the President and the Vice-President for Planning and Logistics. Overall strategic issues for EPFL are guided by the ETH Board, which oversees the entire ETH Domain.

Approximately 70% of EPFL’s budget comes from Federal funding sources and 30% from third parties. Because of this, the institution is highly accountable to both the government and third party institutions and must have the financial governance systems in place to manage its resources in a transparent and credible manner. For more information see the chapter “Funding and Governance”. EPFL also receives approximately 10% of its budget from private external funding.

Concerning market presence, while all direct operations of EPFL are in Switzerland, the university is highly international and a large proportion particularly of teaching and research staff are from other nationalities. This is important for global knowledge exchange in science and technology, and EPFL has no policy of discrimination for or against employees based on their nationality.

There is no purchasing policy favoring local suppliers. The Directives concerning purchases and inventory (2003, revised 2010) ensures the respect for free competition without any distinction of origin (Switzerland, foreign countries) (in accordance to Art. 4). With respect to indirect economic impacts, collaboration with the industrial, economic and scientific environments is a long-standing tradition at the EPFL, for example with the creation in 1990 of the CAST (Scientific and technology helpdesk for industry) and after a long process of growth, the creation in 2004, of the Vice-presidency for Technology Transfer, which launched several specific initiatives aimed at enhancing EPFL’s impact on the economy, at promoting links between EPFL and the business world and at developing a dynamic regional centre of innovation on site.

EPFL faces some risks to its economic well-being, including sensitivity to the economic health of the Swiss economy. The budget process is dependent on the decisions of the Confederation and the funding agencies (SNF, CTI). For the European programs, the variations of the exchange rate pose an additional problem. To minimize these risks, federal offices in charge, the ETH-Board and EPFL manage several national and international networks such as SwissCore (UE) and Future (community of interest involving partners from universities and scientific and political circles).

DMA ENVIRONMENT

Responsibility for the management of EPFL’s environmental aspects sits with the President and the Vice-President for Planning and Logistics. The Sustainability Unit, reporting to Vice-President for Planning and Logistics, is responsible for the sustainable strategy of EPFL. It coordinates, develops and supports all initiatives that can improve economic, social, and environmental aspects including efforts related to materials, energy, water, biodiversity, emissions and waste, compliance and transportation of the EPFL campus, considering both the institution’s infrastructure and academia. In support of the goal to address sustainability of campus buildings, the Sustainability Unit works closely with the Real Estate and Infrastructure Department to enhance the environmental performance of EPFL and to coordinate the different reports due to supervisor bodies.

The Sustainability Unit is also responsible for implementing the Swiss Federal Government Program for Resource and Environmental Management (RUMBA) and for reporting on its performance against the Program’s targets on an annual basis. In addition to meeting targets under RUMBA, the EPFL demonstrates its commitment to sustainability as a signatory to the International Sustainable Campus Network (ISCN) Charter. Under the Charter, the EPFL pledges to integrate sustainable development in its overall planning of building construction, renovation and use, to include environmental and social objectives, and to align these with research and training activities so as to become a living laboratory for sustainable development. In the planning period 2012-2016, priority issues will be power consumption management, the promotion of sustainable mobility and the social and cultural integration of the campus within the wider city.
DMA LABOR PRACTICES AND DECENT WORK

At EPFL, the Human Resources (HR) department reports to the Vice-President for Planning and Logistics and is primarily responsible for issues related to Labor Practices and Decent Work. The decentralized organization of the HR department ensures a close collaboration with the schools and faculties within EPFL.

Concerning employment, human resource management at EPFL is conducted in a challenging context as the EPFL workforce expanded rapidly over the last years: since 2001, the number of employees has risen by 75% and the number of students/PhD-students by 90%. The HR department collects and monitors a variety of metrics regarding employment and other labor related issues, for example staff turnover, diversity (gender, foreigners), salary and equal opportunity. These indicators form the basis for an HR dashboard, which is periodically followed by the EPFL Presidency (HR reporting quarterly) to enable it to anticipate and take all necessary measures.

With regard to relations between EPFL’s Presidency Management and its students, faculty, and staff, the EPFL Assembly is the highest participatory body (in accordance with Art. 32 of the federal law for ETH-organization). Constituted on the basis of equal representation, the EPFL Assembly is entitled to make proposals concerning all the normative acts of the EPF Board, the budget and planning, the creation or abolition of teaching and research units and the participation structures. The AE also gives its opinion on the EPFL President’s annual report. It ensures participation within the various EPFL units. The AE is consulted before the Presidency or EPF Board makes decisions of general interest. It consists of 16 members elected within each group of persons (bodies): professors, administrative and technical staff, scientists, and students. Each body is organized in associations.

