[Partner Logo]

Memorandum of Understanding
between
the United Nations Economic Commission for Europe (UNECE)
and
[Partner]

WHEREAS the United Nations Economic Commission for Europe (hereinafter referred to as "UNECE") is mandated to carry out a programme of work in the field of sustainable energy with a view to providing access to affordable and clean energy to all and helping to reduce greenhouse gas emissions and the carbon footprint of the energy sector;

WHEREAS the UNECE, through its Committees on Sustainable Energy and Housing and Land Management, its Group of Experts on Energy Efficiency, and the Joint Task Force on Energy Efficiency Standards in Buildings, promotes development and dissemination of international standards in energy efficiency through the High Performance Buildings Initiative (HPBI) (Annex 1) and its UNECE Framework Guidelines for Energy Efficiency Standards in Buildings (the Framework) (Annex 2);

WHEREAS, to further the UNECE's work in promoting the principles of energy efficiency as set forth in the Framework, the UNECE seeks partners with demonstrated capabilities to support and advance the principles of the Framework and desires to establish a network of designated International Centres of Excellence on High Performance Buildings (each individually, "ICE-HPB" and collectively, the "Network") to work with the UNECE to support and advance the principles of the Framework (Annex 3);

WHEREAS [partner] located at [partner locations] [legal status]. [partner mission] and it seeks to partner with the UNECE to support and advance the principles of the Framework;

WHEREAS the UNECE has found [partner] to have the demonstrated capabilities to support and advance the principles of the Framework necessary to become a designated ICE-HPB;

WHEREAS the UNECE and [partner] agree that ICE-HPBs are separate and independent from the consortium of academic research institutions that has been established under the HPBI to support and advance the principles of the Framework, it is anticipated that there will be beneficial collaboration among and between the UNECE, the academic consortium, and the network of ICE-HPBs.

NOW THEREFORE the UNECE, represented by the Executive Secretary of the UNECE, [partner, represented by TK] (hereinafter referred to collectively as "the Parties"), have entered into the present Memorandum of Understanding (hereinafter referred to as "MoU") as follows:

[Partner Logo]

Article I
Purpose

1.1. The purpose of this MoU is to provide a framework for establishing and operating ICE-HPBs to support and advance the principles of the Framework. The target group(s) who will benefit from cooperation under this MoU are described in Annex 3. Each ICE-HPB designated by the UNECE will operate as an independent organisation but in partnership with the UNECE and its Group of Experts of Energy Efficiency and the Joint Task Force on Energy Efficiency Standards in Buildings, and will work with the UNECE to pursue programmatic and funding opportunities to collaborate and cooperate with the UNECE and other ICE-HPBs within the Network, as further articulated in Article II below.

Article II
Areas of Cooperation

2.1. This MoU outlines the activities needed to establish and operate an ICE-HPB and defines the division of responsibilities between the Parties.

2.2. The UNECE hereby designates [partner] as an ICE-HPB that will perform a number of activities that may be referred to as "projects," in accordance with the Framework generally and, more particularly, with the Terms of Reference for an ICE-HPB (Annex 3).

Article III
Implementation

3.1. The Parties agree to carry out their respective responsibilities in accordance with the provisions of this MoU. The Parties agree to join efforts and to maintain a close working relationship in order to achieve the objectives of collaboration under the present MoU.

3.2. The UNECE will provide guidance to [partner] through engagement of its experts in ICE-HPB operations where possible and practicable.

3.3. The Parties will collaborate in joint projects in the UNECE member States and beyond that fall under the Framework, generally, and more particularly, under the Terms of Reference of the ICE-HPB. Such projects may be undertaken in collaboration with other ICE-HPBs within the Network or with the Network as a whole. The ICE-HPB will inform the Committee on Sustainable Energy and the Group of Experts on Energy Efficiency of its work and results either directly or through the Network as a collective report.

3.4. The UNECE will encourage communication, coordination and collaboration among the ICE-HPB and the other ICE-HPBs in the Network, and academic research consortia, that will be beneficial, as well as to pursue, to the extent practicable, funding opportunities to benefit the activities that may be undertaken pursuant to this MoU to support and advance the principles of the Framework.

[Partner Logo]

3.5. As applicable and if found necessary by the Parties, each project shall contain the terms and conditions for its implementation, including, but not limited to, clear deliverables, timeframes, and funding arrangements, specified in a separate project document to be agreed upon and signed by both Parties.

