

Global Sustainability Practice: Buildings, Campuses, and Communities (GSP) Immersive Internship

The rapid evolution of building design and community development practice toward more sustainable and regenerative paradigms is a global imperative and a daunting challenge. In response to this challenge, the Pennsylvania State University (Penn State), in association with the United Nations Economic Commission for Europe (UNECE) Committee on Sustainable Energy, and in partnership with Danfoss Corporation, is seeking students and young professionals to participate in a six week immersive experience in sustainable building energy systems in Philadelphia, Pennsylvania, U.S.A from July 10-August 17, 2017.

Eligibility Criteria

- Young professionals or students in advanced years of undergraduate studies or graduate programs with academic backgrounds in: Architectural, Mechanical, Civil, Chemical, Electrical and Energy Engineering; Architecture; Community Planning; Public Policy; or Sustainability; with demonstrated interest in sustainability
- Applicants should have strong academic backgrounds and be proficient in English and be at least 21 years old

The Program Purpose

The UNECE Principles of Sustainable Buildings and Low Carbon Communities are intended to guide the sustainable worldwide development of buildings, campuses, and cities. The GSP Internship will provide an opportunity for future leaders and change agents from across the globe to apply the Principles to their home country's unique conditions and collaborate in support of the adoption and evolution of the UNECE Principles.

Immersive Experience

Participants will join a cohort of representatives from around the world and work on a variety of exciting energy and sustainability activities including:

- Research that explores unique challenges facing global communities
- Hands-on experience with high-potential technologies and practices in sustainable buildings, campuses, and communities
- Critical review of existing policies, standards, and communities of practice
- Cutting edge methods for regenerative development of campuses, communities and cities

Research Component

Participants will conduct collaborative and interdisciplinary research in building and energy systems design with an emphasis on the testing and evaluation of the Principles and implementation efforts relevant in their home country.

Course Component

Participants will earn a *Certificate in Leadership in Sustainable Buildings and Communities*. This course, taught by global leaders in sustainable building design and development, is focused on the evolution of the building industry through Living Systems Thinking.

Internship Financial Commitment

USD \$4,500 includes:

- Six weeks of resident instruction
- Room and board (estimated)
- Travel not included
- Participants will have 25-30 hours / week to work on sponsored research

Sponsorship and Financial Assistance is available to highly qualified applicants

Duration and Place of Work

- Six weeks : July 10, 2017 – August 17, 2017
- Location: Philadelphia, Pennsylvania, USA

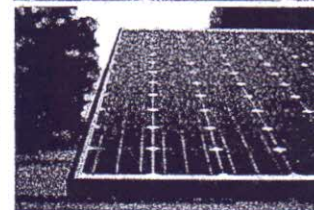
Program Application

Applications must be submitted using an online application portal at www.GridSTARcenter.psu.edu/UNECE

Applications Requested by: May 31, 2017

For program information contact:

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Leadership in Sustainable Building and Communities

Certificate Program

This immersive program is designed to allow participants to: (1) Learn about proven methods and technologies for sustainable buildings and communities, (2) Gain insight from internationally renowned experts in building design, energy systems, and Regenerative Development, and (3) Gain experience in the application of the UNECE Framework Principles in the context of their own unique settings and conditions.

Week 1: Launch

Challenges facing global communities and Goals of UNECE Principles

- Introduce goal of program: advance framework in a place (your country)
- Examine patterns across our respective places
- UNECE Principles assessment and levels of thought
- Introduction to Living Systems thinking

Week 2: Living Systems Thinking

Regenerative Development and Integrative Design

- Living Systems and Theory of Evolution
- Immersive Experience in Integrative Design
- Case studies of Regenerative Development
- Regenerative Business Principles

Week 3: Art of the Possible

Technologies and systems as potential interventions

- Thermal Energy Management
- Building Envelop and Daylighting strategies
- Power systems engineering and management
- Campus-scale building system integration

Week 4: Building Retuning

Regenerative approach to evolving existing building systems

- Existing Building systems evaluation
- Engagement methods and value streams to advance single building energy efficiency
- Regenerative approach to student engagement in building energy outreach, business development, and workforce development

Week 5: Theory of Change

Science, Technology, and Policy Systems and the Built Environment

- Change theory and change agent development competencies
- The role of policy in the built environment
- Science and technology drivers for change

Week 6: Synthesis Studio

Pilot adaption of UNECE principles and design blueprint for change

- Create Transformation Plan that identifies systems effects
- Present stakeholder analysis, purpose, and cosmology of action plan
- Make recommendations for evolution of UNECE Framework

Targeted Outcomes for Participants:

1. Experience in the development of a place-based assessment of built environment for a chosen country, region, city, or community
2. Proposed nodal interventions in policy development to enable evolution of existing building practices toward more regenerative and systems approach
3. Capacity to conduct a workshop for diverse audience focused on the UNECE Principles

