

Flagship Project

Energy Efficiency Standards in Buildings



PROJECT DOCUMENT

1 EXECUTIVE SUMMARY

Project Title	Energy Efficiency Standards in Buildings
Project Manager	Mr. Oleg Dzioubinski (Sustainable Energy) Ms. Albena Karadjova (Forest, Land and Housing Division)
Sub-programmes	Sustainable Energy, and Forest, Land and Housing Division
Implementing Entity	UNECE
Start Date	01 January 2017
End Date	31 December 2021
Budget	1,487,061 USD
Beneficiary Countries	56 UNECE Member States
Cooperation Entities?	IEA, IRENA, WB, UN-Habitat, UNDP, UNIDO, REN21, C2E2, RECs

Brief description

UNECE's work on sustainable energy aims to improve access to affordable and clean energy for all and help reduce greenhouse gas emissions and the carbon footprint of the energy sector in the region. It promotes international policy dialogue and cooperation among governments, energy industries and other stakeholders. The focus of the programme is on energy efficiency, cleaner electricity production from fossil fuels, renewable energy, coalmine methane, natural gas, classification of energy and mineral reserves and resources, and energy security. UNECE is in a unique position to promote a sustainable energy development strategy for UNECE region in line with its mandate.

Building on the work of the Committee on Housing and Land Management and the Committee for Sustainable Energy, UNECE member States adopted the UNECE Action Plan for Energy-Efficient Housing (ECE/HBP/164) and the Strategy for Sustainable Housing and Land Management in UNECE region for the period 2014-2020 (ECE/HBP/2012/3). Member States also mandated UNECE to harmonize standards for energy efficiency in buildings in UNECE region (ECE/ENERGY/107/57).

The project aims to improve energy efficiency in buildings and reduce global greenhouse gas emissions in UNECE region through the:

- Review of existing instruments and practices for energy efficiency in buildings;
- Adoption and implementation of standards for energy efficiency in buildings; and
- Sharing of information and assistance across UNECE region.

The project directly supports the achievement of the Expected Accomplishment (b) “Increased awareness of the role of energy efficiency and renewable energy in achieving sustainable energy development” of the sub-programme 5 “Sustainable Energy” of the UNECE proposed Strategic Framework for the period 2016-2017 and 2018-2019.

Partners involved in the Baku Call for Action and contributing to the organization of the upcoming 8th International Forum on Energy for Sustainable Development include the United Nations Regional Commissions, the United Nations Development Programme (UNDP), the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the World Bank, the United Nations Industrial Development Organization (UNIDO), the Copenhagen Centre on Energy Efficiency (C2E2), and the Renewable Energy Policy Network for the 21st Century (REN21), and the Global Environment Facility (GEF).

Over 400 international energy experts, government officials, and representatives from the Business community, financial sector, academia and civil society.

2 BACKGROUND

2.1 Context

In the UNECE region, buildings are responsible for over a third of total final energy consumption, and much of this energy is used in the residential sector. Developed States as well as lower-income economies face the challenge of energy efficiency in buildings. There is an opportunity to deploy modern technologies that reduce buildings’ energy consumption between 30% and 50% without significantly increasing investment costs.

In 2010, UNECE member States acknowledged that **energy efficiency reform** in the housing sector is a major priority and adopted the “**Action Plan for Energy-Efficient Housing** in the UNECE Region”¹. The Action Plan defines improved energy efficiency in housing as achieving reduced energy intensities in residential services without compromising the well-being of the residents or the environment, thus recognizing the links between energy efficiency and the three components of sustainable development: **environment, society and economy**.

Improving the energy performance of a residential building goes hand-in-hand with enhancing living conditions and reducing energy bills for residents. It also contributed to reducing fuel poverty and **mitigating greenhouse-gas emissions** while creating employment. The Plan sets three main policy areas: Energy efficiency governance and financial infrastructure; energy performance standards and technology integration, and access to Efficient energy and public housing.

¹ Action Plan for Energy-Efficient Housing in the UNECE Region:
<http://www.unece.org/fileadmin/DAM/hlm/documents/Publications/action.plan.eehousing.pdf>

In 2013, UNECE, UN-Habitat and the City of Vienna, among other contributors, submitted a review of energy-efficiency improvement practices to the UNECE Committee on Housing and Land Management. The aim was to stress the viability of an energy-efficient housing sector, raise awareness on alternative practices and ways to promote enhanced investment in energy- efficiency methods. Case studies described experiences from Western Europe, North America, as well as Eastern Europe, Caucasus and Central Asian countries.

In October 2016, while UN member States reiterated the importance of energy efficiency at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), Regional Economic Commissions and the Government of Azerbaijan convened the 7th International Forum on Energy for Sustainable Development which concluded with the adoption of the “the Baku Call for Action”². The Call for Action aims to transform energy systems towards the implementation of the 2030 Agenda and the Paris Climate Agreement.