3.6. Project documents may be modified at any time by written agreement of the Parties through their MoU Focal Points designated in Article IV.

3.7. The Parties shall refrain from any action that may affect the interests of the other Party adversely and shall fulfil their commitments with fullest regard for the terms and conditions of this MoU and the objectives of UNECE and the [partner] ICE-HPB.

3.8. In no event shall this MoU, or any amendment hereof, operate to create financial or administrative or legal obligations on the part of either Party, nor does it prevent the Parties from pursuing the objectives set forth in this MoU on their own or with other third parties.

[Partner Logo]

Article IV
MoU Focal Points

4.1. The Parties have designated MoU focal points to plan and develop activities under this MoU and ensure its proper implementation:

UNECE:

Director
Sustainable Energy Division
United Nations Economic Commission for Europe
Palais des Nations, 8-14, Avenue de la Paix,
1211 Geneva 10, Switzerland
Tel.:
Email:

[partner]:

[partner representative]
[contact details]

Article V
Intellectual Property rights

5.1. The Parties agree that there will be no joint intellectual property rights.

5.2. The intellectual property rights for materials or products developed and provided by UNECE shall rest with UNECE. The intellectual property rights for materials or products developed and provided by [partner] shall rest with [partner].

Article VI
Reporting requirements

6.1. The Parties shall keep each other informed of all relevant activities pertaining to this collaboration and shall hold consultations as appropriate, in order to evaluate the progress in the implementation of this MoU and to revise and develop new plans for current or prospective activities.

Article VII
Settlement of disputes

7.1. The Parties shall attempt to resolve any dispute arising out of or relating to the MoU by amicable and good-faith consultations and direct negotiations between the Parties.

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Article VIII
Privileges and Immunities

8.1. Nothing in this MoU shall be deemed a waiver, expressly or implied, of any of the privileges and immunities of the United Nations, including its subsidiary organs.

Article IX
General Provisions

9.1. Entry into force and duration: This MoU shall enter into force upon signature by all Parties and will remain in effect for a period of three (3) years. This MoU will be renewed automatically at the end of the term for a successive period of three (3) years unless terminated by the Parties in accordance with the provisions specified in Section 9.3 herein.

9.2. Amendments: This MoU may be amended only by written agreement of both Parties.

9.3. Termination: This MoU may be terminated by mutual agreement of the Parties or by either Party providing sixty (60) days advance written notice to the other Party. In any such event, the Parties shall take all necessary actions as required to promptly and in an orderly manner terminate any on-going activities or projects carried out under this MoU in a cost-effective manner.

9.4. The UNECE has developed an emblem to indicate that an organisation has been designated an ICE-HPB by the UNECE (hereinafter referred to as the "Emblem"). [Partner] shall hereby be authorised, during the term of this MoU or until such time as the MoU is terminated pursuant to Section 9.3 herein, to use the Emblem on its literature or other materials and on its website. Upon termination of the MoU, [partner] shall remove the Emblem from its website and not use it on any of its literature or other materials produced thereafter. The UNECE is hereby authorised, during the term of this MoU or until such time as the MoU is terminated pursuant to Section 9.3 herein, to use [partner's] logo in its literature or other materials or on its website for the purpose of demonstrating that [partner] has been designated as an ICE-HPB by the UNECE. Upon termination of the MoU, the UNECE shall remove [partner's] logo from its website and not use it on any of its literature or other materials produced thereafter. Any use not provided for in this Section 9.4 of a Party's name, emblem, logo or official seal by the other Party, in any manner whatsoever, shall be prohibited unless expressly authorised in writing by the Parties.

9.5. The Parties recognize that they are legally separate and independent of each other. Neither Party has the authority to act on behalf of the other.

9.6. In line with the Secretary General's Bulletin ST/SGB/2003/13, sexual exploitation and sexual abuse violate universally recognized international legal norms and standards and have always been unacceptable behaviour and prohibited conduct for United Nations staff. Such conduct is prohibited by the United Nations Regulations and Rules. When entering into this agreement with UNECE and [partner] shall, by way of signing this agreement issue a written undertaking that [partner] accepts these standards. Failure on [partner's] part to take preventive measures against sexual exploitation or sexual abuse, to investigate allegations thereof, or to take corrective action when sexual exploitation or sexual abuse has occurred, shall constitute grounds for termination of any agreement with the UNECE.

