



# **POLIMI4SDGs**

**Primo Report  
di mappatura degli  
Obiettivi di Sviluppo Sostenibile  
al Politecnico di Milano  
Luglio 2017**

**Executive Summary**





## Executive Summary, as of August 2017

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# 1 \ A Progressive Mapping

## The Context: getting started with the mapping of our institutional commitment to sustainability

The aim of this work was to map sustainability competences already present at our institution, in order to recognize where we are with sustainability teaching. This mapping carried out in the Spring of 2017 is only the starting point aiming at defining a baseline; we are conscious that the map is incomplete and that many colleagues did not responded to the survey. This is an opportunity for all the community members to join when the mapping will be reopened in 2018.

- What to map? Identifying the domains and actors engaged in sustainability. Sustainability as a very broad and inclusive topic covering all the different activities and people that represent our community. This is a powerful tool in order to reinforce our community, sense of belonging and cross-institutional and cross-actors relationships.
- In particular, we identified four main domains to investigate:
  - **Research**, i.e. research projects and publications by our **academic staff**
  - **Education**, i.e. courses, theses, scholarships and contests offered to our **students**
  - **Management**, i.e. institutional activities and projects, offices and operations run by **university staff**
  - **Partnerships**, participation to networks, external relations with public and private **stakeholders**

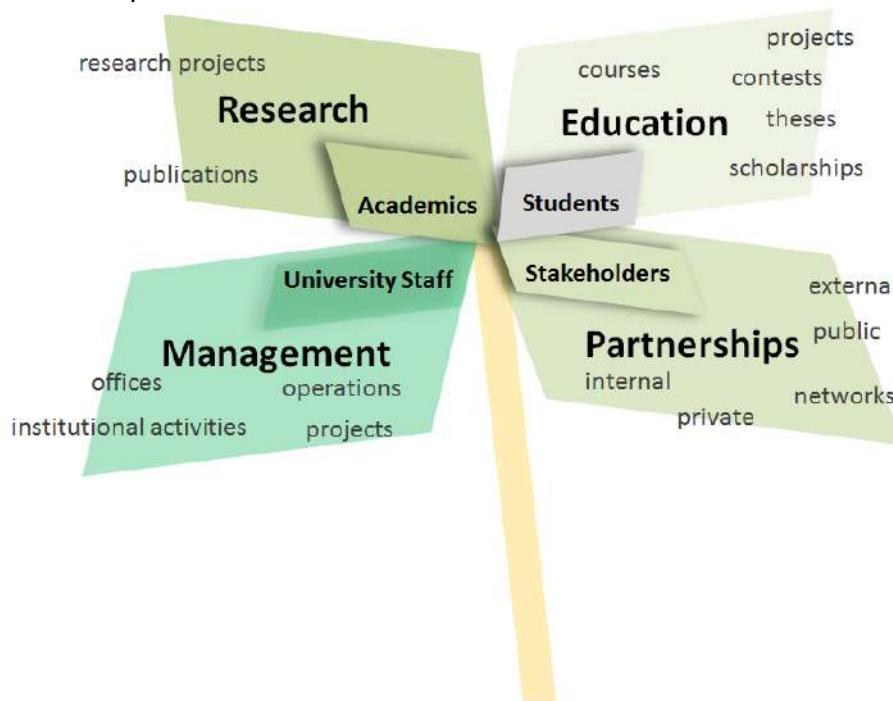


Figure 1.1 The major four domains of Polimi involvement in sustainability

## The first mapping operation in Spring 2017

- How to start mapping SDGs at PoliMI? “Self-mapping” was proposed as a first light and inclusive operation (described in detail in the next session); objective: commitment from the bottom
- An online survey, two emails signed by the vice-rector in March and April 2017
- No advertisement, no pressure on our community in order to identify really committed community members
- 201 replies that, of course, do not cover the entire spectrum of sustainability skills, but is a first way to get more people on board once the mapping operation will be officially published online.
- Afterwards, a new call for adhesion will be launched according to our progressive mapping principles.

## Communicating the SDGs

Engaging the community through events



### Event

**One-day seminar about SDGs@POLIMI in research, teaching and institutional activities**

### Diffusing the SDGs

36 invited speakers

84 registered participants



### Engaging our community

Bringing the leaders on board

Aligning our researchers

Recognizing what we already do as the first step



Figure 2.1. Images from the Festival dello Sviluppo Sostenibile 2017.

## 2 \ Data Analysis and Findings

### Main outcomes of the mapping phase 1, as of May 2017

- 201 adhesions to the survey
- 119 courses self-mapped
- 160 research projects and activities self-mapped
- 18 institutional activities reported

## Results

### Teaching

Please, note that the considerations listed below refer to the self-mapping operation mainly, i.e. it takes into account the courses whose teachers perceived to convey contents on SDGs was higher than 2% in the first run

#### Highlights

- All Schools offer sustainability credits to students
- The percentage of courses whose teachers perceived to convey contents on SDGs was higher than 2,5 % in the first run
- Most of the SDGs are represented in teaching, except SDG1, SDG5 and SDG14
- Prevalence of SDG11, and secondly SDG12, SDG7 and SDG13: mostly design and engineering oriented skills; less social content

#### Facts

Self-mapped courses: 119, out of which:

- 124 courses are offered to bachelor and master students enrolled in the four Schools; 3 courses are offered to postgraduate education;
- 118 classes indicated a primary SDG (only 1 class reported a secondary one, but not a primary one) and 80 courses have reported both a primary and a secondary SDG.

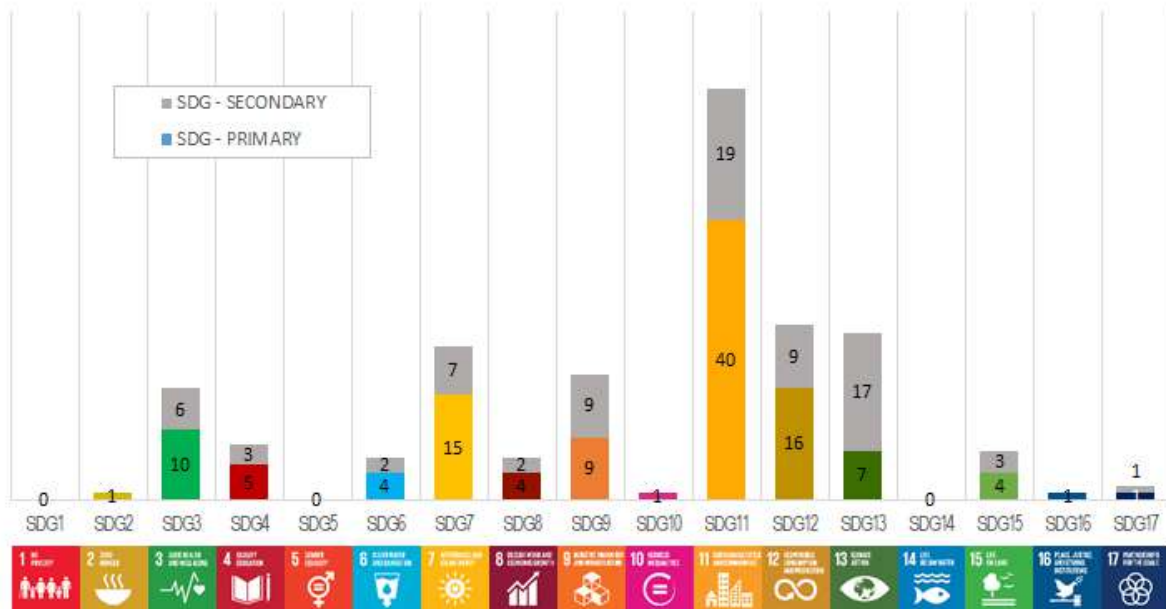


Figure 2.1. SDGs coverage in teaching activities.



Table 2.1. SDG courses grouped by school.

<i>School</i>	<i>SDG courses</i>	<i>Total courses offered by the school</i>	<i>Percentage of SDG courses to the total</i>
School of Architecture Urban Planning Construction Engineering	43	1858	2,31%
School of Design	8	975	0,82%
School of Industrial and Information Engineering	40	1743	2,29%
School of Civil, Environmental and Land Management Engineering	33	312	10,58%
<b>Total courses offered in the four schools</b>	<b>124</b>	<b>4888</b>	<b>2,54%</b>

## Research

### Highlights

- ❑ All SDGs except SDG1 are represented in research projects
- ❑ Primary SDGs are SDG11, secondly SDG7, thirdly SDG12, fourthly SDG3: mostly design and engineering oriented skills.
- ❑ Afterward: SDG2, SDG4, SDG9, SDG13
- ❑ SDG5 and SDG10 and social sustainability issues are under-represented by research projects
- ❑ Department profiles clearly emerge in relation to SDGs topics

### Facts

Self-mapped projects: 160; out of which 140 indicated a secondary SDG as well.

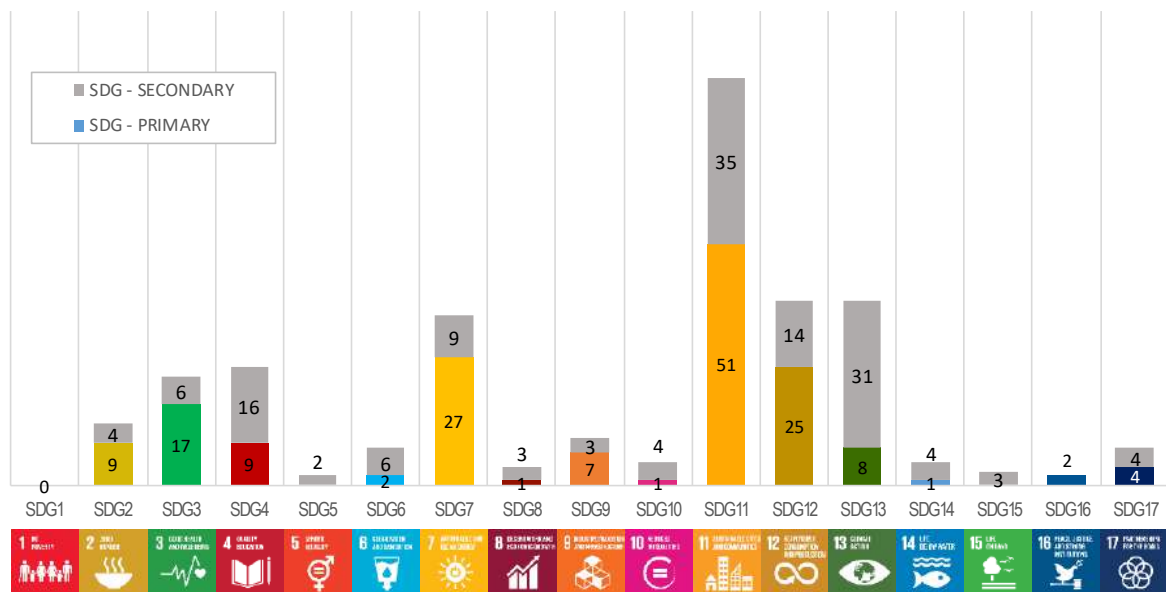


Figure 2.2. SDGs coverage in research activities.

### Criteria

The eligibility criteria for the selected research project in the list are:

- Scientific research projects
- Scientific consultancy and support to institutions and networks
- Recent research projects, i.e. ongoing and projects concluded less than five years ago.
- Funded and non-funded research activities

### Emerging clusters

Based on the number of projects and the coverage of the SDGs.

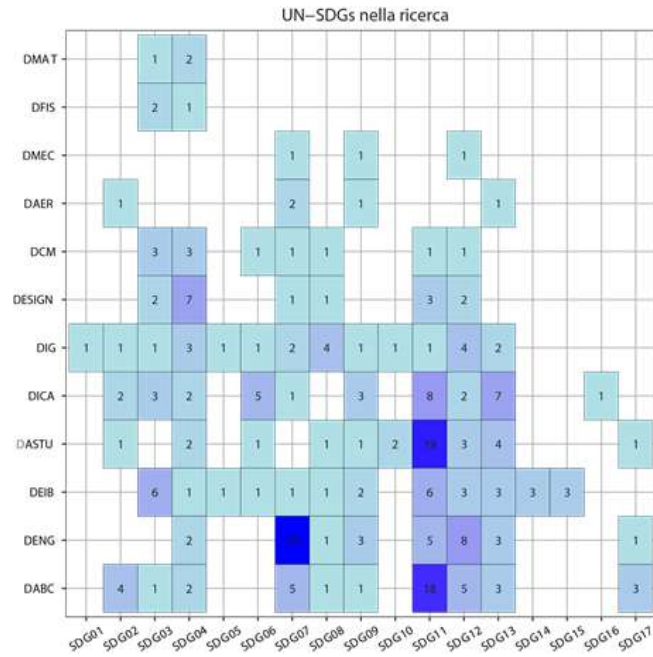


Figure 2.3. Emerging distribution of the SDGs in research projects in relation to the departments

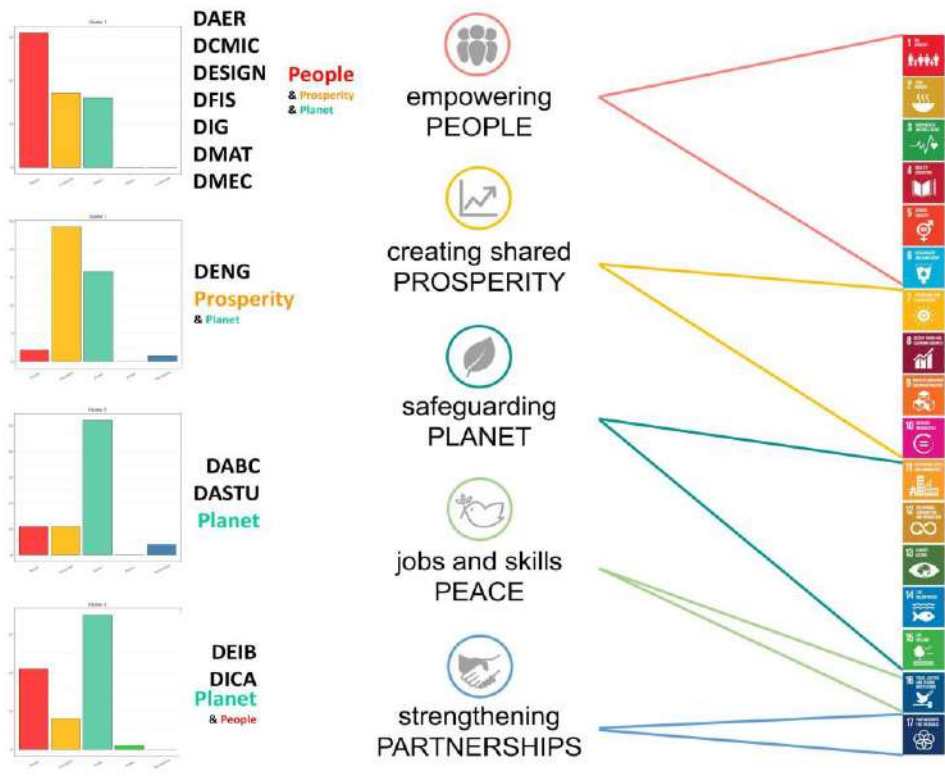


Figure 2.4. Emerging clustering of research topics of the departments

## Institutional activities

### Highlights

- ❑ Institutional activities cover partnership projects (SDG17) and education (SDG4) as main themes
- ❑ A strong involvement in social sustainability activities is demonstrated by the presence of activities related to the promotion of equality (SDG10), equal opportunities for women (SDG5) and health and well-being (SDG3).
- ❑ Environmental sustainability projects are underrepresented by institutional activities, except urban related projects (SDG11).