The EPFL Presidency is responsible for upholding high standards of health and safety in the workplace. The duty and responsibility of EPFL apply to all persons present on the site, with or without contractual relations, including researchers, teaching staff, students, other EPFL staff members and companies working under contract. The Directives concerning health and safety in the workplace (2010) specify the responsibilities of all the actors who must work as part of a network at EPFL. They also form an integral part of risk management, at both ETH Board and EPFL levels.

With regard to training and education, the Staff Training Service (STS), reporting to the Human Resources Department, is responsible for offering non-academic training courses open to all EPFL Staff, independent of their status or function. Its management has been outsourced to a third party since 2001. Within the framework of the service mandate and its goal convention EPFL constantly develops and improves its personnel’s skills and performances through training, research and services in a rapidly developing competitive multicultural academic environment. In compliance with legal frameworks – national and international – EPFL recruits, promotes and motivates its highly skilled collaborators within all its sectors of activities. It observes diversity and promotes female careers, family life, equal opportunities within a highly demanding but stimulating professional sphere. The HR strategy is client oriented and guarantees attractive working conditions (comparable to the private sector) to professorial, intermediary, administrative and technical staff. Conditions of appointment are negotiated annually with the Association of Employees of the Confederation and with the Association of executives of the Confederation (recognized social partners).

The Teaching Staff Assembly (CCE) represents the teaching staff to the EPFL Management. Its mission is to give an authorized opinion on all issues regarding teaching. The Assembly meets on average once a month during the academic periods, at the initiative of the President and may also be called if five of its members request it to the President.

Concerning issues of diversity and equal opportunity, EPFL’s has an Equal Opportunities Office that reports to the General Counsel, responsible to bringing into force of all legislative texts within the competence of the EPFL Presidency. The EPFL equal opportunities policy is based on the federal law concerning equality of men and women (LEg), and the ordinance concerning personnel for the EPFL domain (LOpers). Measures and initiatives are carried out to promote equal opportunities at all levels with specific initiatives to attract and retain women in scientific fields and in engineering. Targets that EPFL currently strives for include that 13% of professors and 25% of executives should be female.

DMA HUMAN RIGHTS

Policies and procedures that concern human subjects are currently developed at EPFL by the Research Commission. Guidelines for research integrity and good scientific practice at EPFL contain main directives on this issue. All research involving human subjects should be conducted in accordance with three basic ethical principles, namely respect for persons,
beneficence and justice. It is generally agreed that these principles, which in the abstract have equal moral force, guide the conscientious preparation of proposals for scientific studies.

Regarding investment practices, the current investment policy does not include human rights or sustainable clauses. However, the Directives concerning purchases and inventory (2003, revised 2010) require that purchasers take particular care to seeking optimal solutions with regard to global life cycle costs, energy consumption and sustainability. Besides, the respect for the environment is one the six points (among compliance, technical and price) used to evaluate competitive offers. There is currently no clause for evaluating the human rights practices in purchasing contracts.

Non-discrimination is stated by the Federal Constitution of the Swiss Confederation. The Equal Opportunities Office, reporting to the General Counsel, is responsible to carry out measures to avoid discrimination, in particular on grounds of origin, race, gender, age, language, social position, way of life, religious, ideological, or political convictions, or because of a physical, mental or psychological disability. The engagement of young student assistants (under age of 18) follows the Federal laws in force. This is overseen by the Director of Human Resources, reporting to the Vice-President for Planning and Logistics.

In regards to child labor, because the Federal laws are strictly abided by in relations with young student assistants, this is not a strong issue at EPFL. However, as an institution with worldwide partnerships and collaborations, our institution is aware of this and other issues such as freedom of association and collective bargaining, forced and compulsory labor, security practices and indigenous rights in a broader context.

DMA SOCIETY

Since 2004, the Vice-presidency for Innovation and Technology Transfer has been undertaking several specific initiatives aimed at enhancing EPFL’s impact on the economy, at promoting links between EPFL and the business world and at developing a dynamic regional centre of innovation. EPFL also interacts with its surrounding society by providing information to the general public on the scientific discoveries. It organizes conferences, debates, public seminars and open doors.

With respect to ethics and compliance, a key consideration for a research university is to prevent research misconduct. This is overseen by the Research Commission, an official body of the Swiss National Science Foundation (SNF) that also acts as an advisory board to the EPFL Executive Board for matters related to research. It is comprised of eighteen members whose global competences span all fields of research at EPFL. In order to preserve and enhance intellectual integrity and scientific integrity, the EPFL Research Commission establishes rules regarding ethical behaviour of EPFL researchers: the Guidelines for research integrity and good labor practice. In case of research misconduct’s denunciation, the Ombudsperson, a personality outside EPFL nominated for 4 years by the EPFL Presidency, is responsible to examine its admissibility, and if required, to forward it to the Chairman of Research Commission. Based on its expert appraisal, or if the situation requires it, the President of the EPFL may decide to open a formal inquiry and to set up a Commission of Inquiry. Plagiarism is unanimously considered a serious offence, punishable by sanctions imposed by EPFL, or possibly even legal action. Its practice is incompatible with the EPFL Honor Code and ethical charter on Citing Sources.