[Partner Logo]

9.7. This MoU does not create legally binding obligations between the Parties.

9.8. The implementation of the MOU does not have financial or budgetary implications for either Party.

Article X
Notices

10.1 Any notices required by this MoU shall be given in writing and delivered to the following addresses:

UNECE:

Director
Sustainable Energy Division
United Nations Economic Commission for Europe
Palais des Nations, 8-14, Avenue de la Paix,
1211 Geneva 10, Switzerland
Tel.:
Email:

[partner]:

[partner representative]
[contact details]

or at such other address as may be designated in writing in accordance with the terms of this notice provision.

Each Party to this MoU hereby warrants and represents that the person signing below is duly authorized under applicable law and regulation to execute this MoU on behalf of its respective Party and thereby to bind such Party to the terms hereof.

[Partner Logo]

IN WITNESS WHEREOF, the Parties have signed this MoU in three (3) originals in the English language on the date set forth below:

For United Nations Economic Commission for Europe

Signature:

Executive Secretary
UNECE

Date:_____

For [Partner]

Signature: _____

Date: _____

* * *

Annex 1

UNECE
High Performance Buildings Initiative

Buildings are central to meeting the sustainability challenge. In the developed world, buildings consume over 70% of the electric power generated and 40% of primary energy and are responsible for 40% of CO_2 emissions from the energy services they require. In Europe, 75-90% of today's buildings will be in use in 2050. Developing countries will need to accommodate 2.4 billion new urban residents by 2050. Renewable energy technology alone cannot meet these requirements, despite recent improvements. The energy performance of buildings must be managed. The capability to meet the challenge exists today.

UNECE has launched a programme known as the High Performance Buildings Initiative (HPBI) to disseminate and deploy its Framework Guidelines for Energy Efficiency Standards in Buildings worldwide. The initiative will focus on capacity development and impact in the field, developing:

- *the intellectual, material and financial resources to educate, advocate and advise for transformation to high performance buildings;*
- *the outreach required to create a worldwide urban shift to truly sustainable buildings.*

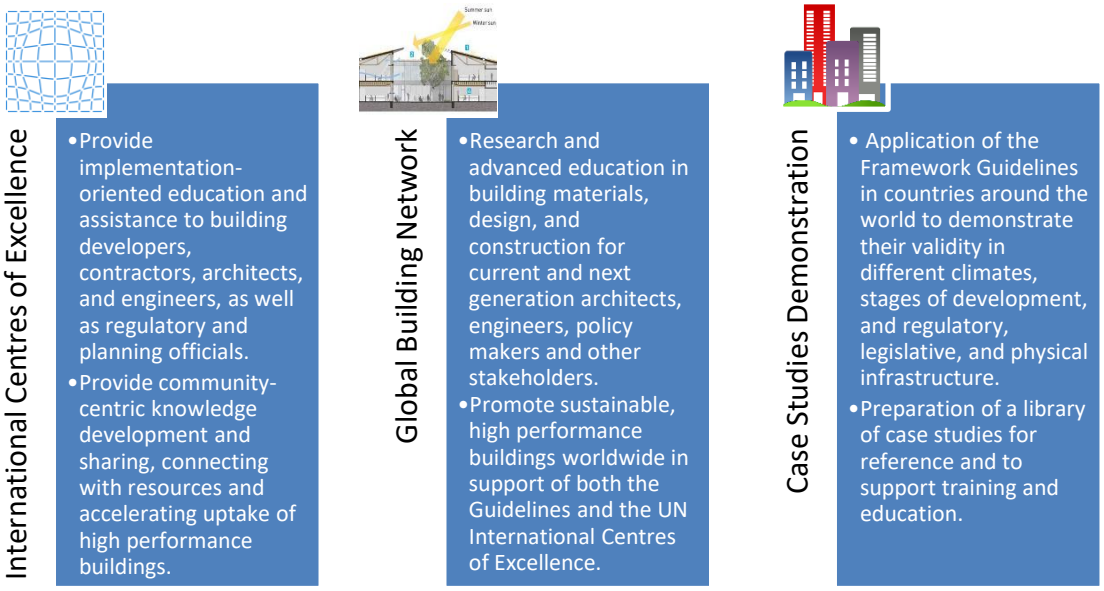
The ultimate objective is to improve health and quality of life within the built environment while simultaneously decarbonizing building-related energy requirements, thus breaking the historic link between improved health, quality of life and atmospheric carbonization.