### Facts

Identified activities; 18, out of which

- 11 Self-mapped activities
- 7 Additional activities detected from interviews and events

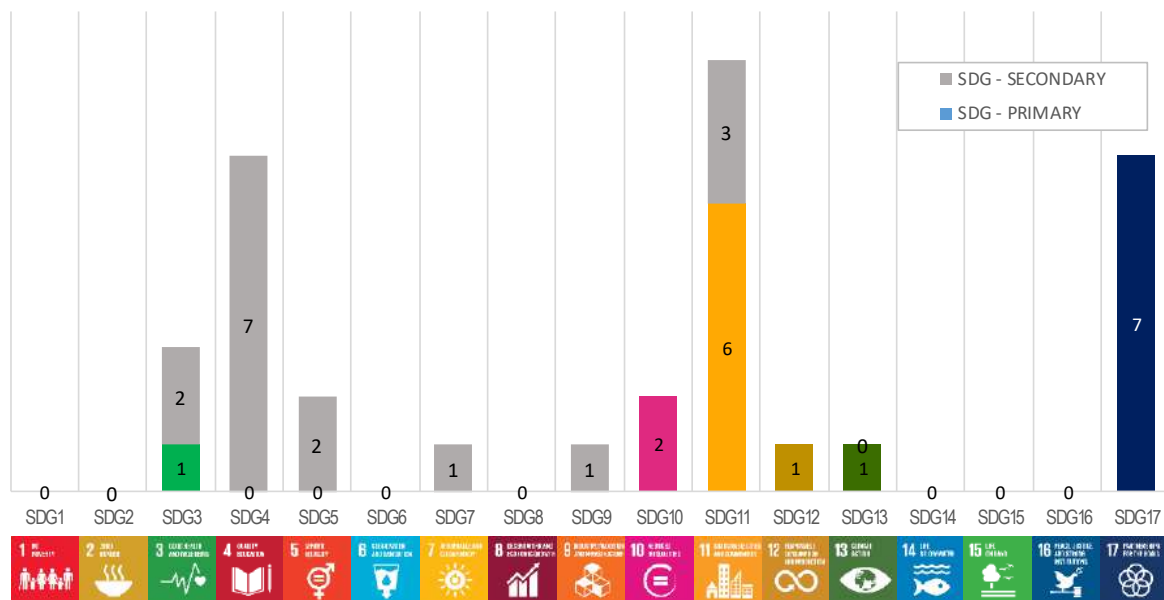


Figure 2.5. SDGs coverage in institutional activities.

## Partnerships & Collaborations

The framework:

- The first Italian Festival Sviluppo Sostenibile by ASviS
- The partnership with MY World 2030 - SDG Action Campaign
- The collaboration with the UN SDSN Youth Campus Coordinator

Al fine di meglio raggiungere le finalità sopra esposte, il Politecnico:

- ha aderito alla **RUS (Rete delle Università per lo Sviluppo Sostenibile)**: rete nazionale creata allo scopo di *i*) diffondere la cultura e le buone pratiche in tema di sostenibilità (sia all'interno che all'esterno degli Atenei), *ii*) incrementare gli impatti positivi in termini ambientali, etici, sociali ed economici delle azioni poste in essere dagli aderenti e *iii*) rafforzare la riconoscibilità e il valore dell'esperienza italiana a livello internazionale (<https://www.crui.it>);
- ha aderito a **ISCN (International Sustainable Campus Network)**: un forum globale delle università creato per raccogliere e condividere informazioni, esperienze e buone pratiche delle università che hanno intrapreso un percorso verso la sostenibilità ambientale ([www.international-sustainable-campus-network.org](http://www.international-sustainable-campus-network.org));
- fa parte di **UN-Sustainable Development Solutions Network Youth (SDSN Youth)**, organismo che contribuisce a disseminare gli Obiettivi di Sviluppo Sostenibile (SDGs) tra gli studenti. A tale scopo, ogni anno, viene individuato un Campus Coordinator con l'obiettivo di educare i giovani e promuovere gli SDGs attraverso la pianificazione di eventi e attività in stretta sinergia con le strutture d'Ateneo che sovrintendono questo ambito (<http://sdsnyouth.org/>).

## 3 \The 17 Goals at Polimi



### SDG1 - NO POVERTY

Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty dropped by more than half between 1990 and 2015 – from 1.9 billion to 836 million – too many are still struggling for the most basic human needs.

Globally, more than 800 million people are still living on less than US\$1.25 a day, many lacking access to adequate food, clean drinking water and sanitation. Rapid economic growth in countries like China and India has lifted millions out of poverty, but progress has been uneven. Women are more likely to live in poverty than men due to unequal access to paid work, education and property.

Progress has also been limited in other regions, such as South Asia and sub-Saharan Africa, which account for 80 percent of those living in extreme poverty. New threats brought on by climate change, conflict and food insecurity, mean even more work is needed to bring people out of poverty.

The SDGs are a bold commitment to finish what we started, and end poverty in all forms and dimensions by 2030. This involves targeting the most vulnerable, increasing access to basic resources and services, and supporting communities affected by conflict and climate-related disasters.

**0 Research projects**

**0 Courses offered**

**0 Institutional activities**



## SDG2 - ZERO HUNGER

Rapid economic growth and increased agricultural productivity over the past two decades have seen the number of undernourished people drop by almost half. Many developing countries that used to suffer from famine and hunger can now meet the nutritional needs of the most vulnerable. Central and East Asia, Latin America and the Caribbean have all made huge progress in eradicating extreme hunger.

These are all huge achievements in line with the targets set out by the first Millennium Development Goals. Unfortunately, extreme hunger and malnutrition remain a huge barrier to development in many countries. 795 million people are estimated to be chronically undernourished as of 2014, often as a direct consequence of environmental degradation, drought and loss of biodiversity. Over 90 million children under the age of five are dangerously underweight. And one person in every four still goes hungry in Africa.

The SDGs aim to end all forms of hunger and malnutrition by 2030, making sure all people – especially children – have access to sufficient and nutritious food all year round. This involves promoting sustainable agricultural practices: supporting small scale farmers and allowing equal access to land, technology and markets. It also requires international cooperation to ensure investment in infrastructure and technology to improve agricultural productivity. Together with the other goals set out here, we can end hunger by 2030.

### 9 Research projects

European	PROGETTO EUROPEO DI " SMART IRRIGATION FROM SOIL MOISTURE FORECAST USING SATELLITE AND HYDRO –METEOROLOGICAL MODELLING" 2016-2019	Marco Mancini
European	SURPLUS FOOD MANAGEMENT	Alessandro Perego
Regional	GRANT COMPETITIVO DI RICERCA E INNOVAZIONE FINANZIATO DA FONDAZIONE CARIPLO (2014-'16) "FOODSAVING. SOCIAL INNOVATION FOR SURPLUS FOOD RECOVERY"	Paola Garrone
International	PROGETTO EUROPEO CINESE TRA ESA E MOST DRAGON 4: "FORCING, CALIBRATION, VALIDATION AND DATA ASSIMILATION IN BASIN SCALE HYDROLOGICAL MODELS USING SATELLITE DATA PRODUCTS" 2016-2020	Chiara Corbari
National	SVILUPPO DI UN MODELLO PER LO STUDIO E IL CONTROLLO DELLA DIFFUSIONE DI EPIDEMIE IN UN SISTEMA DI ALLEVAMENTI IN COLLABORAZIONE CON L'ISTITUTO IZSLER (2017-2018)	Alba Bernini
Regional	GRANT COMPETITIVO DI RICERCA, SVILUPPO E INNOVAZIONE FINANZIATO DA REGIONE LOMBARDIA (POR FESR; 2017-'20) "PERFORM WATER 2030"	Francesca Malpei, Paola Garrone
National	REAL TIME MONITORING AND FLOOD FORECASTING SYSTEM FOR MILANO AERE UNDER THE PROJECT "RECONCILING PRECIPITATION WITH RUNOFF: THE ROLE OF UNDERSTATED MEASUREMENT BIASES IN THE MODELLING OF HYDROLOGICAL PROCESSES ", FUNDED BY ITALIAN MINISTRY OF UNIVERSITY AND RESEARCH. 2017 2019	Marco Mancini

European	PROGETTO EUROPEO CINESE TRA ESA E MOST DRAGON 4: "FORCING, CALIBRATION, VALIDATION AND DATA ASSIMILATION IN BASIN SCALE HYDROLOGICAL MODELS USING SATELLITE DATA PRODUCTS" 2016-2020	Marco Mancini
European	GRANT COMPETITIVO DI RICERCA E INNOVAZIONE FINANZIATO DA EUROPEAN COMMISSION (FP7; 2014-'17) "SMARTH20: AN ICT PLATFORM TO LEVERAGE ON SOCIAL COMPUTING FOR THE EFFICIENT MANAGEMENT OF WATER CONSUMPTION" (RESPONSABILE DELL'UNITÀ POLITECNICO DI MILANO: PIERO FRATERNALI, DEIB)	Paola Garrone

### 1 Courses offered

IDROLOGIA E APPLICAZIONI IDROLOGICHE	88649
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### 0 Institutional activities





## SDG3 - GOOD HEALTH AND WELL-BEING

We have made huge strides in reducing child mortality, improving maternal health and fighting HIV/AIDS, malaria and other diseases. Since 1990, there has been an over 50 percent decline in preventable child deaths globally. Maternal mortality also fell by 45 percent worldwide. New HIV/AIDS infections fell by 30 percent between 2000 and 2013, and over 6.2 million lives were saved from malaria.

Despite this incredible progress, more than 6 million children still die before their fifth birthday every year. 16,000 children die each day from preventable diseases such as measles and tuberculosis. Every day hundreds of women die during pregnancy or from child-birth related complications. In many rural areas, only 56 percent of births are attended by skilled professionals. AIDS is now the leading cause of death among teenagers in sub-Saharan Africa, a region still severely devastated by the HIV epidemic.

These deaths can be avoided through prevention and treatment, education, immunization campaigns, and sexual and reproductive healthcare. The Sustainable Development Goals make a bold commitment to end the epidemics of AIDS, tuberculosis, malaria and other communicable diseases by 2030. The aim is to achieve universal health coverage, and provide access to safe and affordable medicines and vaccines for all. Supporting research and development for vaccines is an essential part of this process as well.

### 16 Research projects

Local	POLISOCIAL MASTR-SLS. WINNER GROUP DELLA D4D CHALLENGE ORANGE	Renato Casagrandi
Local	RICERCHE NON FINANZIATE INERENTI LA LOCALIZZAZIONE DELLA CITTÀ DELLA SALUTE DI MILANO; INDOOR AIR QUALITY AND INDOOR WELLBEING; HEALTHCARE FACILITIES AND THE SOCIO-SANITARY RELATED SYSTEM	Stefano Capolongo
Local	PROGETTO DI RICERCA CON AREU 118 MILANO E DICA DAL TITOLO "GEOLOCALIZATION OF CARDIAC ARREST EVENTS AND EXTERNAL DEFIBRILLATORS"	Enrico Caiani
International	PROGETTO CONGIUNTO DI RICERCA SCIENTIFICA E TECNOLOGICA ITALIA-QUÉBEC PER LA COOPERAZIONE CULTURALE, SCIENTIFICA E TECNOLOGICA PER GLI ANNI 2017-2019	Dario Gastaldi
European	PI@POLIMI DEL PROGETTO H2020 ECOPOTENTIAL. PARTECIPANTE DEL PROGETTO EU "SAFENET"	Renato Casagrandi
European	PROGETTO EUROPEO INSERT PER LA REALIZZAZIONE DI IMAGING MULTIMODALE SPECT-MRI PER NEURO-ONCOLOGIA <a href="http://www.insert-project.eu">HTTP://WWW.INSERT-PROJECT.EU</a>	Marco Carminati