Actions identified in the document will be submitted to Member States for adoption at the Energy Ministerial Conference organized in the context of the 8th International Forum on Energy for Sustainable Development and the EXPO2017 “Future Energy” that will take place in June 2017 in Astana, Kazakhstan.

2.2 Mandates, comparative advantage and link to the Programme Budget

In addition to UN member States, more than 70 international professional organizations and other non-governmental organizations take part in UNECE activities. As a multilateral platform, UNECE facilitates greater economic integration and cooperation among its Member States and promotes sustainable development and economic prosperity through: policy dialogue, negotiation of international legal instruments, development of regulations and norms, exchange and application of best practices as well as economic and technical expertise, and finally, technical cooperation for countries with low and middle-income economies.

The Committee on Housing and Land Management (CHLM) provides policy advice and expert assistance on sustainable housing development, land administration and spatial planning. Since its establishment in 1947, it has actively promoted building codes and standards. The former Working Party on Building of the CHLM conducted analyses of national building regulations in the UNECE region and promoted the international harmonization of their technical specifications.

A number of studies were undertaken and published, including the “List of International Standards and Similar Documents Relating to Building Activity” (ECE/HBP/48/Rev.1), “Building Regulations in ECE Countries” (ECE/HBP/52), “International Harmonization of Building Regulations in the ECE Region” (ECE/HBP/62), and “International Harmonization of Approval and Control Rules for Buildings and Building Products” (ECE/HBP/67). The ECE Compendium of Model Provisions for Building Regulations (ECE/HBP/55) was initially published in 1985 and was updated several times. It provided comprehensive information on available national building regulations and related documents. Its publication supported the harmonization of building regulations in the UNECE region and thus contributed to a wider exchange of building products and services among member States.

² **Baku Call for Action:** <http://www.unece.org/info/media/presscurrent-press-h/sustainable-energy/2016/baku-call-for-action-governments-and-international-partners-are-asked-to-work-on-implementation-of-energy-related-sustainable-development-goals/doc.html>

The Committee on Sustainable Energy (CSE) oversees UNECE work on sustainable energy with a view to improving access to affordable and clean energy for all and helping reduce greenhouse gas (GHG) emissions and the carbon footprint of the energy sector. It oversees the activities of the Group of Experts on Energy Efficiency. UNECE's work on sustainable energy aims at improving access to affordable and clean energy for all and help reduce greenhouse gas emissions and the carbon footprint of the energy sector in the region. It promotes international policy dialogue and cooperation among governments, energy industries and other stakeholders. The focus is on energy efficiency, cleaner electricity production from fossil fuels, renewable energy, coal mine methane, natural gas, classification of energy and mineral reserves and resources, and energy security.

The CSE includes the Group of Experts on Energy Efficiency (GEEE) which focuses on improving and strengthening regional cooperation on energy efficiency, thus contributing to climate change mitigation efforts. The first session of the Group, held on 17–18 November 2014 in Geneva, developed a work plan for 2014–2015 with specific reference to energy-efficiency standards and labelling, and requested further work on developing and establishing ECE standards for energy efficiency in the longer term in cooperation with selected international standardization organizations. The CSE approved the conclusions and recommendations of the first meeting of the GEEE and noted the study on standards related to energy efficiency in buildings undertaken by the CHLM (ECE/HBP/2014/4). The Committee requested to distil possible measures that could be included in a matrix on best practices in energy efficiency to strengthen the work of the CHLM. EXCOM, at its seventy-fifth meeting on 10 February 2015, endorsed the work plan of the GEEE for 2014–2015. The UNECE Sustainable Energy Division, secretariat to the CSE, has been involved in analyzing best practices in energy efficiency in countries of the UNECE region for a number of years.

Resulting studies include: i) “Regional Analysis of Policy Reforms to Promote Energy Efficiency and Renewable Energy Investments”, describing a selection of case studies on overcoming barriers to enhance energy efficiency and renewable energy uptake through policy reforms; ii) the publication, “Analysis of National Case Studies on Policy Reforms to Promote Energy-Efficiency Investments”, describing 17 case studies from five regions; and iii) the publication “Best Practices in Policies for Promoting Energy Efficiency in UNECE member States”, presenting a structured framework of best practices in policies to promote energy efficiency for climate change mitigation and sustainable development to be used by policy makers. UNECE is in a unique position to promote a sustainable energy development strategy for UNECE region in line with its mandate.

The Working Party on Regulatory Cooperation and Standardization Policies (WP.6) serves as a forum for dialogue among regulators and policy makers. It addresses technical regulations, standardization, conformity assessment, metrology, market surveillance and risk management. It promotes a holistic partnership in all phases of regulatory action, from standards setting all the way through to regulatory enforcement.