The Research Commission has established Directives concerning whistleblowing (2008), in order to signify illegal or unethical conduct, particularly activities involving corruption, safety violations, duress, sexual harassment, etc. The President of EPFL takes all the measures or decisions justified by the facts established by the independent reporting authority. The sanctions applicable are stipulated in particular by the law on personnel, or the ordinance on discipline applying to students; these range from a warning to termination of the employment contract in the former case and, for students, from a reprimand to exmatriculation. Ethics issues are governed by the EPFL Ethics Commission. The Ethics Commission plays the role of think tank concerning ethics at EPFL, encouraging communication concerning ethics, identifying the concerns of EPFL members in the area of ethics and contributing to their expression, and increasing students’ awareness of the ethical aspects of the practice of their future profession, while strictly respecting freedom of opinion and expression. The commission has put together the Charter of Ethics for issues that concern teaching and research. It has also participated to the development of the whistleblowing procedure. As a publicly funded research university, potential problems of anti-competitive behavior in the sense of unfair market competition are not material for EPFL.

With regard to public policy, it is part of EPFL’s federal mandate to support the Swiss parliament with advice on issues related to science and technology. In this function, EPFL acts as an honest broker that provides unbiased information. The advice activities of EPFL to parliament are overseen by the administrative services of the Parliament who grant accredita-
tion to persons permitted to enter the areas near the Federal Assemblies and to stand with members of the Parliament. In addition, EPFL has a presence in Bern to articulate the needs of research and higher education to public policy makers.

**DMA PRODUCT RESPONSIBILITY**

Key activities of EPFL are research, education and technology transfer. The top management of EPFL (President and Vice-Presidents) is responsible for the development of outstanding research, the attractiveness of the best students and for the support of innovation. Education is the primary mission of EPFL, and training young engineers, scientists and architects means educating the researchers, leaders and entrepreneurs needed by society to rise to major challenges. Regarding research, the current EPFL planning is to focus in the development of green technologies (greentech), in the fields of energy, sustainable construction, urban planning, transport or sustainable systems for health, safety and the environment. This planning can be realized in the hiring process, but fundamental academic freedom prevents the imposition of more specific topics to the scientists.

As products and services provided by EPFL can be mostly understood to be the students it educates and the ideas and methods it develops, direct health and safety impacts of its products and services or compliance aspects with regard to provision of these products and services are not really applicable for the case of EPFL. However, aspects of possible misuse of technologies developed or of scientific honesty and truthfulness are key concerns for EPFL as a research university. These aspects are covered in the university’s Code of Conduct and Research Ethics Guidelines, under which all individuals affiliated with EPFL are obligated to abide by.

EPFL seeks to further its students’ ethical, social and responsible commitment towards sustainable development. The integration of sustainability topics is intended in several programs and courses but not yet achieved. With respect to product and service labeling, there is currently no specific label nor communication on sustainability content. Through a range of interdisciplinary courses, the social and human sciences teaching program is designed to develop the intellectual, critical, and pragmatic skills of students and to raise their awareness of social responsibility.

While no problems with fair marketing issues can be expected for EPFL given its mandate and mission, the protection of the privacy of its students is an important concern for the university.
4. GRI Guideline Application in the Sustainability Report 2012 to 2013

EPFL’s sustainability report follows the guidelines disseminated by the Global Reporting Initiative (GRI). These guidelines suggest that certain information be provided not only on the overall profile of the company and its report, but also on management approaches and performance indicators regarding economic, environmental, human rights, labor, society, and product responsibility issues (see www.globalreporting.org).

There are different application levels that companies can choose for GRI reporting. These range from C-Level with only some elements of GRI sustainability reporting included to A-Level where all indicators developed by GRI are reported on.

To balance completeness with focus, that is to highlight those indicators found particularly relevant or “material” for EPFL’s sustainability reporting, the GRI guidelines were applied at B-Level in this report. GRI has checked the application of their guidelines in the EPFL Sustainability Report 2012 to 2013, and has confirmed that the report qualifies as Application Level B under those guidelines.
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EPFL AT A GLANCE IN 2013

383,789 m² heated and cooled area
9,868 students
55% foreign students, from 120 countries
5,534 staff headcount, including PhD
5 Schools, 2 Colleges
Basic sciences; Life sciences; Engineering; Computer and communication sciences; Architecture, Civil and environmental engineering
College of Humanities; Management of Technologies

859 million CHF spent, including 67% on personnel costs
12% female professors
26% women in scientific staff
19% women in executive positions
51% women in non-executive positions

26,739 t CO2-eq emitted, 26% from energy, 54% from transport

Energy from renewable sources
• Electricity: 100% renewable from Swiss hydroelectricity production
• Heating: 74% renewable (56% lake water, 18% electricity)
• Cooling: 100% renewable (95% lake water, 5% electricity)