European	PROGETTO EUROPEO FINANZIATO DA HORIZON2020 SOTTO GRANT AGREEMENT NO 688279	Alberto Favaro
European	PROGETTO H2020 ECOPOTENTIAL	Lorenzo Mari
National	PROGETTO DI RICERCA CON L'AGENZIA SPAZIALE ITALIANA 2014-2018 DAL TITOLO "3D BALLISTOCARDIOGRAPHY"	Enrico Caiani
Regional	PROGETTO CARIPO DRINKABLE PER IL MONITORAGGIO DISTRIBUITO DELLA QUALITÀ DELL'ACQUA <a href="http://www.drink-able.polimi.it">HTTP://WWW.DRINK-ABLE.POLIMI.IT</a>	Marco Carminati
National	TELEMEDICINE, PHD4CASAITALIA	Domenico Vito
European	EUROPEAN FUNDED PROJECT "LUCA: LASER AND ULTRASOUND CO-ANALYZER FOR THYROID NODULES" (GRANT AGREEMENT N° H2020-ICT-2015-688303). PI: PROF. DAVIDE CONTINI	Alberto Dalla Mora
European	EUROPEAN FUNDED PROJECT "SOLUS: SMART OPTICAL AND ULTRASOUND DIAGNOSTICS OF BREAST CANCER" (GRANT AGREEMENT N° H2020-ICT-2016-731877) PI: PROF. PAOLA TARONI	Alberto Dalla Mora
National	OSSERVATORIO INNOVAZIONE DIGITALE IN SANITÀ	Chiara Sgarbossa
European	PROGETTO BRIDGE (2016-2018), PI: PROF.SSA PEDROCCHI;	Marta Gandolla
European	PROGETTO USEFUL (2016-2018), PI: PROF.SSA PEDROCCHI	Marta Gandolla

## 10 Courses offered

ARCHITETTURA SOCIALE	92101
EHEALTH: METHODS AND APPLICATIONS	96261
BIOCHIP	95381
TECNOLOGIE PER L'ANALISI E LA VIRTUALIZZAZIONE MOTORIA	99200
LIFE SUPPORT SYSTEMS	99280
ENVIRONMENTAL TECHNOLOGY	98490
LABORATORIO DI COSTRUZIONE DELL'ARCHITETTURA	97366
LABORATORIO DI ELABORAZIONE DI BIOIMMAGINI	73588
BIOMACHINES (WITH LABORATORY)	99278
FISICA TECNICA	96226

## 1 Institutional activities

AREA SVILUPPO E RAPPORTI CON LE IMPRESE	SERVIZIO PROMOZIONE ATTIVITÀ SPORTIVE - ASVI	POLIMISPORT ASVI	Francesco Calvetti
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## SDG4 - QUALITY EDUCATION

Since 2000, there has been enormous progress in achieving the target of universal primary education. The total enrolment rate in developing regions reached 91 percent in 2015, and the worldwide number of children out of school has dropped by almost half. There has also been a dramatic increase in literacy rates, and many more girls are in school than ever before. These are all remarkable successes.

Progress has also been tough in some developing regions due to high levels of poverty, armed conflicts and other emergencies. In Western Asia and North Africa, ongoing armed conflict has seen an increase in the number of children out of school. This is a worrying trend. While Sub-Saharan Africa made the greatest progress in primary school enrolment among all developing regions – from 52 percent in 1990, up to 78 percent in 2012 – large disparities still remain. Children from the poorest households are up to four times more likely to be out of school than those of the richest households. Disparities between rural and urban areas also remain high.

Achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development. This goal ensures that all girls and boys complete free primary and secondary schooling by 2030. It also aims to provide equal access to affordable vocational training, to eliminate gender and wealth disparities, and achieve universal access to a quality higher education.

### 9 Research projects

European	PROGETTO EU ERASMUS+ (2016-2018) DAL TITOLO "GICASES: CREATING A UNIVERSITY-ENTERPRISE ALLIANCE FOR A SPATIALLY ENABLED SOCIETY" ( <a href="http://www.gicases.eu">HTTP://WWW.GICASES.EU</a> )	Marco Minghini
European	PROGETTO (NON FINANZIATO) DAL TITOLO: "DERIVING LAND USE/LAND COVER (LULC) MAPS FROM OPENSTREETMAP"	Marco Minghini
European	DOTTORATO DI RICERCA "A PERFORMANCE EVALUATION OF DIGITAL LEARNING IN HIGER EDUCATION"	Mara Soncin
National	PROGETTO PER LA RENDICONTAZIONE SOCIALE NELLE SCUOLE "LA RENDICONTAZIONE SOCIALE NELLE SCUOLE" PROF. AGASISTI	Mara Soncin
European	PROGETTO DI COOPERAZIONE INTERNAZIONALE PER IL SOSTEGNO AL MINISTERO DELLA CULTURA ARMENO NELLA CREAZIONE DI UN CENTRO DI RIFERIMENTO REGIONALE PER LA SALVAGUARDIA DEL PATRIMONIO CULTURALE - AICS 2017 PROF GIAMBRUNO	Gaianè Casnati
European	PROGETTO MYGEOSS (2016) "MIGRATE - MIGRATION PATTERNS IN EUROPE" ( <a href="http://geomobile.com.polimi.it/migrate">HTTP://GEOMOBILE.COM.POLIMI.IT/MIGRATE</a> )	Marco Minghini

European	TRYING TO ESTABLISH THROUGH IEEE A RADIATION INSTRUMENTATION SCHOOL INVOLVING STUDENTS FROM LESS TECHNICALLY DEVELOPED COUNTRIES	Chiara Guazzoni
European	PROGETTO PER LA SALVAGUARDIA E LA VALORIZZAZIONE DEL SITO EEROUYK-ANIPEMZA, INSERITO NELLA LISTA DEI 7 MOST ENDANGERED SITES OF EUROPE - 2016-19	Gaianè Casnati
International	SUPPORTO A INIZIATIVE PER RIDURRE LO STEM GAP DEL MONDO FEMMINILE.	Chiara Guazzoni

## 5 Courses offered

MECCANICA DEI CONTINUI E DELLE STRUTTURE	83118
STRUMENTI E METODI DEL PROGETTO	97376
LABORATORIO DI METAPROGETTO C2	99389
ANTROPOLOGIA	99863
LABORATORIO DI MODELLAZIONE DIGITALE DELLO SPAZIO	99861

## 8 Institutional activities

DIREZIONE GENERALE		STATISTICHE SULL'EDUCATION	Paola Bertoli
AREA SERVIZI SUPPORTO ALLA RICERCA E INNOVAZIONE DIDATTICA	SERVIZIO METID	POK - POLIMI OPEN KNOWLEDGE	Susanna Sancassani
AREA SERVIZI SUPPORTO ALLA RICERCA E INNOVAZIONE DIDATTICA	SERVIZIO METID	FEEDING KNOWLEDGE	Francesca Concia
AREA COMUNICAZIONE E RELAZIONI ESTERNE		SUSTAIN-T PROGRAMME	Elisa Barilli
AREA COMUNICAZIONE E RELAZIONI ESTERNE			Chiara Mambretti
AREA SISTEMA BIBLIOTECARIO E ARCHIVISTICO	SERVIZI BIBLIOTECARI BOVISA		Monica Corio
AREA SISTEMA BIBLIOTECARIO E ARCHIVISTICO	SERVIZIO TEDOC		Domenica Fiorentino
AREA SVILUPPO E RAPPORTI CON LE IMPRESE			Silvia Brusati



## SDG5 - GENDER EQUALITY

Ending all forms of discrimination against women and girls is not only a basic human right, but it also crucial to accelerating sustainable development. It has been proven time and again, that empowering women and girls has a multiplier effect, and helps drive up economic growth and development across the board.

Since 2000, UNDP, together with our UN partners and the rest of the global community, has made gender equality central to our work. We have seen remarkable progress since then. More girls are now in school compared to 15 years ago, and most regions have reached gender parity in primary education. Women now make up to 41 percent of paid workers outside of agriculture, compared to 35 percent in 1990.

The SDGs aim to build on these achievements to ensure that there is an end to discrimination against women and girls everywhere. There are still huge inequalities in the labour market in some regions, with women systematically denied equal access to jobs. Sexual violence and exploitation, the unequal division of unpaid care and domestic work, and discrimination in public office, all remain huge barriers.

Affording women equal rights to economic resources such as land and property are vital targets to realizing this goal. So is ensuring universal access to sexual and reproductive health. Today there are more women in public office than ever before, but encouraging women leaders will help strengthen policies and legislation for greater gender equality.

**0 Research projects**

**0 Courses offered**

**1 Institutional activities**

DIREZIONE GENERALE	COMITATO UNICO DI GARANZIA	COMITATO UNICO DI GARANZIA (CUG)	Fiammetta Costa
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## SDG6 - CLEAN WATER AND SANITATION

Water scarcity affects more than 40 percent of people around the world, an alarming figure that is projected to increase with the rise of global temperatures as a result of climate change. Although 2.1 billion people have gained access to improved water sanitation since 1990, dwindling supplies of safe drinking water is a major problem impacting every continent.

In 2011, 41 countries experienced water stress – 10 of which are close to depleting their supply of renewable freshwater and must now rely on alternative sources. Increasing drought and desertification is already worsening these trends. By 2050, it is projected that at least one in four people will be affected by recurring water shortages.

Ensuring universal access to safe and affordable drinking water for all by 2030 requires we invest in adequate infrastructure, provide sanitation facilities, and encourage hygiene at every level. Protecting and restoring water-related ecosystems such as forests, mountains, wetlands and rivers is essential if we are to mitigate water scarcity. More international cooperation is also needed to encourage water efficiency and support treatment technologies in developing countries.

### 2 Research projects

Regional	PROGETTO BEVERAGE FINANZIATO DA FONDAZIONE CARIPOLO, COME PRINCIPAL INVESTIGATOR	Sabrina Saponaro
National	PROGETTO PRIN 2010-2011 "EMERGING CONTAMINANTS IN AIR, SOIL, AND WATER: FROM SOURCE TO THE MARINE ENVIRONMENT", COME RESPONSABILE UNITÀ OPERATIVA POLIMI	Sabrina Saponaro

### 4 Courses offered

INGEGNERIA SANITARIA AMBIENTALE	88765
SOIL REMEDIATION	95876
TRATTAMENTO DELLE ACQUE DI APPROVVIGIONAMENTO	85721
GROUNDWATER FLOW AND SOIL REMEDIATION (MOD. SOIL REMEDIATION)	93172

### 0 Institutional activities



## SDG7 - AFFORDABLE AND CLEAN ENERGY

Between 1990 and 2010, the number of people with access to electricity has increased by 1.7 billion, and as the global population continues to rise so will the demand for cheap energy. A global economy reliant on fossil fuels, and the increase of greenhouse gas emissions is creating drastic changes to our climate system. This is impacting every continent.

Efforts to encourage clean energy has resulted in more than 20 percent of global power being generated by renewable sources as of 2011. But still one in five people lack access to electricity, and as the demand continues to rise there needs to be a substantial increase in the production of renewable energy across the world.

Ensuring universal access to affordable electricity by 2030 means investing in clean energy sources such as solar, wind and thermal. Adopting cost-effective standards for a wider range of technologies could also reduce the global electricity consumption by buildings and industry by 14 percent. This means avoiding roughly 1,300 mid-size power plants. Expanding infrastructure and upgrading technology to provide clean energy in all developing countries is a crucial goal that can both encourage growth and help the environment.

### 27 Research projects

European	PROGETTO EDULINK II – EUROPEAID/132023/D/ACT/ACTPS 'ENERGISE – ENLARGED NETWORK IN EDUCATION AND RESEARCH FOR A GROWING IMPACT OF SUSTAINABLE ENERGY ENGINEERING ON LOCAL DEVELOPMENT' (2013/ONGOING)	Emanuela Colombo
European	PROGETTO NSHOCK - ERC CONSOLIDATOR GRANT 2013, NUMERO 617603,	Andrea Spinelli
European	PROGETTO EUROPEO SULLE FUEL CELL PER CLEAN POWER GENERATION DEMCOPEM-2MW	Stefano Campanari
International	LENSIN - THE INTERNATIONAL LEARNING NETWORK OF NETWORKS ON SUSTAINABILITY (WWW.LENS-INTERNATIONAL.ORG) COORDINATED BY POLITECNICO DI MILANO (EU FUNDED BY ERASMUS+ PROGRAMME, 2015-18)	Elisa Bacchetti
European	INNWIND.EU FP7	Alessandro Croce
National	RICERCA PRIN 2010-2011. GESTIONE DEL RAPPORTO TRA SISTEMI ENERGETICI E PAESAGGIO. RS PROF.SSA E. GINELLI	Gianluca Pozzi
International	PROGETTO DI COOPERAZIONE CON UNITED NATIONS ENVIRONMENT (2017-2019) DAL TITOLO "PROJECT COOPERATION AGREEMENT (PCA) BETWEEN THE UNITED NATIONS ENVIRONMENT PROGRAMME AND POLITECNICO DI MILANO RELATING TO THE MEDITERRANEAN INVESTMENT FACILITY IN EGYPT"	Mario Motta
National	ACCORDO DI PROGRAMMA ENEA/MSE/CIRTEN - PAR2016	Marco Beghi