The project directly supports the achievement of the Expected Accomplishment (b) “Increased awareness of the role of energy efficiency and renewable energy in achieving sustainable energy development” of the sub-programme 5 “Sustainable Energy” of the approved ECE Strategic Framework for the period 2016–2017 and the ECE Proposed Strategic Framework for the period 2018–2019. The project also contributes to the achievement of Expected Accomplishment (a) Improved capacity for formulation and implementation of evidence-based policies in housing, urban development and land management of sub-programme 8 “Housing and Land Management” of the ECE Proposed Strategic Framework for the period 2016–2017 and 2018–2019.

2.3 Country demand and target countries

UNECE serves 56 countries in Europe (including Russian Federation), North America (Canada and United States), Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) and Western Asia (Israel). List of Member States available on-line:

https://www.unece.org/oes/nutshell/member_States_representatives.html

As UNECE aims at promoting Pan-European economic integration, its programmes are designed to support **Lower-middle income economies in the region** (Armenia, Kosovo, Kyrgyzstan, Moldova, Tajikistan, Ukraine, Uzbekistan), as well as **Upper-middle income economies** (Albania, Azerbaijan, Belarus, Bosnia & Herzegovina, Bulgaria, Georgia, Kazakhstan, Macedonia FYR, Montenegro, Romania, Russian Federation, Serbia, Turkey, Turkmenistan) and finally, other UNECE Member States with **High-income economies (35)**.

The member States of the ECE region in 2015 agreed to adopt voluntary guidelines to ensure access to decent, adequate, affordable and healthy housing for all in the Geneva UN Charter on Sustainable Housing. These voluntary guidelines include a number of aims for the housing sector that are related to energy efficiency in buildings. These include: improved environmental and energy performance of dwellings, which contribute to combating energy poverty and improving residents' quality of life and reducing health problems; existing houses that are retrofitted, as much as possible, for the efficient use of resources; housing construction and renovation as well as retrofitting of the existing housing stock in order to combat energy poverty by supporting energy efficiency (which will also contribute to climate change mitigation and adaptation).

The Charter also highlights the member States' intention to advance in four key directions towards sustainable housing including the objective to ***limit the negative impact of housing on the environment and enhance the energy efficiency of the housing sector***. The Member States also supported the following actions in the area of energy efficiency in housing: limit the negative impact of housing on the environment and ***enhance the energy efficiency of the housing sector by taking measures to reduce the carbon footprint of the housing sector by reducing energy use*** throughout the entire life cycle of buildings; ***apply building codes and standards for energy efficiency and the environmental safety of new and existing residential buildings***.

The proposed project will be conducted under the auspices of a joint task force established under the **Committee on Housing and Land Management and the Committee on Sustainable Energy** (Group of Experts on Energy Efficiency). It will engage in a consultation process with the range of regional and international partners and stakeholders (Global ABC, architects, building contractors, and affiliated associations and NGOs).

2.4 Link to the SDGs

UNECE helps countries to convene and cooperate on norms, standards and conventions in support of the Sustainable Development Goals (SDGs). This impacts the life of citizens every single day when they, for instance, buy food, drive a car, breathe clean air, transport goods, handle chemicals, save energy or walk in the forest. UNECE is actively engaged in work related to 16 of the 17 SDGs.

UNECE helps implement the SDGs by translating the global goals into norms, standards and conventions, developing statistical recommendations and capacity, undertaking performance reviews and studies (environment, innovation, regulatory barriers, housing, forestry, statistics), building capacity and engaging in partnerships with the private sector and civil society.

SDG 7 of the 2030 Agenda for Sustainable Development is to “Ensure access to affordable, reliable, sustainable and modern energy for all.” Targets are the following:

- By 2030, ensure universal access to affordable, reliable and modern energy services
- By 2030, increase substantially the share of renewable energy in the global energy mix
- By 2030, double the global rate of improvement in energy efficiency
- By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries.

Energy is at the heart of the 2030 Agenda and addressing the climate change challenge. Improving energy efficiency and energy productivity, particularly in buildings, industry and transport, will reconcile the world’s growing need for energy services with the impact that energy resource development has on the natural resource base: *“UNECE’s achievements have made it a go-to source for improving global public goods and services, with more than 100 countries beyond the UNECE region benefiting from its work”* - **UN Secretary-General Ban Ki-moon**

More details on: <http://www.unece.org/info/about-unece/mission/unece-and-the-global-goals.html>

3 ANALYSIS

3.1 Problem analysis

Across the UNECE Region, the residential sector represents a large share of the total energy consumption, improving the energy performance of residential buildings is therefore critical to mitigate greenhouse-gas emissions and improve the living standards in UNECE region. Modern technologies that reduce buildings’ energy consumption between 30% and 50% exist and do not necessarily increase investment costs.

