



# PhD in ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO / ARCHITECTURE, BUILT ENVIRONMENT AND CONSTRUCTION ENGINEERING - 38th cycle

PNRR\_351\_DOTT\_RICERCA Research Field: BRIDGING ENERGY LAW & ENVIRONMENTAL SUSTAINABILITY TO SDGS & INCLUSIVE COMMUNITIES

Monthly net income of PhDscholarship (max 36 months)

€ 1275.0

In case of a change of the welfare rates during the three-year period, the amount could be modified.

## Context of the research activity

Motivation and objectives of the research in this field

The recent COVID-19 pandemic has highlighted the limits and challenges of several aspects of our contemporary life, and accelerated several processes of transformation, including the social, environmental and digital ones. In several technical professional fields, environmental sustainability issues are increasing in a correlated approaches with innovative tools in the legal field, as well as in the Public Health issues (One Health, Health for All policies, etc.).

In the area of climate and environmental policies, Italy's major challenges include the need for the improvement in the management of waste and water resources, significant progress in sustainable mobility and strengthened energy efficiency of buildings, according to the main purpose of guaranteeing more salutogenic cities and promoting citizens' healthy lifestyles.

In particular, starting from the Italian PNRR, the Mission 2 related to 'Green transition' becomes strategic to take into account the new challenges in contemporary Society, such as *Energy Transition, Green Infrastructures, Smart Buildings, Smart Cities and Mobility*, on which the *Next Generation EU and the Italian PNRR* financing plans are focused.

These challenges have been addressed also at



	<p>international level, where the United Nations placed environmental issues at the center of its Agenda 2030, designed by the Sustainable Development Goals (<a href="https://sdgs.un.org/">https://sdgs.un.org/</a>) such as: SDG3, SDG7, SDG9, SDG11, and SDG13.</p> <p>Today the construction sector needs a multi-disciplinary approach capable to develop new models, with particular reference to the SDGs. For this reason, it's necessary to integrate different research skills (administrative, legal/law, economist) to the design field, understanding the framework that governs the energy markets and the environmental sustainability development with a legal perspective.</p> <p>Aims and scope of the PhD, referring also to the Italian PNRR's key investments in energy efficiency and sustainable actions, in policies of health promotion and prevention and the high investments in this field, are:</p> <ul style="list-style-type: none"> <li>• to investigate the energy transition toward a low-carbon economy and the impact of environmental sustainability in business decisions;</li> <li>• to improve the knowledge in the field of building construction and design strategies responding to the Green transition approach;</li> <li>• to focus on the strategies of Urban Health and the actions for improving the health and wellbeing of the citizens;</li> <li>• to give rise to systematic reviews on the topic with some focuses the possible correlation to health impacts;</li> <li>• to collaborate with national and international institutions for improving the efficacy of the research activities in a practical application on the real scenario.</li> </ul>
<p><b>Methods and techniques that will be developed and used to carry out the research</b></p>	<p>The research addresses an integrated and multidisciplinary support on a wide range of issues related to the topic '<i>Bridging Energy Law &amp; Environmental Sustainability to SDGs &amp; Inclusive Communities</i>', considering the ABC Department Scientific Project in his First Strategic Research Line '<i>Innovative projects for</i></p>



*architecture, spaces and services: health, safety, inclusion, education and emergency'*

*(see <https://www.dabc.polimi.it/en/research/strategic-lines-of-research/>).*

*The research path will be supported by the Design & Health La. (D&H Lab) with relationships such as the Italian Center for Healthcare Architecture (CNETO) at national level; European Public Health Association (EUPHA), the International Academy for Design & Health (IADH) and the International Union of Architects Public Health Group (UIA PHG) at international level.*

*For the Research Project development, the PhD Candidate will focus the attention on:*

- green transition/energy law overview with a national and international perspective, understanding the evolutions of the legal scenario in respect of the *'Green transition?'*;
- legislation concerning the construction of renewable energy plants, and the authorization processes;
- evolution and impacts of sustainability regulation, causing the increasing expectation by a wide range of stakeholders has led to an improvement in the private sector's commitment toward environmental issues;
- smart and healthy cities, smart buildings, urban innovation, mobility and the evolution of the green transition/energy market.

The research will have significant impacts both in scientific, technical and social area areas by:

- 1.expanding the current body of knowledge in the field of *Energy Law & Environmental Sustainability to SDGs & Inclusive Communities;*
- 2.improving tools and strategies that can be operationalized and scaled into industry and market readiness levels;
- 3.addressing the relevant issues that the PNRR brought into place, with specific regards to the new societal challenges - Energy Transition, Green Infrastructures, Smart Buildings, Smart Cities and Mobility of the



	<p>Mission 2 '<i>Green transition</i>' - to be taken into account the in the relationship with citizens, society and Decision Makers.</p> <p>Finally, for the PhD candidate, it is expected a research period abroad at the Division of Construction Management, Chalmers University of Technology, probably during the 2nd year of research period.</p>
<b>Educational objectives</b>	<p>During the research activity based on an in-depth focus on legislation, case studies, best practices and tools, the PhD candidate will be able to investigate and focus on the main Academic, Scientific and Professional connections between design &amp; legal approaches, with specific reference to sustainability and environmental issues.</p>
<b>Job opportunities</b>	<p>Starting from an analysis of legal and regulatory experiences, policy developments and governmental trends and national and international level, the PhD candidate will improve the knowledge in green transition toward a low-carbon economy, and the impact of environmental sustainability in business decisions.</p>
<b>Composition of the research group</b>	<p>1 Full Professors 1 Associated Professors 2 Assistant Professors 5 PhD Students</p>
<b>Name of the research directors</b>	<p>S. Capolongo, M. Buffoli, F. Piccaluga</p>

<b>Contacts</b>	
<p>Prof. Stefano Capolongo mail. stefano.capolongo@polimi.it Prof. Maddalena Buffoli mail. maddalena.buffoli@polimi.it Dr. Andrea Rebecchi mail. andrea.rebecchi@polimi.it Dr. Federico Piccaluga mail. federico.piccaluga@polimi.it</p>	

<b>Additional support - Financial aid per PhD student per year (gross amount)</b>	
<b>Housing - Foreign Students</b>	--
<b>Housing - Out-of-town residents</b>	--



(more than 80Km out of Milano)	
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Scholarship Increase for a period abroad	
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Amount monthly	637.5 €
By number of months	6

National Operational Program for Research and Innovation	
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Company where the candidate will attend the stage (name and brief description)	
By number of months at the company	0
Institution or company where the candidate will spend the period abroad (name and brief description)	Division of Construction Management, Chalmers University of Technology - SE41296 Gothenburg, Sweden - phone: +46 (0)31-772 10 00 - www.chalmers.se
By number of months abroad	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
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**Additional information can be found in the Regulations for the 37th Cycle of ABC-PhD:**

download is available at link:

<https://beep.metid.polimi.it/web/abcphd/documenti-e-media>

**Additional information about ABC department and ABC-PhD programme:**

available at link:

<https://www.dabc.polimi.it/>

**Additional support for the research activity:**

a total amount of 5.197,62 Euros per student, available since the first year, to be spent according to the department rules.

**Study period abroad:**

a period of 6 months of study and research at *Division of Construction Management, Chalmers University of Technology* (Sweden) is mandatory, preferably during the 2nd year.

**Desk availability:**

the ABC department provides non-permanent desks to be temporarily booked in common PhD rooms.