European	PROGETTO TEMPUS-544397-2013-IT-JPHES 'TRINEX – KNOWLEDGE TRIANGLE PLATFORM FOR THE WATER ENERGY FOOD NEXUS' (2013/ONGOING);	Emanuela Colombo
National	PROGETTO SULLO SVILUPPO DI UNITÀ PER MICRO-COGENERAZIONE DISTRIBUITA INDUSTRIA2015-MICROGEN30	Stefano Campanari
European	PROGETTO FP7 DEMOCLOCK	Giovanni Lozza
European	PROGETTO EU (2014-2017) SMART AND FLEXIBLE 100 % RENEWABLE DISTRICT HEATING AND COOLING SYSTEMS FOR EUROPEAN CITIES	Alice Denarie
Regional	PROGETTO DI COOPERAZIONE CON REGIONE LOMBARDIA DAL TITOLO "PEF_MILK_TOOL_01 - PMT_01: STRUMENTI DI LAVORO PER IL CALCOLO IMPRONTA AMBIENTALE DEL LATTE E DEI PRODOTTI CASEARI"	Mario Motta
International	PROGETTO DI COOPERAZIONE INTERNAZIONALE CON UNEP (2017-2019) GLOBAL DISTRICT ENERGY IN CITIES	Alice Denarie
National	RICERCA CONTO TERZI: HC FOR HOUSING. LINEE GUIDA PER L'UTILIZZO DI CONTAINER MARITTIMI AD USO ABITATIVO PERMANENTE. RS PROF.SSA E. GINELLI	Gianluca Pozzi
European	INNWIND.EU FP7 AND AVATAR FP7 PROJECTS	Alessandro Croce
International	PROGETTO DI COOPERAZIONE INTERNAZIONALE CON L'AGENZIA EACEA - DAL TITOLO TRINEX, PROGETTO DI COOPERAZIONE INTERNAZIONALE CON L'AGENZIA ACP DAL TITOLO ENERGISE	Alessandro Manzano
National	"RELAB MONITORING" PROGETTO DI MONITORAGGIO DI POMPE DI CALORE	Mario Motta
European	ERC CONSOLIDATOR GRANT 2013, PROJECT NSHOCK 617603, PI: PROF. ALBERTO GUARDONE	Simone Gallarini
European	ERC ENSURE	Carlo Enrico Bottani
National	OSSERVATORIO DI RICERCA 2017 - RENEWABLE ENERGY REPORT	Davide Chiaroni
National	OSSERVATORIO DI RICERCA 2017 - ELECTRIC MARKET REPORT	Davide Chiaroni
National	TRIBOULET_MODELLAZIONE DEL SISTEMA ENERGETICO REGIONALE E NAZIONALE	Mario Motta
National	PROGETTO DI PHD FINANZIATO DA EDISON S.P.A DAL TITOLO "CLEAN ENERGY CONVERSION SYSTEMS: HIGH TEMPERATURE SOLID OXIDE ELECTROCHEMICAL MEMBRANES IN ADVANCED POWER GENERATION APPLICATIONS"	S. Campanari, P. Chiesa



Local	SUPPORTO ALLA COMMISSIONE ENERGIA DEL POLITECNICO AL FINE DI REALIZZARE IL MONITORAGGIO DEI CONSUMI ENERGETICI E L'EFFICIENTAMENTO DEGLI IMPIANTI DI CLIMATIZZAZIONE	Pierluigi Alari
National	COORDINAMENTO PIATTAFORMA NAZIONALE MULTI-ATTORIALE PER L'ENERGIA NELLO SVILUPPO, IN COLLABORAZIONE CON L'AGENZIA ITALIANA PER LA COOPERAZIONE ALLO SVILUPPO E LA DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO (MAECI) (2016/ONGOING)	Emanuela Colombo
National	OSSERVATORIO DI RICERCA 2017 - ENERGY EFFICIENCY REPORT / OSSERVATORIO DI RICERCA 2016 - SMART CITIES & SMART COMMUNITIES	Davide Chiaroni

### 15 Courses offered

ENGINEERING AND COOPERATION FOR DEVELOPMENT	97381
MACCHINE E SISTEMI ENERGETICI	86470
PROGETTO DI GENERATORI EOLICI	91336
LABORATORIO DI PROGETTAZIONE DELL'ARCHITETTURA, TECNOLOGIA DELL'ARCHITETTURA	97306
ENGINEERING OF SOLAR THERMAL PROCESSES	97365
PHYSICS OF NUCLEAR MATERIALS	97669
BUILDING PHYSICS	96588
PRINCIPI DI INGEGNERIA ELETTRICA	60025
SISTEMI ENERGETICI E IMPATTO AMBIENTALE	72574
BIO-ENERGY AND WASTE-TO-ENERGY TECHNOLOGIES	postg
ADVANCED THERMODYNAMICS AND THERMOECONOMICS	95912
DESIGN OF FLUID MACHINES FOR CLEAN POWER GENERATION	97397
BASIC OF BUILDING PHYSICS	99807
ELETTROTECNICA E ELETTRONICA APPLICATA	83266
FUEL CELL AND ELECTROLYSIS SYSTEM	50629

### 0 Institutional activities



## SDG8 - DECENT WORK AND ECONOMIC GROWTH

Over the past 25 years the number of workers living in extreme poverty has declined dramatically, despite the lasting impact of the 2008 economic crisis and global recession. In developing countries, the middle class now makes up more than 34 percent of total employment – a number that has almost tripled between 1991 and 2015.

However, as the global economy continues to recover we are seeing slower growth, widening inequalities, and not enough jobs to keep up with a growing labour force. According to the International Labour Organization, more than 204 million people were unemployed in 2015.

The SDGs promote sustained economic growth, higher levels of productivity and technological innovation. Encouraging entrepreneurship and job creation are key to this, as are effective measures to eradicate forced labour, slavery and human trafficking. With these targets in mind, the goal is to achieve full and productive employment, and decent work, for all women and men by 2030.

### 1 Research projects

International	PROGETTO S.I. P.O.' F.A.' IN SIERRA LEONE, – SVILUPPO DI MODELLI DI IMPRENDITORIA SOCIALE ED INNOVATIVA PER L'OTTIMIZZAZIONE DELLA FILIERA DELL'ANACARDIO IN SIERRA LEONE* - NUTRIRE IL PIANETA 2014 - REGIONE LOMBARDIA - COMUNE DI MILANO - FONDAZIONE CARIPLO, ING-IND/35	Francesca Mapelli
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### 4 Courses offered

GESTIONE AZIENDALE	61189
EUROPEAN ECONOMICS AND URBAN POLICIES	95060
ANALISI E PROGETTAZIONE DEI PROCESSI AZIENDALI	87196
URBAN ECONOMICS	99547

### 0 Institutional activities



## SDG9 - INDUSTRY, INNOVATION AND INFRASTRUCTURE

Investment in infrastructure and innovation are crucial drivers of economic growth and development. With over half the world population now living in cities, mass transport and renewable energy are becoming ever more important, as are the growth of new industries and information and communication technologies.

Technological progress is also key to finding lasting solutions to both economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries, and investing in scientific research and innovation, are all important ways to facilitate sustainable development.

More than 4 billion people still do not have access to the Internet, and 90 percent are from the developing world. Bridging this digital divide is crucial to ensure equal access to information and knowledge, as well as foster innovation and entrepreneurship.

### 7 Research projects

International	ROAD TRAFFIC SAFETY	Paola Villani
National	PROGETTO PERSONALE DI RICERCA E STUDIO DEL VALORE NEGATIVO DI COMUNITÀ DI SVILUPPO SOFTWARE (SOCIAL DEBT) E QUANTIFICAZIONE DEL SUDETTO VALORE	Damian A. Tamburri
International	PROGETTO IN COLLABORAZIONE CON MASSACHUSETTS INSTITUTE OF TECHNOLOGY DAL TITOLO "INTERACTION BETWEEN ELECTRIC VEHICLES AND POWERGRID"	Michela Longo
International	PORT INFRASTRUCTURES AND INTELLIGENT TRANSPORT SYSTEMS	Paola Villani
National	PROGETTO PERSONALE DI RICERCA E STUDIO DELLE CIRCOSTANZE ORGANIZZATIVE E SOCIO-TECNICHE RICORRENTI CHE CREANO FRIZIONI E TENSIONI SOCIALI (CON CONSIDEREBILE COSTO AGGIUNTIVO) ALL'INTERNO DI RETI SOCIALI DI SVILUPPO SOFTWARE	Damian A. Tamburri
International	POLIMI INTERNATIONAL FELLOWSHIP DAL TITOLO: "AN AEROELASTIC STUDY OF CYCLOIDAL ROTORS USED IN VARIOUS CONFIGURATIONS"	Louis Gagnon
European	PROGETTO EUROPEO INTERREG P-IRIS - "POLICIES TO IMPROVE RURAL AREAS' INNOVATION SYSTEMS BY PROFESSIONALISING NETWORKING ACTIVITIES AND USE OF INNOVATION TOOLS"	Elisa Amodeo

### 9 Courses offered

DISTRIBUZIONE E APPLICAZIONI DELL'ENERGIA ELETTRICA	89268
ELEMENTI DI TECNICA STRADALE	88501
ADVANCED SOFTWARE ENGINEERING	88947
AUTOMAZIONE DEI SISTEMI ELETTRICI DI TRASPORTO	91615
CANTIERI DI INFRASTRUTTURE	90870
PROGRAMMAZIONE, GESTIONE E CONTROLLO DEGLI APPALTI	93613

PROGETTO DI STRADE	88639
RILEVAMENTO GEOLOGICO TECNICO	94742
COSTRUZIONI DI STRADE, FERROVIE ED AEROPORTI	99229

### 1 Institutional activities

DIPARTIMENTO DI INGEGNERIA CIVILE E AMBIENTALE (DICA)	LABORATORIO, LAT 104, SPP		Alessandro Lazzarin
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## SDG10 - REDUCED INEQUALITIES

It is well documented that income inequality is on the rise, with the richest 10 percent earning up to 40 percent of total global income. The poorest 10 percent earn only between 2 percent and 7 percent of total global income. In developing countries, inequality has increased by 11 percent if we take into account the growth of population.

These widening disparities require the adoption of sound policies to empower the bottom percentile of income earners, and promote economic inclusion of all regardless of sex, race or ethnicity.

Income inequality is a global problem that requires global solutions. This involves improving the regulation and monitoring of financial markets and institutions, encouraging development assistance and foreign direct investment to regions where the need is greatest. Facilitating the safe migration and mobility of people is also key to bridging the widening divide.

### 1 Research projects

Local	PADIGLIONE INDIA PER TRIENNALE DI MILANO SU WARM MODERNITY	Maddalena D'alfonso
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### 1 Courses offered

COOPERATION	postg
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### 2 Institutional activities

DIREZIONE GENERALE	COMITATO UNICO DI GARANZIA	CONSIGLIERA DI FIDUCIA E REFERENTE SPORTELLO DI ASCOLTO	Annalisa Rosiello, Maria Grazia Cipero
AREA SERVIZI AGLI STUDENTI E AI DOTTORANDI	SERVIZIO AGLI STUDENTI CON DISABILITÀ E DSA	MULTICHANCE POLITEAM	Silvia Sbattella



## SDG11 - SUSTAINABLE CITIES AND COMMUNITIES

More than half of the world's population now live in urban areas. By 2050, that figure will have risen to 6.5 billion people – two-thirds of all humanity. Sustainable development cannot be achieved without significantly transforming the way we build and manage our urban spaces.

The rapid growth of cities in the developing world, coupled with increasing rural to urban migration, has led to a boom in mega-cities. In 1990, there were ten mega-cities with 10 million inhabitants or more. In 2014, there are 28 mega-cities, home to a total 453 million people.

Extreme poverty is often concentrated in urban spaces, and national and city governments struggle to accommodate the rising population in these areas. Making cities safe and sustainable means ensuring access to safe and affordable housing, and upgrading slum settlements. It also involves investment in public transport, creating green public spaces, and improving urban planning and management in a way that is both participatory and inclusive.

### 51 Research projects

National	GREEN BUILDING COUNCIL NELLA STESURA DI LINEE GUIDA.	Alessandro Zichi
European	PROGETTO BLACK CAT (BLACK CARBON TOOL)	Giovanni Lonati
Local	POLISOCIAL - PROGRAMMA DI SOCIAL RESPONSIBILITY DEL POLITECNICO DI MILANO, PROF. GABRIELE PASQUI	Gabriele Pasqui
Regional	"I GREENWAY COME ELEMENTI DI FRUIZIONE E VALORIZZAZIONE DEL TERRITORIO. IL CASO DEI LAGHI BRIANTEI". CONTRATTO TRA POLITECNICO DI MILANO – POLO DI LECCO E L'ENTE AUTORITÀ DI BACINO DEL LARIO E DEI LAGHI MINORI.	Fulvia Pinto
National	PROGETTO FINANZIATO PRIN 2015 DAL TITOLO "ADAPTIVE DESIGN E INNOVAZIONI TECNOLOGICHE PER LA RIGENERAZIONE RESILIENTE DEI DISTRETTI URBANI IN REGIME DI CAMBIAMENTO CLIMATICO", RESPONSABILE U.O. POLITECNICO DI MILANO, DIPARTIMENTO ABC: ELENA MUSSINELLI. COORDINATORE SCIENTIFICO: MARIO LOSASSO	Elena Mussinelli
European	PROGETTO EUROPEO GRANT AGREEMENT N°691895 (2016-2020) DAL TITOLO "SHARING CITIES"	Eugenio Morello
National	CONTRATTO ENI 2016 DAL TITOLO " PRESTAZIONI PROFESSIONALI PER ATTIVITÀ DI RICERCA, SVILUPPO E SUPPORTO TECNICO –SCIENTIFICO"	Lorenzo Mussone
Local	PROGETTO DI RICERCA LEAP (2016 - AD OGGI): PRESENZE ATMOSFERICHE DI PARTICOLATO ULTRAFINE E NANOPOLVERI ALLE EMISSIONI E NELL'AREA DI INSEDIAMENTO DELL'IMPIANTO DI TERMOUTILIZZAZIONE DI PARMA.	Stefano Cernuschi

