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**Review of implementation of the programme of work for 2010–2011:
affordable, healthy and ecological housing**

Principles and Goals for Affordable, Healthy, and Ecological Housing

Note by the secretariat

Summary

At its meeting on 21 December 2009, the Bureau of the Committee on Housing and Land Management discussed the need for a United Nations Economic Commission for Europe (UNECE)-wide policy framework on affordable, healthy and ecological housing, which could lead to the development of a framework convention on the same subject under the UNECE Committee on Housing and Land Management.

This note contains a background paper on Principles and Goals for Affordable, Healthy, and Ecological Housing, which has been prepared for consideration by the UNECE member States at the seventy-first session of the Committee.¹ It provides the rationale for the development of a UNECE-wide comprehensive policy framework for affordable, healthy and ecological housing, stresses the need to better reflect housing issues among the political priorities of Governments, and outlines key principles and goals for affordable, healthy and ecological housing. Such a UNECE-wide policy framework should provide the context for the implementation of existing guidance developed by UNECE in the field of housing, as well as for the development of additional policies and tools.

¹ The paper is written in accordance with the provisions of the *ECE Strategy for a Sustainable Quality of Life in Human Settlements in the 21st Century* (ECE/HBP/120).

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I. The need for a UNECE-wide housing policy framework

1. The UNECE Committee on Housing and Land Management continues to address numerous major housing challenges in the region, as classified in the paragraphs below.

2. *Lack of affordable housing:* Housing shortages are still experienced in the region, housing markets are either underdeveloped or unbalanced, and housing choices are often limited or unaffordable;

3. *Limited housing safety and unhealthy homes:* A large part of the housing stock is degraded, homes are often unhealthy environments to live in, housing built illegally is often substandard and a large number of the old housing stock are in desperate need of renovation;

4. *Poor energy efficiency and environmental soundness:* Carbon footprints from dwellings as well as their energy and water consumption remain too high, construction practices are not resource-efficient and waste management systems remain inefficient and highly polluting.

5. Despite these challenges, housing does not appear high on the political agenda both at national and international levels, although its significance for socio-economic development and environmental sustainability is as strong as ever. Within the public sector housing receives only sporadic attention as a social challenge, while within the private sector it is treated as a commodity for profit.

6. Many housing problems are common across the UNECE region. The housing sector is not regulated through unified and agreed international standards, while at the European Union (EU) level housing policies are competencies of each national Government. International documents that address particular housing challenges often remain written in the legislation of each country, but not implemented because either there are no instruments in place for implementation, or they are dealt with as a social issue only and not seen within a comprehensive housing policy framework.

7. The *ECE Strategy for a Sustainable Quality of Life in Human Settlements in the 21st Century* (2000) recognised the importance of the housing sector for socially, economically and environmentally sound development. The Strategy continues to guide the Committee on Housing and Land Management in coordinating the work on housing policies in the UNECE region, and the Committee's programme of work amply reflects the importance of and the need for a shared understanding and commitment on affordable, healthy and ecological housing. However, the practical impact of the above-mentioned Strategy on the housing sector in the UNECE region has been limited by its non-legally binding nature.

8. Policy guidelines and recommendations in the housing field developed by the Committee on Housing and Land Management have covered the main challenges of the housing sector in the region (see bibliography presented in Annex 1 to this paper) and have promoted and guided voluntary action in specific fields. Their impact and implementation, however, have also been limited by their voluntary nature.

9. This document stresses the need for a UNECE-wide commitment to principles and goals for affordable, healthy and ecological housing, and calls for integrating the existing guidelines and recommendations under a single comprehensive policy framework to address the housing sector as a whole.

10. A UNECE-wide policy framework (e.g. in the form of a framework convention or agreement) should establish the context for UNECE Governments to develop actions at the international and national level to provide all citizens with affordable, safe, energy-efficient and ecological dwellings.

11. A more formalized framework, possibly in the form of a legally binding instrument could increase the legitimacy and visibility of the housing sector as a key component of a country's sustainable development. It would thus also allow for the identification of financial resources for the implementation of main commitments.

12. In short, a coherent framework for housing policy in the UNECE region is needed in order to:

- Provide clear guidance for the development of coherent national housing policies;
- Encourage implementation of sound national policies for affordable, healthy and ecological housing, thus contributing to the achievement of internationally agreed development goals in the UNECE region;
- Initiate actions on pressing housing challenges at the national level; and
- Increase the political importance and visibility of the key housing issues among the member Governments and within the international development agenda.