High performance buildings are key to achieving the 2030 Agenda. They help deliver on many of the Sustainable Development Goals in areas including:

- promoting sustainable urban development by recognizing buildings as complex systems embedded in community, city, and country-level energy networks
- tackling poverty by reducing energy bills
- accelerating the sustainable energy transition by improving the efficiency with which buildings' energy services are provided, and
- supporting climate action by reducing the energy requirements of buildings to a point at which residual needs can be met by no or low-carbon energy sources.

UNECE has launched its programme on high performance buildings to deploy its Framework Guidelines for Energy Efficiency Standards in Buildings and its Geneva UN Charter on Sustainable Housing with the aim of accelerating the transformation of the world's building stock.

HPBI comprises three pillars aimed at the reduction of the global carbon footprint of buildings and dramatic improvement in the health and quality of life provided by buildings.



Objectives and Targets

The High Performance Buildings Initiative aims to achieve the following objectives:

- ***Moving the dial on building energy performance:*** grow the number of localities with building codes aligned with UNECE Framework Guidelines; ensure most new buildings are certified compliant; reduce by 60% the average energy requirement per square meter in the new building "fleet" and by 10% for existing buildings.
- ***Moving the dial on GHG emissions and indoor air quality:*** reduce by 40% CO_2 emissions associated with meeting buildings' energy service needs; increase by 10% the amount of carbon "stored" in buildings; improve indoor air quality and reduce pollution-linked health issues.
- ***Improving the global supply chain for the construction business:*** enhance "carbon storage" by increasing embedded carbon in buildings and building products and by reducing waste.
- ***Extending the network:*** recruit new centres of excellence and academic institutions to accelerate uptake of high performance best practices.

Architects, building contractors, and engineers are those who can perfect building envelopes – getting the materials and design right and then ensuring perfect construction techniques. Done right, design, materials, and perfect construction techniques, energy requirements are reduced so they can be met with low or no carbon energy sources

Systems professionals deliver heating, ventilation, and air conditioning as well as plug-in loads. Equipment can be sized properly to meet building's needs. Embedded carbon and energy demand can be limited and components can be recovered for re-use at the end of their lives.

Energy suppliers are essential if we are to ensure no- or low-carbon solutions meet the systems' needs. Energy can be provided on-site through a distributed energy services model – imagine roof-top solar or on-site storage – or through some sort of network connection. Further, efficient urban transport coordinated with buildings would connect energy and energy storage systems with mobility options and would accelerate the decarbonisation of mobility.

Information communications technology system optimization would coordinate distributed generation, smart energy use, energy service providers, and consumers. In addition, automated monitoring and control of the systems, indoor air quality, and comfort would improve building management and systems' efficiency. Tracking components in buildings will contribute to recycling and reuse of components. Finally, services bring the remainder of what dwellings provide to occupants: water, food, and waste removal or treatment.

Rather than address efficiency or quality on a component-by-component basis, the Framework Guidelines deal with a building as a complex system in its own right, one that is embedded into a community then into a city then into a regional or national network. ICT connects all the parts and allows for system-wide optimization that enables full participation by both consumers and intermittent energy resources. Until now, each of the communities have been operating as stand-alone contributors. Getting them to act together enables an integrated approach, unlocking the potential of buildings to make the ambitious vision of the 2030 Agenda a reality.

Annex 2

Updated Framework Guidelines for Energy Efficiency Standards in Buildings

Summary

The Joint Task Force on Energy Efficiency Standards in Buildings of the Group of Experts on Energy Efficiency was established in 2015 by the Committee on Sustainable Energy and the Committee on Urban Development, Housing and Land Management for 2016–2017 with a possibility of extension. Its mandate was extended for the period of 2018–2019, and further for the period of 2020–2021 with a possibility of extension.

The Joint Task Force on Energy Efficiency Standards in Buildings developed the Framework Guidelines for Energy Efficiency Standards in Buildings (ECE/ENERGY/GE.6/2017/4), and in 2017 the Committee on Sustainable Energy and the Committee on Urban Development, Housing and Land Management endorsed the document. To deploy the Framework Guidelines for Energy Efficiency Standards in Buildings and to set in motion the process of setting up international centres of excellence and a consortium of educational and research institutions, and thereby to accelerate transformation of the world's building stock, the United Nations Economic Commission for Europe launched a programme on high-performance buildings.