European	EU PROJECT CARE - EMPOWERING CLIMATE RESILIENCE	Simona Muratori
European	ERA-NET COFUND WATERWORKS 2015. INNOVATIVE OPTIONS FOR INTEGRATED WATER RESOURCES MANAGEMENT IN THE MEDITERRANEAN (INNOMED)	Giovanni Ravazzani
Local	SEMINARI AUTOGESTITI ALL'INTERNO DEL CORSO DI STUDIO ( CORSO DI NORMATIVA E LEGISLAZIONE - DASTU - SCUOLA AUIC - LAUREA MAGISTRALE ARCHITETTURA DELLE COSTRUZIONI) DAL TEMA : "NUOVE FORME DELL'ABITARE PER LA VITA ASSOCIATA E PER LA PROMOZIONE DELLA SALUTE MENTALE".	Manuela Ogliaro
Local	PROGETTO MOBILITA' SOSTENIBILE CASA-SCUOLA, CASA-LAVORO IN COLLABORAZIONE CON IL COMUNE DI FERRARA (COLLEGATO AMBIENTALE)	Federico Malucelli
National	OSSERVATORIO SULLE PRATICHE DI RESILIENZA". MEMBRO DEL COMITATO SCIENTIFICO E DEL COMITATO OPERATIVO FINANZIAMENTO FONDAZIONE CARIPL0 (2015-2017)	Giulia Pesaro
European	COST ACTION URBAN AGRICULTURE EUROPE, (2011-2016) FINANZIATO DA UE	Paola Branduini
European	"HUMAN CITIES/CHALLENGING THE CITY SCALE 2014/18", CREATIVE EUROPE PROGRAMME FUNDED PROJECT	Annalinda De Rosa
European	SIM (SMART IRRIGATION FROM SOIL MOISTURE FORECAST USING SATELLITE AND HYDRO-METEOROLOGICAL MODELLING)	Alessandro Ceppi
International	TEINVEIN	Luca Bascetta
National	RICERCA LEAP UTILITALIA (2016 - IN CORSO): TRATTAMENTO E RECUPERO DELLE CENERI PESANTI DA INCENERIMENTO	Stefano Cernuschi, Mario Grosso
International	PROGETTO TOBICUP (TOXICITY OF BIOMASS COMBUSTION GENERATED ULTRAFINE PARTICLES)	Giovanni Lonati
National	INNOVANCE, PIATTAFORMA ITALIANA PER LA FILIERA DELLE COSTRUZIONI PER EFFICIENZA ENERGETICA, IEA ANNEX 65 LONG TERM PERFORMANCE OF SUPERINSULATING MATERIALS	Bruno Daniotti
Regional	LINEE GUIDA PER LA SOSTENIBILITÀ IN REGIONE LOMBARDIA	Alessandro Zichi
Regional	STUDIO DI FATTIBILITÀ E ATTUAZIONE DEI DISTRETTI CULTURALI DOMINUS OLTREPÒ MANTOVANO PER L'INNOVAZIONE, L'UNICITÀ E LO SVILUPPO (2007-IN CORSO) E REGGE DEI GONZAGA, MANTOVA E SABBIONETA (2010-15), COMMITTENTE FONDAZIONE CARIPL0.	Elena Mussinelli
European	KASSANDRA METEO FORECAST	Alessandro Ceppi
European	JASMINN, PROGETTO FINAZIATO DALLA AGENCE NATIONALE FRANÇAISE POUR LA RECHERCHE (2015-18), RESPONSABILE COLINE PERRIN, INRA MONTPELLIER, INERENTE LA PROTEZIONE FONDIARIA E L'INNOVAZIONE NELLE AREE AGRICOLE PERIURBANE	Paola Branduini

European	PROGETTO EUROPEO TRIENNALE INTERREG IVB ALPINE SPACE "CAPACITIES - COMPETITIVENESS ACTIONS AND POLICIES FOR ALPINE CITIES": COMMITTENTI: REGIONE LOMBARDIA, DG CULTURA (2009-2011)	Giulia Pesaro
National	PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE - BANDO 2015. RECONCILING PRECIPITATION WITH RUNOFF: THE ROLE OF UNDERSTATED MEASUREMENT BIASES IN THE MODELLING OF HYDROLOGICAL PROCESSES	Giovanni Ravazzani
Local	MAPPING SAN SIRO: PROGETTO DI RICERCA-AZIONE NEL QUARTIERE SAN SIRO A MILANO, PI PROF.SSA FRANCESCA COGNETTI	Gianfranco Orsenigo
Local	ORTI NELLA CITTÀ METROPOLITANA (2016-2017) FINANZIATO DA FONDAZIONE CARIPLO CON ITALIA NOSTRA, UNIVERSITÀ DI MILANO. PI PROF. LONGO, DASTU	Costanzo Ranci
European	PROGETTO ALPINE SPACE INTESI (2016-2018)	Gianluca Lentini
Local	PROGETTO DI COLLABORAZIONE CON L'AGENZIA AMAT PER L'ESECUZIONE DEL SEGUENTE PROGRAMMA DI RICERCA: "OTTIMIZZAZIONE DELLE LINEE DI SUPERFICIE DEL TPL E SUA INTEGRAZIONE CON SERVIZI FLESSIBILI DI MOBILITÀ NELL'AREA DI MILANO". PROF. FEDERICO MALUCELLI	Alessandro Giovannini
European	PROGETTO EU FP7 "SMARTH2O" <a href="http://www.smarth2o-fp7.eu/">HTTP://WWW.SMARTH2O-FP7.EU/</a>	Andrea Cominola
European	PROGETTO INTERREG ALPINE SPACE (2016-2018) DAL TITOLO "CESBA ALPS - SUSTAINABLE TERRITORIES", PROF. ELIOT ROBERTO LANIADO;	Silvia Alessandra Arcari
European	PROGETTO INTERREG EUROPE P-IRIS (2017-2021)	Gianluca Lentini
European	PROGETTO INTERREG EUROPE PROMETEUS (2017-2021);	Gianluca Lentini
National	PROGETTO PRIN "TERRITORI POST-METROPOLITANI COME FORME URBANE EMERGENTI: LE SFIDE DELLA SOSTENIBILITÀ, ABITABILITÀ E GOVERNABILITÀ" (2012-2015) PI PROF. BALDUCCI	Alessandro Balducci
Local	QUESTIONARIO SULLA MOBILITÀ DEGLI STUDENTI E PD+PTA	Fabio Carlo Guerreschi
Local	REDAZIONE DEL PIANO SPOSTAMENTI CASA UNIVERSITÀ;	Fabio Carlo Guerreschi
Regional	RICERCA FONDAZ. CARIPLO (IN CORSO). INTEGRATION OF MICROALGAL BASED PROCESSES IN WASTEWATER TREATMENT (IMAP). PI: PROF. MEZZANOTTE (UNIV. DI MILANO-BICOCCA)	Stefano Cernuschi
Local	RICERCA LEAP (2015). STUDIO DI FATTIBILITÀ PER L'EFFICIENTAMENTO E L'ADEGUAMENTO DELL'IMPIANTO DI COMPOSTAGGIO DELLA PIATTAFORMA AMBIENTALE DI MACCHIAREDDU (CA).	PI: Proff. Consonni (DENG, Polimi), Cernuschi (DICA, Polimi), Ragazzi (Univ. Di Trento).



Regional	ASSISTENZA TECNICA A REGIONE LOMBARDIA PER IL PROGETTO ALPINE SPACE INTESI	Alessandra Cappiello
Regional	ASSISTENZA TECNICA AUTORITÀ AMBIENTALE REGIONE LOMBARDIA	Giuliana Maria Gemini
Regional	CONOSCENZA E VALORIZZAZIONE DEL PATRIMONIO PAESISTICO DELL'OGLIO PO, PROGETTO DI COOPERAZIONE TRANSNAZIONALE LANDSARE "ARCHITETTURE DI PAESAGGIO NELLE AREE RURALI EUROPEE: UN NUOVO APPROCCIO AL DISEGNO DELLO SVILUPPO LOCALE", MISURA 421 PSR 2007/2013 "COOPERAZIONE INTERTERRITORIALE E TRANSNAZIONALE" COMMITTENTE GAL OGLIO PO TERRE D'ACQUA (2013-15).	Elena Mussinelli
European	ECOMUSEO DELLE MARCITE, FINANZIATO DA REGIONE LOMBARDIA, CAPOFILIA PARCO REGIONALE VALLE DEL TICINO (2017)	Paola Branduini
Local	FARB2016 L'ARCHITETTURA DEL CARCERE: DA SPAZIO DI DETENZIONE A LUOGO DI RELAZIONE	Andrea Di Franco
Regional	PIANO REGIONALE AMBIENTALE DI REGIONE LOMBARDIA	Silvia Vaghi
Regional	PROGETTO CARIPLO (2017-2019) DAL TITOLO "FLOOD-IMPAT+", PI: DOTT.SSA DANIELA MOLINARI	Guido Minucci
European	PROGETTO DI SCAMBIO INTERNAZIONALE TRA DOCENTI ERASMUS + CARE - ENHANCING URBAN RESILIENCE (2017-2018)	Giulia Pesaro
European	PROGETTO EUROPEO BIENNALE FP7 KNOW-4-DDR, "ENABLING KNOWLEDGE FOR DISASTER RISK REDUCTION IN INTEGRATION TO CLIMATE CHANGE ADAPTATION" (2013-2014)	Giulia Pesaro
Local	PROGETTO FARB "SEGREGAZIONE TERRITORIALE E SEGREGAZIONE SCOLASTICA DELLA POPOLAZIONE INFANTILE A MILANO E NELLE PRINCIPALI CITTÀ EUROPEE: CAUSE, DINAMICHE, CONSEGUENZE" PI PROF. RANCI	Costanzo Ranci
European	PROGETTO FP7 (2013-2017) DAL TITOLO "INSPIRE-GRID - IMPROVED AND ENHANCED STAKEHOLDERS PARTICIPATION IN REINFORCEMENT OF ELECTRICITY GRID"	Alessandro Luè
European	PROGETTO INTERREG EUROPE (2017-2021) DAL TITOLO "PROMETEUS - PROMOTION OF MOBILITY IN EU REGIONS"	Alessandro Luè

#### 40 Courses offered

DURABILITY AND MAINTENANCE	96313
BUILDING TECHNOLOGY STUDIO, FISICA TECNICA	91455
INQUINAMENTO ATMOSFERICO	88719
PIANIFICAZIONE E POLITICHE URBANE	86084
TECNICA URBANISTICA + LABORATORIO (C.I.)	99748
URBAN AND LANDSCAPE REGENERATION STUDIO	97821
PROGETTAZIONE URBANA SOSTENIBILE	99366
LABORATORIO DI PROGETTAZIONE FINALE	99430
INGEGNERIA SANITARIA-AMBIENTALE	85639
URBAN DESIGN FOR DEVELOPMENT	50428
PROTEZIONE IDRAULICA DEL TERRITORIO	50522

NORMATIVA E LEGISLAZIONE	84286
FOUNDATIONS OF OPERATIONS RESEARCH	88983
BUILDING AND CONSTRUCTION TECHNOLOGIES	96310
METHODS AND TOOLS FOR ANALYSIS OF URBAN AND TERRITORIAL SYSTEMS	96312
LANDSCAPE AS HERITAGE	97823
LABORATORIO DI SINTESI FINALE	99996
GEOGRAPHIC INFORMATION SYSTEMS	99345
SISTEMAZIONE DEI BACINI IDROGRAFICI	88624
GENERAL ECOLOGY	97824
ARCHITECTURAL PRESERVATION	93385
TECNICA DELLE PAVIMENTAZIONI	99235
PHYSICAL GEOGRAPHY AND GEO-MORPHOLOGY	99566
URBAN AND REGIONAL ANALYSIS	95990
ANALISI DELLA CITTÀ E DEL TERRITORIO	96359
BUILDING TECHNOLOGY	97792
ARCHITECTURAL DESIGN STUDIO 3	99458
SOCIOLOGIA URBANA	99669
BUILDING DURABILITY	97625
ENVIRONMENTAL TECHNOLOGY	98490
ETNOGRAPHIC APPROACHES TO URBAN ISSUES	99520
PIANIFICAZIONE E TRASFORMAZIONI URBANE	86608
SUSTAINABILITY AND THE BUILT ENVIRONMENT	97701
SUSTAINABLE URBAN DESIGN	96355
TRASPORTI, MOBILITÀ E SOSTENIBILITÀ	93342
REMOTE SENSING	91860
DIAGNOSIS OF HISTORIC STRUCTURES	99653
ARCHITECTURE CONSTRUCTION STUDIO: SITE SURVEY, SETTING OUT AND MONITORING	99914
ECOLOGIA URBANA	99367
IGIENE E SOSTENIBILITÀ DELL'AMBIENTE COSTRUITO	50447

## 6 Institutional activities

DIREZIONE GENERALE	SERVIZIO SOSTENIBILITÀ DI ATENEO	TUTTE LE ATTIVITÀ DEL SERVIZIO SOSTENIBILITÀ SONO INDIRIZZATE IN TAL SENSO	Eleonora Perotto
DIREZIONE GENERALE	SERVIZIO SOSTENIBILITÀ DI ATENEO	SSA MOBILITA' SOSTENIBILE	Eleonora Perotto
DIPARTIMENTO DI ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO (DABC)	LABORATORIO PROVE MATERIALI STRUTTURE E COSTRUZIONI (DURABILITÀ)	WORLD SUSTAINABLE BUILT ENVIRONMENT CONFERENCES, SUSTAINABLE CAMPUS	Bruno Daniotti
DIPARTIMENTO DI ARCHITETTURA E STUDI URBANI (DASTU)	LABORATORIO ANALISI DATI E CARTOGRAFIA		Fabio Manfredin
DIREZIONE GENERALE	SERVIZIO SOSTENIBILITÀ DI ATENEO		Scila Melita Ficarelli
DIREZIONE GENERALE			Licia Zuzzaro



## SDG12 - RESPONSIBLE CONSUMPTION AND PRODUCTION

Achieving economic growth and sustainable development requires that we urgently reduce our ecological footprint by changing the way we produce and consume goods and resources. Agriculture is the biggest user of water worldwide, and irrigation now claims close to 70 percent of all freshwater for human use.

The efficient management of our shared natural resources, and the way we dispose of toxic waste and pollutants, are important targets to achieve this goal. Encouraging industries, businesses and consumers to recycle and reduce waste is equally important, as is supporting developing countries to move towards more sustainable patterns of consumption by 2030.

A large share of the world population is still consuming far too little to meet even their basic needs. Halving the per capita of global food waste at the retailer and consumer levels is also important for creating more efficient production and supply chains. This can help with food security, and shift us towards a more resource efficient economy.