In 2010, member States, through the Committee on Housing and Land Management (CHLM), adopted the UNECE Action Plan for Energy-Efficient Housing (ECE/HBP/164) which led, in September 2012, to the adoption of a Strategy for Sustainable Housing and Land Management in UNECE region for the period 2014-2020 (ECE/HBP/2012/3). At its 75th session, in October 2014, the UNECE Committee on Housing and Land Management (CHLM) endorsed a broad proposal to develop standards related to energy efficiency in buildings (ECE/HBP/2014/4). In September 2016, at its 25th session, the CSE endorsed the activities to develop standards related to energy efficiency in buildings (ECE/ENERGY/107/57).

A questionnaire was developed in collaboration with the CHLM and the CSE to identify the most important areas and activities in the field of building standards and regulations where the UNECE can support member States. The survey had the following objectives: to obtain general information on the status of building standards and regulations in Member States, and particularly on energy efficiency in buildings with a view to obtain general information on the main challenges that member States faced in this sector; and to identify the role that UNECE can play in better assisting Member States in this matter. According to the respondents, the highest priority area for the UNECE is the “Thermal performance of buildings and building components”, followed by “Construction materials” and “Minimum habitable standards for healthy and safe living”.

The CHLM and the CSE organized an Expert Consultation on Energy-Efficiency Standards in Buildings in April 2015. Representatives of relevant stakeholders and main international organizations dealing with energy and standards came together to discuss the way ahead for promoting the use of standards to enhance energy efficiency in the building sector. The participants recommended establishing a **Joint Task Force on Energy-Efficiency Standards in Buildings**.

3.2 Country level problem analysis

Improving the energy performance of residential buildings is critical to mitigate greenhouse-gas emissions and improve the living standards in UNECE region. The adoption of a harmonized set of standards on energy efficiency in UNECE region will contribute to encourage the implementation of measures at the national level for improved energy production and management.

Extractive industries are making a comeback in Eastern European and Central Asian economies where they remain a major GDP contributor. Many of the above economies still depend on the petroleum and mineral extraction hence their dependence on volatile international markets and carry over from some of the unsustainable legacy operations, this is a major issue. The development of renewable energy and a drastic decrease in energy consumption in the residential sector could significantly contribute to reduce the impact of volatile markets on such economies.

In UNECE region, the number of national and international standards related to energy efficiency in buildings has continuously increased over the last decades. This has generated confusion among policy makers, organizations, businesses and consumers on which standards to apply. UNECE is proposing to build a harmonized set of standards for energy efficiency in buildings for all member States of UNECE region, with a view to impulse the implementation of dedicated measures across the region and reach the objectives set in the Baku Call for Action and the Sustainable Development Goals.

Thirty-two member States contributed to the UNECE Expert Consultation on Energy Efficiency Standards in Buildings, that was held in Geneva, on 20-21 April 2015. Albania delivered a detailed presentation on the country building regulations and standards, and provided views on the major challenges to update the latter. More detailed information and presentations are available on the following link: http://www.unece.org/housing/expertconsultation_eel.html#/

3.3 Stakeholder analysis and capacity assessment

Non UN Stakeholders	Type & level of involvement in the project	Capacity assets	Capacity Gaps	Desired future outcomes	Incentives
International Organizations (IEA, IRENA, WB, UN-Habitat, UNDP, UNIDO, RECs)	Development & maintenance of Expert working Groups on Energy Efficiency in Buildings	Wide expertise and knowledge regarding the sectorial needs	Absence of a coherent & consistent framework for Energy Efficiency Buildings	Commitment to Energy Efficiency in Buildings by 3 International Organizations.	Availability of universal standards for Energy Efficiency in Buildings in support of urban planning investments

European Union (Euro Codes, Joint Research Centre, DEVCO, DG NEAR)	Promotion and application of Energy Efficiency in Buildings universal standards for improved urban planning in countries	Wide knowledge and expertise on regional/global requirements for sustainable development	Absence of universal guidelines for energy efficiency in buildings	Improved urban planning and reduced consumption of energy in buildings in the EU and globally	Availability of universal standards for Energy Efficiency in Buildings
National planning and energy Agencies / Institutes (Ministries of Energy, Ministries of Planning)	Creation of policies for Energy Efficiency in Buildings Development of Bridging Documents to National Systems	Convening power, knowledge & expertise in energy efficiency, the building sector & urban planning development programmes	Absence of a national system for improving the Energy Efficiency in Buildings; Lack of competent Officials & Experts	Energy Efficiency in Buildings standards adopted in 15 countries. 150 professionals trained in the EEB standards in 15 countries	Aligned to an internationally recognized standards on Energy Efficiency in Buildings
Professional Bodies and Associations (REN21, C2E2)	Development of standards and guidance for energy efficiency in buildings	Expertise in relevant areas	Use of diverse systems which are inconsistent and incoherent with each other	Existing systems bridge UNFC or adopted as the industry standard by 5 professional associations	Alignment of existing systems with an internationally accepted UN standard

The proposed project will initiate a consultation process with the range of regional and international partners and stakeholders such as Global ABC, architects, building contractors, and affiliated associations and NGOs, to review the instruments and practices applied for energy efficiency in buildings, and map existing technologies. Such reviews will serve for the development of a harmonized set of standards for UNECE region.