The United Nations Economic Commission for Europe continues to maintain the Framework Guidelines for Energy Efficiency Standards in Buildings and keep them updated. In view of this, the Work Plan of the Group of Experts on Energy Efficiency for 2020–2021 (ECE/ENERGY/2019/8) set the objective to further review and update the document, as needed. The related 21-day review process was organized involving the expert community of the Group of Experts on Energy Efficiency. This document contains the revised Framework Guidelines for Energy Efficiency Standards in Buildings, improved as deemed necessary.

I. Introduction

1. Buildings are central to meeting the sustainability challenge. In the developed world, buildings consume over 70 percent of the electrical power generated and 40 percent of primary energy and are responsible for 40 percent of carbon dioxide emissions from related fuel combustion. While developing countries will need to accommodate 2.4 billion new urban residents by 2050, in Europe 75-90 percent of buildings standing today are expected to remain in use in 2050. Renewable energy technology alone cannot meet those requirements, despite recent improvements. The energy performance of buildings must be managed, but the capability to meet this challenge is in place.

2. Standards are an effective instrument for addressing energy efficiency in buildings. Development and deployment of standards support the achievements of the targets set by several international initiatives such as the 2030 Agenda for Sustainable Development, the Sustainable Energy for All Initiative, the Geneva United Nations Charter on Sustainable Housing, as well as by the Paris Agreement. The concepts set forth herein go well beyond the incremental, components approach of existing building standards. Rather, they represent a principles-based performance guidance for building energy standards that is outcome-based, anchored in energy actually consumed, and that is designed to project a vision of holistically designed and operated, ultra-high-performance buildings as part of an integrated sustainable energy system.

II. Goal

3. Economic growth and the quality of indoor environments have depended on increased primary energy use. Shifting that reliance to renewables requires a holistic, systems approach to building design, delivery and operation and a paradigm that envisions buildings as energy producers and not solely or primarily as energy sinks. At costs equal or close to those of traditional buildings, it is possible with today's technology to transform buildings to align with the highest standards of health, comfort, well-being and sustainability, including improving energy productivity and reducing carbon dioxide emissions.

4. The energy required by buildings can be reduced to a level that can be supplied largely, perhaps exclusively, by non-carbon-based energy. While further improvement in renewable energy technology and electrical and thermal storage is to be expected, the results will be more immediate and robust if buildings and the materials and technologies therein used are fundamentally transformed, while being assessed over their life cycle in terms of their energy performance. Limiting building heating and cooling requirements to 15 kWh/m²a in new builds and to 25 kWh/m²a for retrofit projects (final energy in conditioned space) each reduces energy needs sufficiently to permit renewable energy or zero carbon sources to meet most or all of the remaining space conditioning energy requirements. Total primary energy use in buildings' conditioned spaces, including heating, ventilation, cooling and hot water, can be limited to 45 kWh/m²a or, including plug-in loads (appliances), to 90 kWh/m²a. Over time with improvements in technology and materials and with enhanced connections to the built environment, these targets could be improved further. In addition, a viable indicator for primary renewable energy use should be introduced. In parallel, there will be need for effective controls for generation, distribution, and emission at full and partial demand loads to match energy use with building and occupant needs.

III. The Principles

5. The principles required for an era of truly sustainable buildings emerge from building science, materials science, digital science, information and communication technology and more. They reflect accumulated lessons learned and best practices of building owners, designers, engineers, builders, managers, policy makers, and more. The principles shift the building industry paradigm from fragmented and serial to holistic and integrated.

6. The principles cannot be prescriptive because of the vast diversity of circumstances and conditions experienced around the world. Rather, the principles provide guidance for planners, builders, and the entire building delivery and management chain as elements of innovative sustainability strategy.

A. Strategic

7. Buildings must be:

(a) Science-based: design, construction, and management;

(b) Financed through policies recognizing the value of better buildings;

(c) Service-oriented: meet the sustainability demands of the populations served;

(d) Integrated with their built environment lifecycle to connect buildings as energy consumers and generators (prosumers);

(e) Cost effective to mobilize private investment and entrepreneurs;

(f) Low-carbon technologies oriented to encourage clean and potentially renewable energy-based technologies utilization to lower greenhouse gas emissions;

(g) Low energy consumption targeted to encourage energy efficiency increase in buildings leading to lower greenhouse gas emissions;

(h) Performance-monitored with feedback loops to operations and design tools;

(i) Performance-based: evaluated by system outcomes, not component prescriptions;

(j) Safe and healthy: made taking the impact of buildings on human health into account;

(k) Cognizant of the whole value chain, including taking account of the amount of energy consumed to produce building materials, for more accurate calculation of energy efficiency.