### 22 Research projects

European	LEANGO, LEAN THINKING FOR SUSTAINABLE DEVELOPMENT (2016), MONICA ROSSI	Rossella Luglietti
Regional	PROGETTO DI RICERCA "VALUTAZIONE CON METODOLOGIA LCA (LIFE CYCLE ASSESSMENT) DEI FLUSSI E DEL DESTINO DEI RIFIUTI DA COSTRUZIONE E DEMOLIZIONE" FINANZIATO DA REGIONE LOMBARDIA (2016-2017)	Lucia Rigamonti
National	"REDUCE - RICERCA, EDUCAZIONE E COMUNICAZIONE: UN APPROCCIO INTEGRATO PER LA PREVENZIONE DEGLI SPRECHI ALIMENTARI", SOSTENUTO DAL MINISTERO DELL'AMBIENTE	Mario Grosso
Regional	SUSTAINABLE FOOD LAB, OSSERVATORIO SISTEMA MODA	Federico Caniato
International	ANNEX56 "COST EFFECTIVE ENERGY AND GHG OPTIMIZATION IN BUILDING RENOVATION" - EBC (ENERGY IN BUILDINGS AND COMMUNITIES) DELLA IEA - INTERNATIONAL ENERGY AGENCY (AVVIATO NEL 2011- ATTUALMENTE IN FASE DI FORMALE CHIUSURA)	Simone Ferrari
International	THE JEFERSON'S KITCHEN: L'ECO-DOMESTICO PER L'UPCYCLING DEI REFLUI DI LAVAGGIO DOMESTICI E LA PRODUZIONE DI VEGETALI A MILLIMETRO ZERO	Fiammetta Costa
International	PROGETTO SMART DOMO GRID	Roberto Faranda
International	PROGETTO POLISOCIAL "TAMBALI FII"	Piercarlo Maggiolini
European	SUPPORTO TECNICO SCIENTIFICO PER L'ATTIVITÀ DI DICHIARAZIONE AMBIENTALE DI PRODOTTO (EPD®) PER DIVERSE TIPOLOGIE DI CARTONCINO, FINANZIATO DA RENO DE MEDICI (DAL 2010 AD OGGI)	Lucia Rigamonti

National	RICERCA PER INTEGRAZIONE DI TECNOLOGIE E ARREDI NEGLI AMBIENTI DI VITA DEL PROGETTO "IL PAESE RITROVATO"	Fiammetta Costa
Regional	ASSISTENZA TECNICA ALL'AUTORITÀ AMBIENTALE DI REGIONE LOMBARDIA (2015-2022)	Elena Girola
Regional	ASSISTENZA TECNICA ALL'AUTORITÀ AMBIENTALE DI REGIONE LOMBARDIA SUI FONDI STRUTTURALI E PER LO SVILUPPO RURALE (2016-2023)	Carlotta Sigismondi
European	ENCOMPASS PENNY	Piero Fraternali
National	CONTRATTO DI RICERCA CON ASSOLOMBARDA (2016-'17) "IL RECUPERO DELLE ECCELENZE ALIMENTARE NEL CONTEST DELLA CITTÀ METROPOLITANA" (RESPONSABILI DELLA RICERCA: PAOLA GARRONE E ALESSANDRO PEREGO, DIG)	Paola Garrone
European	UIA - OPEN AGRI (2016-2019)	Roberto Nocerino
National	PROGETTO DI RICERCA "ANALISI DELLA FILIERA BIOENERGETICA RIFIUTO (URBANO) – TMB (TRATTAMENTO MECCANICO-BIOLOGICO) – CSS (COMBUSTIBILE SOLIDO SECONDARIO)" FINANZIATO DA RICERCA SUL SISTEMA ENERGETICO (2016-2018)	Lucia Rigamonti
National	PROGETTO DI RICERCA "L'ANALISI DEL CICLO DI VITA NEL SETTORE DEL RICICLO DELLA FRAZIONE ORGANICA" FINANZIATO DA COREPLA (2017)	Lucia Rigamonti
International	PROGETTO PRODUCT ENVIRONMENTAL FOOTPRINT TOOL E PROGETTO LIFE THE TOUGH GET GOING	Jacopo Famiglietti
International	ANNEX 74 "COST-EFFECTIVE STRATEGIES TO COMBINE ENERGY EFFICIENCY MEASURES AND RENEWABLE ENERGY USE IN BUILDING RENOVATION AT DISTRICT LEVEL" - EBC (ENERGY IN BUILDINGS AND COMMUNITIES) DELLA IEA – INTERNATIONAL ENERGY AGENCY (APPROVATO 2016 - ATTUALMENTE IN FASE DI AVVIO).	Simone Ferrari
Regional	ASSISTENZA TECNICA A REGIONE LOMBARDIA PER IL PROGETTO ALPINE SPACE CESBA ALPS	Elena Girola
Local	PROGETTO DI CONSULENZA PER ILLYCAFFÈ SPA E PROGETTO EXPO MILANO	Jacopo Famiglietti
International	SMARTH20 PROACTIVE	Piero Fraternali

## 16 Courses offered

ADVANCED AND SUSTAINABLE MANUFACTURING	97333
SOLID WASTE MANAGEMENT AND TREATMENT	97462
BUILDING PHYSICS	97432
LABORATORIO DI SINTESI FINALE - P3	99464
ECOLOGIA E SOSTENIBILITÀ DEI SISTEMI PRODUTTIVI	85722
LOGISTICS MANAGEMENT	96089
BUSINESS AND INDUSTRIAL ECONOMICS (NB SDG 12 = 10%)	96092
SYSTEM DESIGN FOR SUSTAINABILITY	92050

RESPONSABILITÀ SOCIALE DELL'IMPRESA	93289
SIDERURGIA	61168
GESTIONE AMBIENTALE D'IMPRESA E DELLE ENERGIE RINNOVABILI	86825
PROCESS SYSTEMS ENGINEERING	93562
LABORATORIA PROGETTAZIONE DEGLI ELEMENTI COSTRUTTIVI	99686
PRODUCT LIFECYCLE MANAGEMENT	97327
SOLID WASTE MANAGEMENT AND TREATMENT	97462
ECOLOGIA E SOSTENIBILITÀ DEI SISTEMI PRODUTTIVI	98606

### 1 Institutional activities

DIREZIONE GENERALE	SERVIZIO SOSTENIBILITÀ DI ATENEO	SSA GESTIONE RIFIUTI	Eleonora Perotto
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## SDG13 - CLIMATE ACTION

There is no country in the world that is not experiencing first-hand the drastic effects of climate change. Greenhouse gas emissions continue to rise, and are now more than 50 percent higher than their 1990 level. Further, global warming is causing long-lasting changes to our climate system, which threatens irreversible consequences if we do not take action now.

The annual average losses from earthquakes, tsunamis, tropical cyclones and flooding amount to hundreds of billions of dollars, requiring an investment of US\$6 billion annually in disaster risk management alone. The goal aims to mobilize \$100 billion annually by 2020 to address the needs of developing countries and help mitigate climate-related disasters.

Helping more vulnerable regions, such as land locked countries and island states, adapt to climate change must go hand in hand with efforts to integrate disaster risk measures into national strategies. It is still possible, with the political will and a wide array of technological measures, to limit the increase in global mean temperature to two degrees Celsius above pre-industrial levels. This requires urgent collective action.

### 8 Research projects

Regional	MONITORAGGIO GHIACCIAIO DEI FORNI IN COOPERAZIONE CON UNIMI	Marco Scaioni
European	ERC COBHAM	Massimo Tavoni
Local	CAMPUS SOSTENIBILE: STIMA DELLE EMISSIONI DI CO2 DEL POLITECNICO E REALIZZAZIONE DI UN PIANO DI MITIGAZIONE (2015-2016);	Stefano Caserini
Regional	SO-WATCH (FONDAZIONE CARIPILO) SOFT-PATH WATER MANAGEMENT ADAPTATION TO CHANGING CLIMATE	Andrea Castelletti
Local	PROGETTO "PIAZZE MILANO: GESTIONE INFORMATIZZATA DEGLI EVENTI" (COMUNE DI MILANO)	Marco Scaioni
International	EVALUATION OF TECHNOLOGIES FOR CARBON DIOXIDE SUBMARINE STORAGE IN GLASS CAPSULES	Stefano Caserini
European	FP7 SMARTH2O AN ICT PLATFORM TO LEVERAGE ON SOCIAL COMPUTING FOR THE EFFICIENT MANAGEMENT OF WATER CONSUMPTION	Andrea Castelletti
European	H2020 DAFNE DECISION ANALYTIC FRAMEWORK TO EXPLORE THE WATER-ENERGY-FOOD NEXUS IN COMPLEX TRANSBOUNDARY WATER RESOURCES OF FAST DEVELOPING COUNTRIES (2016-2019)	Andrea Castelletti

## 7 Courses offered

CLIMATE AND HYDROLOGY	91560
GEOLOGICAL AND PHOTOGRAMMETRIC ASSESSMENT AND MONITORING	94813
ECONOMIA AMBIENTALE	82655
MITIGAZIONE DEI CAMBIAMENTI CLIMATICI	88776
NATURAL RESOURCES MANAGEMENT	95896
AIR POLLUTION AND CONTROL ENGINEERING	90907
ENERGY MODELLING AND SCENARIOS	97396

## 1 Institutional activities

DIREZIONE GENERALE	SERVIZIO SOSTENIBILITÀ DI ATENEIO	SSA PROGETTO STIMA DELLE EMISSIONI DI CO2 DI ATENEIO; GRUPPO DI LAVORO CAMBIAMENTI CLIMATICI DELLA RUS-RETE DELLE UNIVERSITÀ PER LO SVILUPPO SOSTENIBILE	Paola Baglione
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## SDG14 - LIFE BELOW WATER

The world's oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind. How we manage this vital resource is essential for humanity as a whole, and to counter balance the effects of climate change.

Over three billion people depend on marine and coastal biodiversity for their livelihoods. However, today we are seeing 30 percent of the world's fish stocks overexploited, reaching below the level at which they can produce sustainable yields.

Oceans also absorb about 30 percent of the carbon dioxide produced by humans, and we are seeing a 26 percent rise in ocean acidification since the beginning of the industrial revolution. Marine pollution, an overwhelming majority of which comes from land-based sources, is reaching alarming levels, with an average of 13,000 pieces of plastic litter to be found on every square kilometre of ocean.

The SDGs aim to sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification. Enhancing conservation and the sustainable use of ocean-based resources through international law will also help mitigate some of the challenges facing our oceans.

### 1 Research projects

European	"SAFENET: SUSTAINABLE FISHERIES IN EU MEDITERRANEAN WATERS THROUGH NETWORKS OF MPAS" FINANZIATO DALLA COMMISSIONE EUROPEA, DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES (2016-2018)	Paco Melià
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### 0 Courses offered

### 0 Institutional activities





## SDG15 - LIFE ON LAND

Human life depends on the earth as much as the ocean for our sustenance and livelihoods. Plant life provides 80 percent of our human diet, and we rely on agriculture as an important economic resource and means of development. Forests account for 30 percent of the Earth’s surface, providing vital habitats for millions of species and important sources for clean air and water; as well as being crucial for combating climate change.

Today we are seeing unprecedented land degradation, and the loss of arable land at 30 to 35 times the historical rate. Drought and desertification is also on the rise each year, amounting to the loss of 12 million hectares and affects poor communities globally. Of the 8,300 animal breeds known, 8 percent are extinct and 22 percent are at risk of extinction.

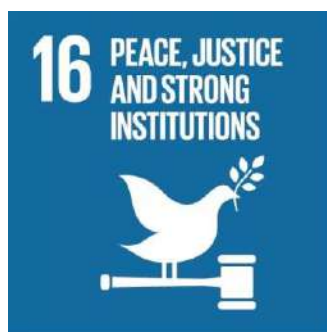
The SDGs aim to conserve and restore the use of terrestrial ecosystems such as forests, wetlands, drylands and mountains by 2020. Halting deforestation is also vital to mitigating the impact of climate change. Urgent action must be taken to reduce the loss of natural habitats and biodiversity which are part of our common heritage.

**0 Research projects**

**4 Courses offered**

ECOLOGIA	97705
ECOLOGIA	85640
ECOLOGIA	88651
GEO FUNDAMENTALS 1	99337

**0 Institutional activities**



## SDG16 - PEACE, JUSTICE AND STRONG INSTITUTIONS

Without peace, stability, human rights and effective governance, based on the rule of law - we cannot hope for sustainable development. We are living in a world that is increasingly divided. Some regions enjoy sustained levels of peace, security and prosperity, while others fall into seemingly endless cycles of conflict and violence. This is by no means inevitable and must be addressed.

High levels of armed violence and insecurity have a destructive impact on a country's development, affecting economic growth and often resulting in long standing grievances that can last for generations. Sexual violence, crime, exploitation and torture are also prevalent where there is conflict or no rule of law, and countries must take measures to protect those who are most at risk.

The SDGs aim to significantly reduce all forms of violence, and work with governments and communities to find lasting solutions to conflict and insecurity. Strengthening the rule of law and promoting human rights is key to this process, as is reducing the flow of illicit arms and strengthening the participation of developing countries in the institutions of global governance.

### 2 Research projects

International	COOPERAZIONE CON UNITED NATIONS. GEOSPATIAL INFORMATION SECTION NEL PROGETTO UN OPEN GIS	Maria Antonia Brovelli
International	MEMBRO DELL'ADVISORY BOARD DI UN-GGIM ACADEMIC NETWORK <a href="http://unggim.academicnetwork.org/">HTTP://UNGGIM.ACADEMICNETWORK.ORG/</a>	Maria Antonia Brovelli

### 1 Course offered

ETICA PROFESSIONALE	93747
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### 0 Institutional activities



## SDG17 - PARTNERSHIPS FOR THE GOALS

The SDGs can only be realized with a strong commitment to global partnership and cooperation. While official development assistance from developed countries increased by 66 percent between 2000 and 2014, humanitarian crises brought on by conflict or natural disasters continue to demand more financial resources and aid. Many countries also require Official Development Assistance to encourage growth and trade.

The world today is more interconnected than ever before. Improving access to technology and knowledge is an important way to share ideas and foster innovation. Coordinating policies to help developing countries manage their debt, as well as promoting investment for the least developed, is vital to achieve sustainable growth and development.

The goals aim to enhance North-South and South-South cooperation by supporting national plans to achieve all the targets. Promoting international trade, and helping developing countries increase their exports, is all part of achieving a universal rules-based and equitable trading system that is fair and open, and benefits all.