II. Enabling conditions for affordable, healthy and ecological housing

13. Some preconditions need to exist to guide and assist the development of housing strategies, policies and action at the international and national levels in order to pursue the following objectives:

- To ensure that everyone has access to a choice of housing types and tenures at a reasonable cost within inclusive and well-served neighbourhoods;

- To ensure that everyone has access to well-equipped, good quality, safe and healthy housing;
- To ensure that everyone has access to energy-efficient and eco-friendly homes.

14. These preconditions include:

(a) *Institutional arrangements.* The proper involvement of governmental departments, adequate sharing of responsibilities among central and local government, public and private sectors at all levels and participatory processes involving civil society are crucial for the effective implementation of national housing strategies. To this end, it is essential to: clarify existing structures and responsibilities of the different bodies dealing with housing; designate a housing department to ensure proper coordination and cooperation at the national level and enhance synergies among different stakeholders; set up working groups/task forces to conduct a comprehensive assessment of the housing sector; and arrange open consultations with a wide range of expertise available in the country (private, public, academic, non-governmental organizations (NGOs)) for the development of a housing policy.

(b) *Housing data, analysis and indicators.* National housing data are inadequate in many UNECE countries and in some cases housing data may not exist at the regional and local levels. Quality housing datasets will be crucial to identify and understand housing challenges and develop policy options. A good dataset should provide a range of characteristics of the housing sector and comprehensive assessment of housing needs, including indicators on the types and conditions of housing, the demographic characteristics and forecasts, and market values.

(c) *Monitoring of implementation of housing policies.* The effects of housing policies should be systematically monitored. The performance should be overseen and evaluated through quantitative and qualitative measurements. Monitoring and performance evaluation will be essential to decisions on resource allocation and action.

(d) *Regulatory powers.* Governments should review whether modifications to national legislation are needed to meet the expectations and needs of housing policies. Some policies may require simple changes to the existing rules (e.g., statutory guidance to ensure implementation), while other policies may require new legislative provision (e.g., affordability standards, energy efficiency or eco-standards).

(e) *Financial resources.* Implementation of housing policies requires the allocation of appropriate funds, both public and private, to the housing sector. Housing investments can be secured through the combination of financial, development and asset management strategies, including a greater use of public-private partnerships, innovative funding schemes and land development models (e.g., upfront development of infrastructure). A range of public and private sector funding models (both supply-side and demand-side) need to be mobilized.²

(f) *Spatial planning.* While housing has become more and more reliant on the market, planning has lagged behind, resulting in a number of negative impacts manifested in land shortages for housing, urban sprawl, unbalanced housing markets, housing

² See UNECE documents on housing finance: *Housing Finance Systems for Countries in Transition: Principles and Examples* (ECE/HBP/138, 2005) and *Housing Finance, Key Concepts and Terms* (ECE/HBP/102, 1998). See also Proceedings of the relevant UNECE workshops: Workshop on Development of Real property Markets and Access to Mortgage Credits (6–7 May 2004, Yerevan, Armenia); Workshop on Housing Finance (30 January–1 February, 2000, Timisoara, Romania).

polarization and shrinking green spaces. Cooperation between housing and planning authorities needs to be strengthened and supported by strong political involvement and institutional and administrative reforms.³

(g) *Land supply.* UNECE countries will need to ensure that land supply is responsive to housing policies, given the coexistence of many actors (developers, local government, landowners, and residents). A more strategic integrated land management system needs to be developed including both land strategies and comprehensive land administration offering a range of functions (such as land evaluation, land right protection, land cadastre and land registration). Keeping public ownership to urban land in some UNECE countries may be instrumental in releasing land for housing construction, especially for social housing. This land tenure system will have to ensure the provision of land for affordable, healthy and ecological housing initiatives rather than substandard or exclusive housing projects.⁴

(h) *Incentives.* Housing policies must be supported by a number of incentives to ensure objectives are actually implemented. Incentives can take a number of forms: grants, subsidies, taxes and other non-financial arrangements such as the provision of upfront infrastructure and easing regulations. The best approach is to introduce a package of measures. Incentives should be supported by a system of penalties to ensure that responsible authorities do not opt out of their responsibilities and that other stakeholders are also interested in supporting housing initiatives.