B. Design and Construction

8. Conception and delivery of buildings must be:

(a) Holistic and integrated: recognize buildings and their environment are part of a system;

(b) Affordable: high performance buildings costing the same as or less than in 2016 based on a life-cycle assessment, taking account of cost reductions from learning effects and economies of scale;

(c) Validated: based on energy models that reliably predict actual building performance;

(d) Sustainable: made using sustainable materials, equipment, construction, management and retirement practices, with due consideration given to passive building design where practicable;

(e) Code-driven: with local adaptation of global building standards by having a normative template for specific choices in method, boundary conditions and in input data, to tailor the procedures to the national or regional context;

(f) Skills based: develop workforces to provide technology/skills needed for design, construction and operation.

C. Management

9. Building must be maintained over their lifecycle:

(a) Commissioning: With commissioning and re-commissioning of building active systems;

(b) Performance-based: With on-going benchmarking, monitoring & reporting of actual performance data;

(c) Certification: Maintain certification or labelling to ensure energy performance is incorporated in asset value;

(d) Managed: Large or complex buildings, not leaving other types behind, to be all professionally managed with ethos of sustainability & social responsibility;

(e) Data-linked: with advanced building information management capacity, where public infrastructure permits;

(f) Evaluated: On going performance evaluation and improvement;

(g) City-scaled: information analysis and outcomes;

(h) Life cycle-based: with long term analysis.

IV. Implementation

10. Transformative change in buildings is possible, and the capabilities to create a new world of buildings and energy is in hand or within reach. Already today we have the techniques to achieve climate neutrality in the building sector until 2050/2060. Progress will require multisectoral follow-on action in five areas to support the Framework Guidelines for Energy Efficiency Standards in Buildings and make its vision a reality:

(a) ***Dissemination:*** national, regional and municipal leaders in the public, private, research and education sectors must be made aware of the Framework Guidelines for Energy Efficiency Standards in Buildings – its vision, logic, practicality, and advantages;

(b) ***Education:*** information, guidance, instruction, and avenues to ongoing dialogue and knowledge resources must be provided to policy, market, and knowledge stakeholders to foster local development of building standards, codes and practices aligned with the Framework Guidelines for Energy Efficiency Standards in Buildings;

(c) ***Research:*** through collaborations among leaders in science and technology, focused on the frontier challenges in such areas as: (1) building components and materials; (2) building design, construction and operation; (3) energy production, distribution and consumption; (4) integrated urban systems and life cycle management; and (5) strategies for each country and climate zone to be carbon-free in 2050/2060;

(d) ***Consultation:*** formal and informal channels with local policy, market, and knowledge stakeholders for evaluation of impact, dialogue on in impact strategy, addressing discovered or unanticipated challenges, and cultivating global consensus in support of the Framework Guidelines for Energy Efficiency Standards in Buildings;

(e) ***Participation:*** networks of support and engagement among leading corporations, foundations, universities, professions, civil society and others with the array of resources – intellectual, experiential, financial, and relational – that will be required to make transformation a grass roots or deep market movement.

Annex 3: Terms of Reference for the HPBA ICE-HPB

Activities and Projects

The mission of HPBA, as an ICE-HPB designated by the UNECE, is to advance the principles of the UNECE Framework Guidelines for Energy Efficiency Standards in Buildings by connecting real estate and design professionals to energy efficiency solutions through education, training, technical assistance, demonstrations, resources, and research. HPBA identifies opportunities, navigates barriers to adoption, brokers relationships, and showcases best practices through its partners, projects, data and performance statistics, and published case studies, and will share resources globally through the ICE-HPB network.

HPBA helps building developers, owners, operators, and designers save energy and reduce building-based carbon emissions through implementation and adoption of energy efficiency measures and best practices. HPBA activities directly support climate action agendas and are consistent with the UNECE Framework Guidelines for Energy Efficiency Standards in Buildings.

The activities and projects of the HPBA ICE-HPB will include:

1. Convening dialogue amongst local and international industry leaders to identify challenges, share best practices and build a growing and diverse community of practice;
2. Gather and disseminate knowledge directly, and through partner organisations, including education and training, exhibits, case studies, research, demonstration projects, and the production of industry focused print and on-line resources;
3. Catalyze design and construction industry tools and training development, and identify potential barriers to adoption and implementation; and
4. Foster public demand and support for best practices through recognition and awards, open houses and tours, communication and marketing campaigns, public events, and demonstration projects.