### 4 Research projects

Regional	DISTRETTO CULTURALE "OLTREPÒ MANTOVANO", PROGETTO FINANZIATO DA FONDAZIONE CARIPLO E DAI COMUNI DEL TERRITORIO DELL'OLTREPÒ MANTOVANO, PI PROF. DANIELE FANZINI	Daniele Fanzini
Regional	DISTRETTO CULTURALE "REGGE DEI GONZAGA" MANTOVA, PROGETTO FINANZIATO DA FONDAZIONE CARIPLO E DAI PRINCIPALI ENTI TERRITORIALI DELLA CITTÀ DI MANTOVA, PI PROF. ELENA MUSSINELLI	Daniele Fanzini
European	EUROPEAN PROJECT SUPPORTED BY THE JPI HERITAGE PLUS PROGRAMME: CHANGES - CHANGES IN CULTURAL HERITAGE ACTIVITIES: NEW GOALS AND BENEFITS FOR ECONOMY AND SOCIETY	Cristina Boniotti
European	EUROPEAN PROJECT SUPPORTED BY THE JPI HERITAGE PLUS PROGRAMME: CHANGES - CHANGES IN CULTURAL HERITAGE ACTIVITIES: NEW GOALS AND BENEFITS FOR ECONOMY AND SOCIETY	Cristina Boniotti

### 1 Courses offered

FINAL WORKSHOP "ANTICO E NUOVO", ARCHITECTURAL DESIGN AND HISTORY	99643
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### 7 Institutional activities

AREA COMUNICAZIONE E RELAZIONI ESTERNE		ERASMUS MUNDUS INTERWEAVE 2013-2538/001-001-EM ACTION 2- PARTNERSHIPS	Barbara Del Sole
AREA COMUNICAZIONE E RELAZIONI ESTERNE		ERASMUS+ KA2 CAPACITY BUILDING 561642-EPP-1-2015-1-	Barbara Del Sole
AREA COMUNICAZIONE E RELAZIONI ESTERNE		IL-EPPKA2-CBHE-JP ORT BRAUDE COLLEGE, ISRAEL IN2IT - INTERNATIONALIZATION BY INNOVATIVE TECHNOLOGIES CAPOFILA: ORT BRAUDE COLLEGE, ISRAEL	Barbara Del Sole

AREA COMUNICAZIONE E RELAZIONI ESTERNE		ERASMUS+ KA2 STRATEGIC PARTNERSHIPS 2014-1-NL01- KA203-001181 ; MASTERMIND EUROPE - MASTERS ADMISSION FOR A DIVERSE INTERNATIONAL CLASSROOM CAPOFILA STICHTING VU-VUMC VUA, THE NETHERLANDS	Barbara Del Sole
AREA SVILUPPO E RAPPORTI CON LE IMPRESE	FUNDRAISING E SPORT	RACCOLTA FONDI	Ivan Ciceri
AREA SVILUPPO E RAPPORTI CON LE IMPRESE	SERVIZIO OFFERTA FOMATIVA POST LAUREA		Diego Scaglione

# Appendix

## The Survey

Below we report the text of the survey powered by Google Forms and distributed to our community in the Spring of 2017. The survey contains 21 questions and it takes about 10 minutes to fulfill it.

The survey can be shared and reused by other institutions according to the Creative Commons (CC) license below.



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### SDGs@POLIMI

Prima mappatura di "chi fa cosa" al Politecnico di Milano rispetto ai 17 Obiettivi di Sviluppo Sostenibile (SDGs) promossi dalle Nazioni Unite (UN) negli ambiti di ricerca, didattica e servizi

\* Required

1. Email address \*

.....

2. Nome Cognome \*

es: Mario Rossi

.....

3. Quale ruolo meglio qualifica il tuo rapporto con il Politecnico di Milano \*

Mark only one oval.

- Studente di dottorato
- Assegnista di ricerca
- Ricercatore a tempo determinato junior (RTDa)
- Ricercatore a tempo determinato senior (RTDb)
- Ricercatore a tempo indeterminato (RTI)
- Professore Associato
- Professore Ordinario
- Professore a contratto
- Tecnico-amministrativo
- Altro (per esempio: rappresentante consorzi, fondazioni, spin-off, associazioni legate al Politecnico)

4. Per dottorandi, ricercatori e professori si richiede di indicare il Dipartimento di afferenza

Mark only one oval.

- DIPARTIMENTO DI ARCHITETTURA E STUDI URBANI (DASTU)
- DIPARTIMENTO DI ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO (DABC)
- DIPARTIMENTO DI CHIMICA, MATERIALI E INGEGNERIA CHIMICA "GIULIO NATTA" (DCMC)
- DIPARTIMENTO DI DESIGN (DESIGN)
- DIPARTIMENTO DI ELETTRONICA, INFORMAZIONE E BIOINGEGNERIA (DEIB)
- DIPARTIMENTO DI ENERGIA (DENG)
- DIPARTIMENTO DI FISICA (DFIS)
- DIPARTIMENTO DI INGEGNERIA CIVILE E AMBIENTALE (DICA)

- DIPARTIMENTO DI INGEGNERIA GESTIONALE (DIG)
- DIPARTIMENTO DI MATEMATICA (DMAT)
- DIPARTIMENTO DI MECCANICA (DMEC)
- DIPARTIMENTO DI SCIENZE E TECNOLOGIE AEROSPAZIALI (DAER)

5. Per il personale tecnico-amministrativo, si richiede di indicare la Struttura di appartenenza  
Mark only one oval.

- DIREZIONE GENERALE
- AREA AMMINISTRAZIONE E FINANZA
- AREA COMUNICAZIONE E RELAZIONI ESTERNE
- AREA GESTIONE INFRASTRUTTURE E SERVIZI
- AREA RISORSE UMANE E ORGANIZZAZIONE
- AREA SERVIZI AGLI STUDENTI E AI DOTTORANDI
- AREA SISTEMA BIBLIOTECARIO E ARCHIVISTICO
- AREA SERVIZI ICT
- AREA SERVIZI RESIDENZIALI
- AREA SERVIZI SUPPORTO ALLA RICERCA E INNOVAZIONE DIDATTICA
- AREA SVILUPPO E RAPPORTI CON LE IMPRESE
- AREA TECNICO EDILIZIA

6. Eventuale struttura meglio identificativa della propria specifica affiliazione  
(laboratorio, cluster; consorzi, fondazioni, spin-off, associazioni legate al Politecnico o altro ancora)

.....

**UN-SDG NELLA RICERCA (ricercatori e docenti) O NELLE ATTIVITÀ ISTITUZIONALI (tecnici-amministrativi)**

Ti chiediamo di indicare quali sono i SDGs cui le tue attività di ricerca, didattica o di servizio fanno maggiormente riferimento. Ti preghiamo gentilmente di distinguere tra obiettivi primari e secondari (ove presenti). Nel caso tu sia attivo in più di due ambiti, sarà comunque possibile indicare gli ulteriori obiettivi in una seconda fase dell'indagine.

7. UN-SDG primario trattato nelle mie attività presso il Politecnico di Milano

Mark only one oval.

- SDG1 - NO POVERTY
- ...
- SDG17 - PARTNERSHIPS

8. UN-SDG secondario trattato nelle mie attività presso il Politecnico di Milano

Mark only one oval.

- SDG1 - NO POVERTY
- ...
- SDG17 - PARTNERSHIPS

9. Indicare fino a un massimo di due progetti su cui sei attivo inerenti all'UN SDG primario

esempio: Progetto di Cooperazione Internazionale con l'Agenzia XY (2016 - 2019) dal titolo "ZZZ", PI: Prof. KK

.....

10. Indicare fino a un massimo di due progetti su cui sei attivo inerenti all'UN SDG secondario

esempio: Progetto di Cooperazione Internazionale con l'Agenzia XY (2016 - 2019) dal titolo "ZZZ", PI: Prof. KK

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11. Indicare fino a un massimo di cinque pubblicazioni scientifiche inerenti

es: Rossi, M and Bianchi, G (2016) New techniques for fighting poverty. The Journal of Sustainable Futures 35:403-408. <http://dx.doi.org/10.7467/33200102>

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### UN-SDG NELLE ATTIVITÀ DI DIDATTICA

Quali dei SDGs sono maggiormente rappresentati (max 2) nelle tue attività di didattica? Puoi segnalare fino a un massimo di due corsi (CORSO 1 e CORSO 2) e ti preghiamo gentilmente ti distinguere tra obiettivi primari e secondari (ove presenti) trattati da ogni corso.

12. CORSO 1: Nome dell'insegnamento

.....

13. CORSO 1: Codice PoliMI dell'insegnamento

.....

14. CORSO 1: indicare SDG primario

Mark only one oval.

- SDG1 - NO POVERTY
- ...
- SDG17 - PARTNERSHIPS

15. CORSO 1: indicare SDG secondario, ove presente

Mark only one oval.

- SDG1 - NO POVERTY
- ...
- SDG17 - PARTNERSHIPS

16. CORSO 2: Nome dell'insegnamento

.....

17. CORSO 2: Codice PoliMI dell'insegnamento

.....

18. CORSO 2: indicare SDG primario

Mark only one oval.

- SDG1 - NO POVERTY
- ...
- SDG17 - PARTNERSHIPS

19. CORSO 2: indicare SDG secondario, ove presente

Mark only one oval.

- SDG1 - NO POVERTY
- ...
- SDG17 - PARTNERSHIPS

### COINVOLGIMENTO

20. Vorresti partecipare al primo evento UNSDG@POLIMI previsto per mercoledì 24 maggio 2017 dalle 9.30 presso il Politecnico all'interno del Festival dello Sviluppo Sostenibile? \*

Mark only one oval

- Sì
- No
- Mi piacerebbe, ma non sono sicuro di poter partecipare

21. Vorresti essere contattato per partecipare ad altri eventi di Ateneo legati agli SDG? \*

Mark only one oval.

- Sì
- No

A copy of your responses will be emailed to the address you provided.

## Festival Sviluppo Sostenibile

May 22 - June 7, 2017

The initiative is planned within the framework of the European Sustainable Development Week (ESDW) 2017, which is a European-wide initiative to stimulate and make visible activities, projects and events that promote sustainable development and the Sustainable Development Goals.

Therefore, Alleanza Italiana per lo Sviluppo Sostenibile (ASviS – Italian Alliance for Sustainable Development) was responsible for the organization of Italian-wide events by launching a large-scale awareness raising campaign to foster cultural-political reflections on the issue across the national territory. The Festival developed across 17 days, from May 22nd to June 7th, during which around 150 events are taking place (conferences, seminars, workshops, shows, etc.) to recall public attention both on the 17 SDGs and on the issues that cut across the entire 2030 Agenda, from education to finance for sustainable development, from the tools to design and evaluate policies to institutional transformations favoring the implementation of sustainable development policies.

### Exhibition

Cubo, Building 11, Via Bonardi 3 \ May 22 - June 7, 2017



Image XX: Exhibition “Polimi 4 SDGs”, Politecnico di Milano, Via Bonardi 3, Building 11

#### AREA 1 – Theses on SDGs

This space is aimed at collecting and showcasing the work, research, and master’s thesis of students who addresses one or more

SDGs. This results in a majority of students working on SDG11, SDG12, and SDG13.

We selected 9 best examples:

- *LCA Analysis Supporting the Management of Non-hazardous C&D Waste in Lombardy Area – SDG12, SDG15*



- *Experimental Analysis of an Advanced Plant where to Recycle Segregated Plastic* – SDG8, SDG11, SDG12
- *Sustainable New Desert Settlements in Developing Countries* – SDG6, SDG7, SDG8, SDG11, SDG12



- *Strategies for the City Resilience to Riverine Floods* – SDG1, SDG3, SDG6, SDG11, SDG12, SDG13, SDG15, SDG17
- *A Possible Alternative to Land Grabbing through Territorial Planning* – SDG1, SDG2, SDG6, SDG10, SDG11, SDG12, SDG13, SDG15, SDG16
- *Sustainable Development of Rural Settlements* – SDG1, SDG4, SDG7, SDG8, SDG11, SDG13, SDG15, SDG16, SDG17



- *Assessment of CO2 Emissions within Politecnico di Milano* – SDG11, SDG12, SDG13
- *Sustainable Campus* – SDG3, SDG11, SDG12, SDG13
- *Reducing the Urban Metabolism of Informal Settlements* – SDG1, SDG3, SDG5, SDG8, SDG12, SDG13

**SUSTAINABLE DEVELOPMENT GOALS** **GOAL 1**  
**NO POVERTY**  
 End poverty in all its forms everywhere  
 Target 1.1: Eradicate extreme poverty of those living on less than \$1.25 a day by 2030

**CONTEXT**  
 Eradicating poverty is the most urgent and essential development challenge to meet in our rapidly changing and fragmented world. Poverty is a global challenge, but it is not a global problem. It is a local problem that requires local solutions. It is a problem that affects everyone, but it is not a problem that affects everyone equally. It is a problem that is caused by many factors, but it is not a problem that is caused by a single factor. It is a problem that is complex and multifaceted, but it is not a problem that is insurmountable. It is a problem that is solvable, but it is not a problem that is easily solved. It is a problem that requires a collective effort, but it is not a problem that requires a collective effort from everyone. It is a problem that is a shared responsibility, but it is not a problem that is a shared responsibility for everyone.

**methodology**  
 The methodology used in this infographic is based on data from the United Nations Development Programme (UNDP) and the World Bank. The data is presented in a clear and concise manner, using a variety of charts and icons to illustrate the key points. The infographic is designed to be easy to read and understand, and it is intended to raise awareness of the issue of poverty and the need for action.

**strategies**  
 The strategies for achieving the goal of no poverty are outlined in the infographic. These include: increasing economic growth, creating jobs, improving education and skills training, and providing social safety nets. The infographic also highlights the importance of addressing the root causes of poverty, such as inequality and discrimination.

**objectives & SDGs**  
 The infographic lists the specific objectives for Goal 1 and shows how it is linked to other Sustainable Development Goals. The objectives are: 1.1 Eradicate extreme poverty of those living on less than \$1.25 a day by 2030; 1.2 Reduce at least 10% of the world population living on less than \$2 a day by 2030; 1.3 Double the number of people living on less than \$10 a day by 2030; 1.4 Build resilience and protect the vulnerable by expanding public social protection systems and universal basic income schemes; 1.5 Reduce the number of people living in slums, informal settlements and inadequate housing by 2020.