4 PROJECT STRATEGY: OBJECTIVE, EXPECTED ACCOMPLISHMENTS, INDICATORS, MAIN ACTIVITIES

4.1 Project Strategy

The project aims at improving the energy efficiency in buildings and reduce global greenhouse gas emissions in UNECE region through the:

- Review of existing instruments and practices for energy efficiency in buildings;
- Adoption and implementation of standards for energy efficiency in buildings; and
- Information sharing and assistance across UNECE region.

1) Review of existing instruments and practices for energy efficiency in buildings

The number of national and international standards related to energy efficiency in buildings has continuously increased over the last decades. This has generated confusion among policy makers, organizations, businesses and consumers concerning which standards in energy efficiency have the highest impact and are most relevant for their country.

Building on member States' commitment in addressing energy efficiency, UNECE will compile a comprehensive mapping of energy efficiency standards in buildings of the UNECE region. In this endeavor, UNECE will also map existing technologies for energy efficiency. Finally, through the above-mentioned review, UNECE will provide recommendations on gaps and best practices in the region, for further advancing the energy efficiency agenda in UNECE region.

2) Adoption and implementation of standards for energy efficiency in buildings

Building on the analysis of existing standards and practices for energy efficiency in UNECE region, as well as recommendations to further advance the energy efficiency agenda in UNECE region, UNECE will establish a dedicated inter-governmental mechanism, as a joint task force for energy efficiency with rules of procedure for standard setting in UNECE region.

UNECE, in collaboration with national experts and relevant partners, will develop a set of standards and a roadmap for energy efficiency in UNECE region. UNECE will also advocate for the adoption of policies on energy efficiency, including within the European Union, to ensure the implementation is incentivized across the region.

3) Information sharing and assistance delivered to UNECE Member States:

UNECE plans to develop an on-line platform for information sharing, including technical assistance and capacity building modules upon request by member States and partners. A roster of experts on energy efficiency in buildings will be maintained by UNECE and deployed in member States as deemed appropriate.

Finally, UNECE will facilitate enhanced dialogue amongst member States and UN partners on energy efficiency in buildings in relevant fora and international events. UNECE will implement the project under the auspices of a joint task force established under the CHLM and the CSE (Group of Experts on Energy Efficiency).

Consultations meetings and Experts workshops will be convened in coordination with the above-mentioned Committees as deemed relevant. Assistance at the national level will be delivered by a group of Experts with in depth knowledge of UNECE region and national contexts, in coordination with UNECE coordinating team.

Workshops and consultation meetings will be organized on demand by Member States and ideally back-to-back with other relevant meetings with a view to reduce the costs and will help targeting competent Officials and Experts in countries throughout the project duration. When deemed appropriate or required by countries, review mission may be performed by groups of international experts.

4.2 Logical Framework

Intervention logic	Indicators	Means of verification
Objective To enhance capacities of the UNECE member States for development and implementation of the energy efficiency standards in buildings		
Expected accomplishment - EA1 Improved knowledge of UNECE member States of the existing energy efficiency standards and technologies in buildings in the UNECE region Assessment of energy efficiency practices Instruments and practices for energy efficiency in buildings in UNECE region are reviewed / analyzed / mapped	IA 1.1 At least 20 countries improved their knowledge in energy efficiency in buildings in the UNECE region	Project progress reports, feedback questionnaires, reports of the UNECE intergovernmental bodies
	IA 1.2 At least 100 experts in the UNECE region increased their knowledge of existing technologies in energy efficiency in building	Project progress reports, feedback questionnaires, reports of the UNECE intergovernmental bodies
	IA 1.3 Analytical report on best practices and gaps in UNECE region	Report available as initial assessment to design a plan of action
A1.1. Undertake mapping of energy efficiency standards in buildings of UNECE region (national and regional levels)		
A1.2. Undertake mapping of existing technologies to improve energy efficiency		
A1.3. Develop recommendations on gaps and best practice for existing standards and technologies.		
A1.4. Organize two workshops for stakeholders from Eastern Europe, the Caucasus and Central Asia from energy and housing sectors to validate the results of both mapping		
Expected accomplishment - EA 2 Enhanced capacities of the UNECE member States to apply harmonized international energy efficiency standards in buildings Standards for energy efficiency in UNECE region A Joint Task Force will review the assessment of energy efficiency in buildings in UNECE region and work out a set of harmonized standards for the region with a view to accelerate the implementation of saving measures.	IA 2.1 At least 30 experts from UNECE member States joined the Task Force	Project progress report, reports of the UNECE intergovernmental bodies
	IA 2.2 At least 20 countries of ECE region adopted standards on energy efficiency in buildings	Country progress report, reports of the UNECE intergovernmental bodies
	IA 2.3 Set of standards adopted by UNECE Member States	Publication on the set of standards available publicly
A 2.1 Establishment of a joint task force of Experts for energy efficiency in buildings and rules of procedure for standard setting		
A 2.2 Development of a harmonized set of standards for energy efficiency in buildings (roadmap)		