(i) *Training and skills.* A strategic approach to dealing with housing matters and innovative models require skills and capacity-building across the housing sector (including housing administration, planning and housing construction). Governments should conduct a review of supply and demand of skills required that will provide detailed information on current and forecasted labour shortages and skills gaps. Comprehensive training and capacity-building programmes should be arranged. A number of centres have been set up in many UNECE countries to do research and training in the housing field and should be fully utilized to this end.⁵

15. The overall policy framework for the UNECE region should be guided by the following three principles defining the governance framework for the housing sector in the UNECE member States:

³ See UNECE document on planning: *Spatial Planning: Key Instrument for Development and Effective Governance* (ECE/HBP/146, 2008).

⁴ See UNECE publications: *Inventory of Land Administration Systems in Europe and North America*, 4th edition (July 2005); *Land Administration in the UNECE Region: Development Trends and Main Principles* (ECE/HBP/140, 2005); *Social and Economic Benefits of Good Land Administration*, 2nd edition (January 2005). See also proceedings of workshops: workshop on Real Property Cadastre and Registration Services in the ECE Region: the Impact of “E-government” Reforms, Minsk, Belarus, 8–9 June 2010; Workshop on Efficient and Transparent Land Management in ECE Countries, Baku, Azerbaijan, 4–5 March 2010; Workshop on Experiences with Data Management to Improve Land Administration in ECE Countries, Sofia, Bulgaria, 23–24 April 2009; Workshop on Legal Empowerment of the Poor in the UNECE Region, Bergen, Norway, 10–11 April 2008.

⁵ UNECE and the United Nations Human Settlements Programme (UN-Habitat) currently cooperate in developing a training programme on affordable housing.

III. Affordable housing policy principle and goals

Affordable Housing Principle: Access to affordable housing and secure tenure are crucial for peoples' well-being and for ensuring a socially cohesive society

16. Housing affordability remains a crucial challenge for UNECE countries. Affordability is limited by supply and demand constraints, expressed by:

- (a) Persistent housing shortages for the majority of population;
- (b) Limited choice of housing reasonably priced in relation to income;
- (c) Limited choice of non-ownership types of tenures (social and rented);
- (d) Insecure tenure.

17. These factors are usually associated with other socio-economic phenomena such as volatile housing markets; widening of the social gap; and wider local and regional disparities.

18. The housing affordability gap can be bridged both from the supply and demand sides through the diversification of forms of tenure (social, rental, intermediate and homeownership) combined with differentiated assistance to meet the demand. A mix of housing types is needed not only to meet individual needs, but also to ensure that the communities can maintain social cohesion, support the functioning of local economies and sustain a range of local services and businesses.

19. A clear definition of affordable housing is needed, so that housing needs are identified consistently. An important element of such a definition should be the households' financial capabilities to reside, without compromising their living standards, in a home, which is suitable to their needs in terms of size, quality and location; is well integrated within a reasonably diverse neighbourhood; does not incur unreasonable costs relating to maintenance, utilities and transport; and provides security of tenure.

Goal 1

Ensure housing supply meets demand

20. While in recent years the housing provision has been noticeably improved in many countries, it is not still sufficient to meet the growing or changing demand. Unmet housing demand contributes to unbalanced housing markets and limits the choice of decent housing at a reasonable cost. Policies to address these imbalanced developments should be based on robust analysis of the housing and demographic situation, as well as economic forecasts at the national, regional and local levels. The housing initiatives should assess housing needs and shortfalls in housing provision, set clear targets for housing output and develop plans for new housing projects.⁶

21. It is also important that the building industry be strengthened. A range of essential tools should be developed: different systems of housing finance, more responsive planning and building regulations, provision of public land, and improved statistical data on the performance of the building industry. The improvements in building activities require a whole-industry approach: from the production of quality building materials which are

⁶ See the UNECE study on *The Relationship between Housing and Population* (ECE/HBP/158, 2009).

affordable to improved construction techniques, to the development of more diverse and competitive models of housing provision.