**SUSTAINABLE DEVELOPMENT GOALS** **GOAL 13**  
**CLIMATE ACTION**  
 Take urgent action to combat climate change and its impacts  
 Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards, extreme events and disasters, including early warning systems

**CONTEXT**  
 Climate change is a global challenge that requires urgent action. The world is warming, and the impacts are being felt in many parts of the world. Climate change is a threat to human health, well-being, and the environment. It is a threat to the planet's ability to support life. Climate change is a threat to the world's most vulnerable people and countries. Climate change is a threat to the world's most vulnerable ecosystems. Climate change is a threat to the world's most vulnerable resources. Climate change is a threat to the world's most vulnerable future generations. Climate change is a threat to the world's most vulnerable future generations.

**methodology**  
 The methodology used in this infographic is based on data from the Intergovernmental Panel on Climate Change (IPCC) and the World Meteorological Organization (WMO). The data is presented in a clear and concise manner, using a variety of charts and icons to illustrate the key points. The infographic is designed to be easy to read and understand, and it is intended to raise awareness of the issue of climate change and the need for action.

**CLASSIFICATIONS**  
 The infographic classifies climate change impacts into different categories, such as: sea level rise, extreme weather events, and loss of biodiversity. The infographic also highlights the different regions and countries that are most affected by climate change.

**ACTIONS**  
 The infographic outlines the actions that need to be taken to address climate change. These include: reducing greenhouse gas emissions, increasing resilience, and supporting vulnerable communities. The infographic also highlights the importance of international cooperation and leadership.

**objectives & SDGs**  
 The infographic lists the specific objectives for Goal 13 and shows how it is linked to other Sustainable Development Goals. The objectives are: 13.1 Strengthen resilience and adaptive capacity to climate-related hazards, extreme events and disasters, including early warning systems; 13.2 Integrate climate change measures into national development planning, policies and legislation; 13.3 Improve education, public awareness and understanding of climate change risks; 13.4 Enhance international cooperation on climate change mitigation and adaptation; 13.5 Enhance climate governance, leadership, partnerships, transparency, accountability and tracking.

**SUSTAINABLE DEVELOPMENT GOALS** **GOAL 11**  
**SUSTAINABLE CITIES AND COMMUNITIES**  
 Make cities and human settlements inclusive, safe, resilient and sustainable  
 Target 11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

**CONTEXT**  
 The world is becoming increasingly urbanized, and cities are becoming more important. Cities are the engines of economic growth and innovation. Cities are the centers of culture and education. Cities are the places where we live and work. Cities are the places where we need to live and work sustainably. Cities are the places where we need to live and work sustainably. Cities are the places where we need to live and work sustainably. Cities are the places where we need to live and work sustainably.

**methodology**  
 The methodology used in this infographic is based on data from the United Nations World Urbanization Prospects (UNWUP) and the World Bank. The data is presented in a clear and concise manner, using a variety of charts and icons to illustrate the key points. The infographic is designed to be easy to read and understand, and it is intended to raise awareness of the issue of sustainable cities and communities and the need for action.

**REDUCING THE URBAN METABOLISM OF INFORMAL SETTLEMENTS**  
 Implementing a community-based waste management in Kibera, Nairobi

**objectives & SDGs**  
 The infographic lists the specific objectives for Goal 11 and shows how it is linked to other Sustainable Development Goals. The objectives are: 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums; 11.2 Provide access to safe drinking water and basic sanitation for all; 11.3 Enhance urban infrastructure and resilient cities; 11.4 Upgrade infrastructure and expand green and blue spaces in cities; 11.5 Reduce the adverse per capita environmental impact of cities, including special attention to air quality and municipal and industrial waste management; 11.6 Reduce the number of road deaths per 100,000 road users by 2020; 11.7 Increase the number of cities and human settlements that are resilient to water-related disasters; 11.8 Increase the number of cities and human settlements that are resilient to climate change.

## AREA 2 – SDGs

This initiative aims to educate and sensitize students towards the 17 Sustainable Development Goals by showcasing the 17 icons and 17 slogans related to each Goals. Students and visitors are required to express the Goal they think is more relevant in their hometown by sticking heart-shaped post-it.



**1** **NO POVERTY**  
 100 million people still live in extreme poverty. The overwhelming majority of people living on less than \$1.25 a day belong to two regions: Southern Asia and sub-Saharan Africa.

**2** **ZERO HUNGER**  
 Globally, one in nine people in the world today (10% of the world's population) are undernourished. Poor nutrition means that 40 per cent of children are born underweight.

**5** **GENDER EQUALITY**  
 About two thirds of countries in the developing regions have achieved gender parity in primary education. But in sub-Saharan Africa, Oceania and Western Asia, girls still face barriers to entering both primary and secondary schools.

**13** **CLIMATE ACTION**  
 The world is warming. The world's oceans are warming. The world's glaciers are melting. The world's sea levels are rising. The world's weather is becoming more extreme. The world's ecosystems are being destroyed. The world's people are suffering. The world's future is uncertain.

**14** **LIFE BELOW WATER**  
 From 1880 to 2012, average global temperatures increased by 0.85°C. Moreover, global emissions of carbon dioxide (CO2) have increased by almost 50 per cent since 1991.

**14** **LIFE BELOW WATER**  
 As much as 40 per cent of the world's oceans are heavily affected by human activities, including pollution, depleted fisheries and loss of coastal habitats. Countries along about 50 per cent of the world's coastlines are suffering the impacts of global warming.





### AREA 3 – Lazy Person’s Guide to Saving the World

This guide (excerpt of the Lazy Person’s Guide to Saving the World) showcases good simple practices that we can adopt in our everyday life towards sustainable pathways. Students and visitors are required to express the action to which they will commit by sticking heart-shaped post-it.



#### AREA 4 – Postcards

This is an interactive canvas where students and visitors are required to fill in a simple form stating their commitment to sustainable development.

836 million people still live in extreme poverty. The overwhelming majority of people living on less than \$1.25 a day belong to two regions: Southern Asia and sub-Saharan Africa.

**1 NO POVERTY**




ST. MICHAEL'S HOLY UNIT

My commitment to sustainable development is...  
 Il mio impegno per lo sviluppo sostenibile è...

NAME: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_

**1 NO POVERTY**



Globally, one in nine people in the world today (795 million) are undernourished. Poor nutrition nearly half (45 per cent) of deaths in children under five – 3.1 million children each year.


**2 ZERO HUNGER**




My commitment to sustainable development is...  
 Il mio impegno per lo sviluppo sostenibile è...

NAME: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_

**2 ZERO HUNGER**



Globally, adolescent girls and young women face gender-based inequalities, exclusions, discrimination and violence which put them at increased risk of acquiring HIV. AIDS is now the leading cause of death among adolescents (aged 10–19) in Africa and the second most common cause of death among adolescents globally.


**3 GOOD HEALTH AND WELL-BEING**




My commitment to sustainable development is...  
 Il mio impegno per lo sviluppo sostenibile è...

NAME: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_

**3 GOOD HEALTH AND WELL-BEING**



**AREA 5 – Instagram Contest \ #polimi4sdgs**

Students and academics are invited to share their commitment to sustainable development on the University's social networks.



Monday, May 22, 2017 9:08 AM Aula Di Donato

**Polimi 4 SDGs**

**YOUTH 4 SDGS**  
 A student pathway towards sustainable development

**TAKE A SELFIE AND POST YOUR COMMITMENT**  
 On our Facebook page @Campus Sostenibile or the Instagram page @thetotalcampussostenibile. Use the hashtag #polimi4sdgs and tag two friends you would like to see join the initiative. We will announce and showcase the winning photos on May 22nd.  
 #polimi4sdgs #wearewaitingforyou #sustainabledevelopmentgoals #communityoutlet

## Event May 22nd 2017: Il ruolo dei giovani nello sviluppo sostenibile

### Objective

The event was centered around education and sensitization of students towards sustainable development and global challenges, such as climate change, human footprints on the local environments, resource depletion and waste practices.

### Mission

Youth have a critical role in creating a more equal sustainable future, supporting the needs of future generations, in harmony with our planet and the environment where we live. There is the necessity to define the goals towards sustainable development and to acquire knowledge and awareness of the major local and global challenges, including environmental degradation, increasing depletion of natural and locally-available resources, threat to natural ecosystems, and climate change.

### Activities

- **(Un)Sustainability of Human Activities:** Commitment to sustainable development at campus scale and introduction on local and global challenges.
- **Climate Change Conference Simulation:** Simulation of the Conference of the Parties resulting in potential increase/decrease in global temperature due to the specific features considered in the agreements.
- **Waste Hunt Game:** Sustainability roadmap to educate and aware students towards responsible consumption and decrease in waste generation.
- **Youth in Action for Sustainable Development Goals:** Call for sustainable ideas and projects, including innovative solutions bringing about a high social impact and a critical technological component.
- **Sustainable Campus:** Debate between student political lists among the potential eco-friendly actions at campus level.
- **Thematic Roundtables:** European CO2 Emission Trade; Climate Change & Global Warming; Role of Youth in the Nonprofit Sector; Circular Economy

### Participants

1. Organizers
  - UN SDSN Youth
  - Campus Sostenibile
  - SITPolimi
  - Resilient Gap
2. Student associations
  - La Terna Sinistrorsa
  - Svoltastudenti
  - Lista Aperta Polimi
  - Studenti Indipendenti Politecnico
3. Speakers
  - Fondazione Eni Enrico Mattei

- Fondazione Italiana Accenture
- Altromercato
- Fondazione Sodalitas
- Social Innovation Teams Milano
- Uyolo
- AIESEC Italia



Climate Change Conference Simulation game led by students.

For more information and download of materials, please visit the event website on Città Studi Campus Sostenibile: [http://www.campus-sostenibile.polimi.it/1\\_youth](http://www.campus-sostenibile.polimi.it/1_youth)



## Event May 24th 2017: I 17 obiettivi di sviluppo sostenibile tra didattica, ricerca e attività istituzionali nelle Università

### Objective

The event was centered around the mapping of educational activities, research and institutional activities related to the 17 SDGs and conducted by academic and university staff of the Politecnico di Milano and Università degli Studi di Milano.

### Mission

During the last years, Politecnico di Milano has been operating on the integration of programs and seminars on Sustainable Development to its coursework. To that end, a group of faculties is currently mapping research works and coordinating ongoing educational activities offering specific sessions and initiative on the SDGs and the Agenda 2030.

### Activities

- **Growth at the Age of the Sustainable Development Goals - Prospective and Challenges:** Insight on the roadmap to sustainable development, from the MDGs to the SDGs.
- **Introduction to the SDGs and the Mapping of Universities Research and Educational Activities:** Sustainable development and international cooperation at Politecnico di Milano; The role of Servizio Sostenibilità in respect of SDGs@POLIMI; The role of Politecnico in the UN-GGIM Academic Network; The virtual core for sustainability at the Università degli Studi di Milano: Efficiency of the SDGs; CRC experience – Sustainability and Human Security: Cooperation and governance agenda.
- **Teaching Sustainability in the Universities:** Creating network and collaboration among disciplines.
- **University for Sustainability, Sustainability for University:** Launching POLIMI4SDGs mapping.
  - Research Project \ Part I: SDG11, SDG13, SDG7, SDG14, SDG15, SDG2, SDG9.
  - Research Project \ Part II: SDG3, SDG6.
  - Institutional Activities: SDG3, SDG5, SDG10, SDG16.



Growth at the Age of Sustainable Development by Prof. Gianni Vaggi



**Organizers, reference persons for the SDG mapping at Politecnico:**

Eugenio Morello, Dept. Architecture and Urban Studies, Politecnico di Milano

Renato Casagrandi, Dept. Electronics, Information and Bioengineering, Politecnico di Milano

Emanuela Colombo, Dept. of Energy, Politecnico di Milano

with:

Paola Baglione, Eleonora Perotto, Servizio Sostenibilità di Ateneo, Politecnico di Milano

**Program**

9.00-9.15 | Welcome & Openings

Graziano Dragoni, General Director, Polimi

Walter Bergamaschi, General Director, Unimi

Emilio Faroldi, Vicerector and Delegate for Building, Spaces and Sustainability, Polimi

Claudio Gandolfi, Vicerector and Delegate for Knowledge Transfer, Unimi

9.30-10.10 | Keynote

Gianni Vaggi, Dean of Master in Cooperazione allo Sviluppo, Università di Pavia

Growth at the age of the Sustainable Development Goals: Prospective and challenges

10.10-11.00 | Introduction to the SDGs and the mapping of universities research and educational activities

11.00-11.40 | Teach sustainability in the universities – Create network and collaboration among disciplines

11.40-16.30 | University for Sustainability, Sustainability for University

11.40-13.00 | Research projects on SDG11, SDG13, SDG7, SDG14, SDG15, SDG2, SDG9

14.00-15.00 | Research projects on SDG3, SDG6

15.00-16.15 | Sustainability in the University: Institutional activities on SDG3, SDG5, SDG10, SDG16

For more information, to see the complete program and list of presenters, and download materials, please visit the event website on Città Studi Campus Sostenibile:

[http://www.campus-sostenibile.polimi.it/5\\_17obiettivi](http://www.campus-sostenibile.polimi.it/5_17obiettivi)



## Credits

*Reference persons for the SDG mapping at Politecnico:*

**Eugenio Morello**, Dept. Architecture and Urban Studies, Polimi  
**Renato Casagrandi**, Dept. Electronics, Information and Bioengineering, Polimi

*with:*

**Paola Baglione**, **Eleonora Perotto**, **Maria Licia Zuzzaro**, Servizio Sostenibilità di Ateneo, Polimi  
**Carol Maione**, UN SDSN Youth Campus Coordinator  
**Alba Bernini**, Dept. Electronics, Information and Bioengineering, Polimi

[www.campus-sostenibile.polimi.it](http://www.campus-sostenibile.polimi.it)