Intervention logic	Indicators	Means of verification
A 2.3 Organization of 5 expert group meetings to discuss and validate the energy efficiency standards in buildings		
A 2.4 Organization of 5 awareness raising events/ advisory missions to facilitate implementation and adaptation of the standards		
Expected accomplishment - EA 3 Enhanced network of experts from public and private sectors on energy efficiency standards in buildings in the UNECE region Information sharing and assistance delivered to UNECE Member States UNECE will advocate for the implementation of UNECE set of standards for energy efficiency in buildings and enable member States to take measures at the national level	IA 3.1 At least 80 experts identified and joined an online platform.	Project progress reports, Reports of the UNECE intergovernmental bodies
	IA 3.2 At least 80 experts from UNECE region joined the roster	Project progress reports, reports of the UNECE intergovernmental bodies
	IA 3.3 Participation of UNECE in at least 5 relevant fora & international events on energy efficiency	Events outcomes reflected on Energy Efficiency in Building new standards
A 3.1 Develop an on-line platform for information sharing, including technical assistance and capacity building modules for member states and partners		
A 3.2 Develop an on-line roster of experts on energy efficiency in buildings to be deployed in UNECE region and subsequently outside Europe as deemed relevant.		
A 3.3 Participate in international events on energy efficiency to promote the new standards in UNECE region and promote their implementation by Member States and relevant partners.		

4.3 Risks and mitigation actions

Risks	Mitigating Actions
R1. Lack of consensus for a harmonized set of standards for energy efficiency in building among UNECE member States	M1. Continuous dialogue with member States through the Committee on Housing and Land Management and the Committee on Sustainable Energy
R2. Lack of funding to support UNECE member States to implement energy efficiency measures in the residential sector	M2. UNECE is undertaking resource mobilization efforts to support the project of the Joint Task Force

4.4 Sustainability

UNECE is well-known and respected for its role in developing norms and conventions and setting standards. The project builds on the on-going work of UNECE CHLM and CSE Member States and international Experts have agreed to establish the joint task force.

There is a consensus on the need to reduce the energy consumption of the residential sector in UNECE region, and the task force will therefore ensure that UNECE Action Plan for Energy-Efficient Housing (ECE/HBP/164) and the Strategy for Sustainable Housing and Land Management in UNECE region for the period 2014-2020 (ECE/HBP/2012/3) will be implemented. In addition, Member States mandated UNECE to harmonize standards for energy efficiency in buildings in UNECE region (ECE/ENERGY/107/57). The project is therefore well anchored in the agenda set by Member States for implementation of the plan and the strategy by UNECE and this will ensure the sustainability and continuity of the project achievements.

The UN regular budget and the continuity of the Committees and the Joint Task Force, will ensure the sustainable implementation of activities. Extra-budgetary funding is sought to support Member States dialogue, and develop dedicated outcomes. The capacity building approach will help countries build their own capacity to improve the energy efficiency in buildings and ensure a sustained approach in countries.

5 MONITORING AND EVALUATION

All monitoring, reporting and evaluation of the project will be undertaken in compliance with UNECE policies, UN Financial Rules and Regulations. UNECE will regularly share updates on the project implementation with all Member States through the two Committees and through the on-line platform.

The UNECE CSE and CHLM will be part of the Joint Task Force for Energy Efficiency in Buildings in UNECE region. Experts of the Task Force will provide technical advice and recommendations on the assessment of energy efficiency instruments and good practices in UNECE region, and subsequently develop a set of harmonized standards for UNECE member States. Experts will contribute to support member States with specific measures upon request through the roster of qualified Experts, as appropriate.

UNECE evaluations serve as a source of evidence of achievements and aim to contribute to improve the programme performance. All projects funded from extra-budgetary sources with a budget above US\$ 250,000 are subject to internal evaluation. Hence, a provision of 2% of the project budget is set aside at the planning stage, to engage independent consultants that conduct the evaluation upon the completion of the project. As a follow up to evaluations, UNECE prepares a management response to evaluate the Consultant's recommendations. All evaluation report and management responses are available publicly on the following website: <https://www.unece.org/info/open-unece/evaluation.html>.