Goal 2

Increase the availability of housing options

22. Better housing choice including different housing types, size and tenures should be developed alongside homeownership so that a more integrated and competitive environment between different housing options exists. Social housing is also an essential mechanism for a balanced housing market.⁷

23. Housing provision should concentrate on different tenure categories — from the promotion of self-built housing to the provision of social housing and other not-for-profit rental markets, to making the open market housing option more affordable — while providing security of tenure. In addition to public-run social housing, some of the effective vehicles for improving a range of housing tenures include public-private partnership-type housing providers (which combine the strengths of the privately run companies and the backing of public finance and public control), as well as independent not-for-profit or limited-profit housing associations or companies. It is important to ensure the availability of different tenure categories which depend on a range of social circumstances and should be considered in a specific historical and economic context.⁸

24. Homelessness is another problem that should be tackled by preventive measures through increased housing affordability as well as measures for reintegration of the homeless into the housing sector through the provision of special temporary housing accommodation.⁹

Goal 3

Develop adequate instruments for public housing finance

25. Instruments used by Governments can be divided into four categories:

- (a) Provision of capital for housing and housing finance;
- (b) Support housing production or consumption through payment of subsidies;
- (c) Direct provision of housing through public-owned or controlled agencies, i.e. social housing;
- (d) Regulation of the housing market, e.g. rent control etc.

26. Housing subsidies are usually intended for increasing housing production and improving the affordability of housing for lower income groups. There is a distinction between “indirect subsidies” to inhabitants as individual allowances and “object subsidies”, usually given under specific conditions (e.g., rent control or reservation of the dwellings for a certain group of population). Housing subsidies may include grants, low interest loans provided by national or local institutions or interest subsidies for housing loans granted by private mortgage institutions or banks. Other instruments are tax deductions and other forms of tax support. Individual allowances, or needs-related subject subsidies are given to

⁷ See, for example, the *Guidelines on Social Housing* (ECE/HBP/137, 2006).

⁸ See the *Guidelines on Social Housing*. See also proceedings of workshops: Central and East European Workshop on Social Housing (6–7 October 2008, Budapest, Hungary); UNECE Symposium on Social Housing (28–30 November 2004, Vienna, Austria); and the Workshop on Social Housing (19–20 May 2003 Prague, Czech Republic).

⁹ See proceedings of UNECE Workshop on Homelessness (18–19 May 2009, Oslo, Norway, ECE/ENV/09/P12).

households under specific conditions mainly related to the income of a family and the dwelling and housing expenditure.¹⁰ As a response to the recent credit crunch, many Governments have enhanced consumer protection and awareness by improving regulations for the financial services sector.¹¹

Goal 4

Ensure decent housing management

27. Residents of both new and old housing stock should be provided with a choice of affordable and comprehensive housing management, while keeping the cost of housing affordable. Comprehensive management involves a range of housing services: from rent collection to housing maintenance and repairs and other services (e.g., utility services, social care services, vandalism prevention), to major housing renovation. While knowledge and capacity have to be built for managing different types of housing estates and tenures, a variety of housing management models should be available in order to accommodate different preferences of tenants and owners. Arrangements for the development of housing management may include: compulsory/voluntary formation of effective condominium associations; capacity-building for management companies; active resident involvement and empowerment; service standards; asset management strategies; the development of systems of quality control; and a combination of grants and subsidies.¹²

28. Long-term and comprehensive housing management should be established for multifamily housing, which especially for some countries in transition remains a difficult challenge, given their high rate of housing privatization with a complex situation of ownership (rental and owner-occupied dwellings under one roof) and lack of proper institutional and financial arrangements, as well as the phenomenon of “poor homeowners”.¹³

Goal 5

Develop instruments and mechanisms for housing refurbishment

29. A large proportion of housing in the UNECE region requires refurbishment and restructuring. The most important task of housing refurbishment is to guarantee a regular cycle of maintenance, repair and modernization in order to prevent housing deterioration, improve housing safety and energy efficiency and strengthen social cohesion. It is important that the general housing policy provides sufficient conditions for ordinary refurbishment. In order to reduce renovation costs, local authorities or housing associations may stimulate self-help activities by providing subsidies and professional support. A cost-saving renewal scheme based on rehabilitation-oriented building regulation could be developed, especially for countries in transition, differentiating, e.g., between the basic renovation of the main construction elements and modernization, aimed at increasing the comfort of the dwellings. Special emphasis should be put on encouraging the owners and tenants to introduce energy-saving measures. Energy-saving programmes can, in fact, be used as a starting point for urban refurbishment, as their implementation costs are in the longer run compensated by cost reduction both for the State and for individual households.