6 MANAGEMENT AND COORDINATION AGREEMENTS

In 2010, member States acknowledged that Energy efficiency reform in the housing sector is a major priority and adopted the “Action Plan for Energy-Efficient Housing in UNECE region”. UNECE has continuously coordinated activities related to energy efficiency and building standards through two Committees. In light of the accelerated implementation of the Action Plan, member States have mandated UNECE to review existing mechanisms for energy efficiency and create a set of harmonized standards for UNECE Member States. The latter will be delivered through a Joint Task Force that will cross-fertilize both Committees.

The overall management and control of the project lies with UNECE Division for Housing and Land Management, and is executed in compliance with United Nations administrative financial rules and regulations. UNECE will maintain close cooperation with UNECE Member States and consult as appropriate with regional and international partners such as Global ABC, architects, building contractors, and affiliated associations and NGOs, to review the instruments and practices applied for energy efficiency in buildings, and map existing technologies.

The role of each partner will be defined once the Expert Working Group is created and decides upon the modality of work and implementation requirements. Detailed reports on decisions made by the Expert Working Group will be circulated among UNECE Member States and will serve for further consultation.

Annex 1
Results-based budget for the extra-budgetary project

EA	Activity #	Timeframe by activity		Budget class and Code <i>(Please use the budget classes listed in the table above.)</i>		Amount (USD)
		Year <i>(Y1, Y2, Y3, Y4)</i>	Quarter <i>(Q1, Q2, Q3, Q4)</i>			
EA1	A1.1	2017 (Y1)	Q1, Q2	Other Staff Costs (GTA)	010	\$ 45,000
				Consultants	010	\$ 24,000
				Travel of participants	160	\$ 10,000
				Travel of Staff	160	\$ 20,000
				Contractual Services	120	\$ 35,000
				Operating and other direct costs	125	\$ 3,000
	A1.2	2017 (Y1)	Q1, Q2	Other Staff Costs (GTA)	010	\$ 37,750
				Consultants	010	\$ 24,000
				Travel of participants	160	\$ 15,000
				Travel of Staff	160	\$ 20,000
				Contractual Services	120	\$35,000
				Operating and other direct costs	125	\$ 3,000
	A1.3	2017 (Y1)	Q4	Other Staff Costs (GTA)	010	\$ 60,000
				Consultants	010	\$ 12,000
				Travel of participants	160	\$ 15,000
		2018 (Y2)	Q1, Q2, Q3	Travel of Staff	160	\$ 20,000
				Contractual Services	120	\$ 28,000
				Operating and other direct costs	125	\$ 8,000
EA2	A2.1	2017 (Y1)	Q1, Q2, Q3, Q4	Other Staff Costs (GTA)	010	\$ 45,000
				Consultants	010	\$ 12,000

EA3				Travel of participants	160	\$ 25,000		
				Travel of Staff	160	\$ 25,000		
				Contractual Services	120	\$ 5,000		
				Operating and other direct costs	125	\$ 4,000		
	A2.2	2018 (Y2)	Q3, Q4	Q1, Q2, Q3, Q4	Other Staff Costs (GTA)	010	\$ 45,000	
					Consultants	010	\$ 24,000	
		Travel of Staff	160		\$ 15,000			
		Contractual Services	120		\$ 30,000			
		Operating and other direct costs	125		\$ 3,000			
	A2.3	2019 (Y3)	Q3, Q4	Q1, Q2, Q3, Q4	Other Staff Costs (GTA)	010	\$ 50,000	
		2020 (Y4)	Q1, Q2, Q3, Q4		Travel of participants	160	\$ 20,000	
					Travel of Staff	160	\$ 20,000	
		2021 (Y5)	Q1, Q2, Q3, Q4		Operating and other direct costs	125	\$ 4,000	
	A2.4	2017 (Y1)	Q1, Q2, Q3, Q4	Q1, Q2, Q3, Q4	Other Staff Costs (GTA)	010	\$ 50,000	
		2018 (Y2)	Q1, Q2, Q3, Q4		Travel of participants	160	\$ 15,000	
		2019 (Y3)	Q1, Q2, Q3, Q4		Travel of Staff	160	\$ 15,000	
		2020 (Y4)	Q1, Q2, Q3, Q4		Contractual Services	120	\$ 5,000	
		2021 (Y5)	Q1, Q2, Q3, Q4		Operating and other direct costs	125	\$ 3,000	
	A3.1	2017 (Y1)	Q1, Q2, Q3, Q4	Q1, Q2, Q3, Q4	Other Staff Costs (GTA)	010	\$ 30,000	
2018 (Y2)		Q1, Q2, Q3, Q4	Consultants		010	\$ 24,000		
			Travel of Staff		160	\$ 10,000		
2019 (Y3)		Q1, Q2, Q3, Q4	Q1, Q2, Q3, Q4		Contractual Services	120	\$ 67,750	
2020 (Y4)		Q1, Q2, Q3, Q4			Q1, Q2, Q3, Q4	Operating and other direct costs	125	\$ 4,180
2021 (Y5)		Q1, Q2, Q3, Q4						

				Equipment vehicles and furniture	135	\$ 20,000	
A3.2	<i>2017 (Y1)</i>	Q4		Other Staff Costs (GTA)	010	\$ 47,100	
	<i>2018 (Y2)</i>	Q1, Q2, Q3, Q4		Travel of participants	160	\$100,000	
	<i>2019 (Y3)</i>	Q1, Q2, Q3, Q4		Travel of Staff	160	\$ 15,000	
	<i>2020 (Y4)</i>	Q1, Q2, Q3, Q4		Contractual Services	120	\$ 15,000	
	<i>2021 (Y5)</i>	Q1, Q2, Q3, Q4		Operating and other direct costs	125	\$ 3,500	
					Other Staff Costs (GTA)	010	\$ 55,000
A3.3	<i>2017 (Y1)</i>	Q1, Q2, Q3, Q4		Consultants	010	\$ 6,000	
	<i>2018 (Y2)</i>	Q1, Q2, Q3, Q4		Travel of participants	160	\$ 35,000	
	<i>2019 (Y3)</i>	Q1, Q2, Q3, Q4		Travel of Staff	160	\$ 25,000	
	<i>2020 (Y4)</i>	Q1, Q2, Q3, Q4		Contractual Services	120	\$ 18,000	
	<i>2021 (Y5)</i>	Q1, Q2, Q3, Q4		Operating and other direct costs	125	\$ 5,000	
					Equipment vehicles and furniture	135	\$ 7,000
	Evaluation (for projects at/ above \$250,000)				Consultant	010	\$ 26,820

Annex 2 - Budget

Staff and personnel costs (010) \$ 464,750

Staff support (50% of 1 P3 Staff x 5 years) = \$ 464,750

Consultants (010): \$ 126,000

- International consultants for the task(s) of conducting the mapping of standards and technologies and prepare recommendations on best practices for existing standards & activities: A1.1, (4 work-months), A1.2 (4 work-months) and A1.3 (2 work months) x (\$ 6,000 per month) = \$ 60,000
- International consultants for compiling a set of standards in support of activity A2.2, (6 work months x \$ 6,000 per month) = \$ 36,000
- International consultants for facilitating information sharing and dialogue between stakeholders in support of activities A3.1 and A3.3, (5 work-months) x (\$ 6,000 per month) = \$ 30,000

Travel of meeting participants (seminars, workshops, study tours) (160): \$ 235,000

- One annual Seminar / consultative Workshop of experts to map, review and set new energy efficiency standards, in support of the project activities. Annual 3-days workshops x10 participants x average ticket cost = \$3200 x 5 years = \$ 160,000
- Deployment of experts in support of activity A3.2: 7 deployment missions x average ticket cost = \$3,125 x 4 years = \$ 75,000

Travel of Staff (160): \$ 185,000

Ten missions in average per annum by the Project Coordinator and other relevant staff to implement the project activities including advocacy with stakeholders worldwide as appropriate in the context of the project expected outcomes. (\$ 3,083 average mission cost) x (12 missions per annum x 5 years) = \$ 185,000

Contractual services (120): \$ 238,750

- A provision of \$ 238,750 is required for contractual services, which cover different services to the benefit of project activities.
- The design of promotional material, external printing and communication services in support of project activities is estimated at \$ 118,075 (\$ 23,615 per annum)
- Grants to technical & research institutions in support of Activities A1.1, A1.2 and A1.3 are estimated at \$ 70,000
- The development (\$ 30,000) & maintenance of the on-line platform (\$5,000 x 4 years) described in Activity A3.1 = \$50,000

Operating and other direct costs (125): \$ 40,680

Telecommunication costs, Rent, Office supplies, Interpretation and translation cost required in the field missions or during the conference/ workshop/ seminar where simultaneous interpretation is required, UNDP cost recovery in support of project activities = \$ 8,136/year x 5 years = \$ 40,680.

Equipment vehicles and furniture (135) \$ 27,000

A provision of \$25,000 is required for equipment in support of activities A3.1 (\$20,000) and A3.3 (\$7,000)

Budget summary:

Total direct cost	\$ 1, 290,180
Evaluation (at least 2%)	\$ 25,804
13% UN Programme Support Cost	\$ 171,078
Total budget	\$ 1,487,061