¹⁰ See UNECE publication *Strategies to Implement Human Settlements Policies on Urban Renewal and Housing Modernization* (ECE/HBP/97)

¹¹ Guidelines in this field include, for example, the UNECE *Housing Finance Systems for Countries in Transition: Principles and Examples* (ECE/HBP/138, 2005).

¹² See the UNECE *Guidelines on Condominium Ownership of Housing for Countries in Transition* (ECE/HBP/123).

¹³ Workshop on Management Problems of the Housing Stock (23–26 November 2003, Moscow, Russian Federation).

At the same time, energy-saving measures are labour intensive and can help to fight unemployment, as well as build up new specialized industries.

Goal 6

Integrate homes in inclusive and well-served neighbourhoods

30. It is important that affordable housing initiatives go beyond the provision of just more homes towards the provision of better residential areas for those homes. Nobody should be disadvantaged by the place where they live. A good mix of tenures in neighbourhoods, links to infrastructure and good local amenities contribute to a neighbourhood's ability to function in an efficient, equitable and prosperous way. For example, a mix of appropriate and affordable housing is needed not only to meet household needs, but also to ensure that the communities avoid social segregation and maintain social cohesion, attract workers to support the functioning of local economies and sustain a range of local services and businesses. Residential areas must be well connected to public utility networks, public transport and telecommunication infrastructure.¹⁴

IV. Healthy and safe housing principle and goals

Healthy and Safe Housing Principle: Every citizen has the right to a healthy, safe and comfortable home.

31. A considerable part of peoples' lives is spent indoors and therefore it is important that homes provide a healthy and safe environment in which to live. However, the quality of homes is often unsatisfactory, which is linked to the following common challenges:

- Construction without building permits;
- Use of toxic materials in construction;
- Poor quality of construction, not compliant with building codes;
- Unsafe building and construction practices;
- Lack of basic services and sanitation;
- Insalubrious spaces, poor indoor air quality, insects and pests;
- Hazardous heating and cooking systems; poor fire protection systems;
- Exposure to air and noise pollution;
- Lack of accessibility for the disabled;
- Lack of basic sanitary infrastructure and service.

32. Healthy and safe housing is characterized as housing that:

- Protects residents against the spread of disease through ensuring safe water, heat supply and sewerage, personal and domestic hygiene and sufficient space to prevent overcrowding;
- Effectively protects residents from the impacts of natural disasters and effects of climate change (earthquakes, floods, heat waves, extreme weather events, etc);

¹⁴ See *ECE Strategy for a Sustainable Quality of Life in Human Settlements in the 21st Century* (ECE/HBP/120, 2001).

- Is built according to sound safety standards and regulations;
- Prevents injuries, poisoning and thermal and other exposures through proper structural features and furnishings of dwellings and alarm systems; provides indoor air quality safety (e.g., with regard to radon gas, formaldehyde, sulphur dioxide, carbon dioxide, ozone and tobacco smoke), and chemical safety (e.g., with regard to hazardous cleaning products and chemical contamination of water).
- Supports the special-need groups such as the elderly, women, children, the chronically ill, the disabled, refugees and the homeless.
- Provides essential services and amenities that ensure its integration into the community.

Goal 7

Ensure healthy dwellings through housing design and maintenance

33. Housing design plays a decisive role in promoting health and safety for residents. Governments need to support the development and widespread application of good design practices to enhance human comfort in dwellings. Issues to address include: (a) physiological safety (e.g., damp and mould conditions, excess cold and heat and pollutants such as asbestos and radiation); (b) psychological safety (e.g., space, security, light and noise); (c) infection-related safety (e.g., hygiene, sanitation and drainage and water supply); (d) accident-related safety (e.g., safety of the stairs and regarding electrical hazards, fires and burns).

34. Effective housing maintenance can also ensure that housing remains in good shape, thus preventing many health and safety problems. Furthermore, quality of utility services is also important, as health and safety issues may arise with regard to electricity and energy services, water and sewage and waste management. Rules and regulations need to be developed and enforced to ensure decent services.

Goal 8

Ensure quality and safety of construction

35. It is important to address housing construction as a whole: from the choice of location to standards for construction and building materials, to the organization and control of the building process.

36. Although important everywhere, safety in housing construction should specifically be ensured in areas prone to disasters (such as earthquakes, landslides and flooding) including those that anticipate impacts from climate change. Countries with some risk of natural disasters adopt specific rules to cover housing construction in such areas. In countries with a high risk of natural disaster, safety in housing construction is addressed within broader Government initiatives such as disaster management strategies. In the past two decades, however, many disaster-prone countries have ignored such regulations, as many of them have not been enforced or reviewed with regulations that target local needs.

Goal 9

Provide housing for special-need groups

37. The provision of housing for special-need groups, such as the elderly and disabled, as well as the homeless, is crucial to improving the conditions and safety.

38. Today, many residential settings are not designed to meet such needs and for many, housing options are limited to care homes. The situation is very challenging in several UNECE countries, which have few special conveniences in homes and neighbourhoods,

leaving them alone with their physical and psychological problems and often in decayed housing.

39. The provision of appropriate homes for special-need groups requires a national policy to reinforce important links between housing, health and care. A range of approaches is needed: (a) the provision of better information on housing options according to needs; (b) the provision of housing repairs and adaptation services; (c) energy-efficient solutions; (d) more flexible housing design to address different specific needs (e.g., wheelchair access).

Goal 10

Tackle the problems of informal settlements

40. In general, informal housing means housing built in violation of existing norms and rules. This is a result of the exclusion of a segment of society from the formal processes of settlement formation. There are a number of factors that affect informal settlements, such as: the situation of dwellings in isolated, unsafe and dangerous locations (disaster-prone areas or contaminated sites); lack of sanitary disposal leading to contamination of soil, water and food; poor conditions for personal and domestic hygiene; lack of a safe/clean water supply; and dwellings built in violation of building regulations with poor quality materials and unsafe construction techniques.

41. Policy approaches and tools to deal with informal settlements include different options: from demolition and resettlement, to in situ upgrading and legalization, to providing better access to jobs and economic and social integration into the urban structure. Joint efforts by different governmental and non-governmental organizations and a combination of reactive and preventive measures are required to respond to the health and safety conditions in informal settlements. The measures may include: (a) assessment of informal settlements' location and resettlement from the areas representing risks to the inhabitants' health and safety; (b) provision of sewerage, clean water supply, roads, as well as health and social services and amenities; (c) provision of proper guidance on construction techniques and use of local building materials; (d) supporting the development of community infrastructure.¹⁵

V. Ecological housing principle and goals

Ecological Housing Principle: Every citizen has the right to live in ecologically sound and energy-efficient homes

42. Improving people's access to housing must go hand in hand with protecting and enhancing the environment, hence the emphasis on ecological housing. Common challenges in the UNECE region include:

- Wasteful use of energy and water in housing;
- Low use of renewable energy in the housing sector and high levels of carbon emissions from housing;

¹⁵ See UNECE policy guidelines on informal settlement in *Self-made Cities: In Search of Sustainable Solutions for Informal Settlements in the United Nations Economic Commission for Europe Region* (ECE/HBP/155, 2009). See also proceedings of UNECE workshops: Workshop on Informal Settlements: Real Estate Market Needs for Good Land Administration and Planning (28–31 March, Athens, Greece) (ECE/HBP/2007/7).

- High levels of embedded energy, of material consumption and of environmental pollution in building and demolishing practices;
- Improper waste disposal and management with incidents of environmental pollution;
- Shrinking green spaces and residential sprawl.

43. Ecological housing is the practice of increasing the efficient use of energy, water and building material resources and reducing dwellings' impacts on the environment, through better design, construction, operation, maintenance and removal. Ecological housing may be characterised by the following attributes: (a) good energy performance; (b) use of low-carbon and renewable energy; (c) rational water use and recycling; (d) use of non-toxic, locally available, environmentally sustainable materials in construction practices, with low embedded-energy and polluting potentials; (e) effective waste-management systems and maximum provision of recycling; (f) use of the building site in a sustainable manner, minimizing construction waste.

Goal 11

Improve standards for the environmental and energy performances of dwellings

44. New and existing housing stock should follow high environmental standards. Eco-friendly housing makes a major contribution to the quality of life at all levels: from the inhabitants' well-being, to environmental improvements, to tackling climate change through reducing housing energy demand and the use of renewable resources.

45. Governments should be reviewing existing standards for energy efficiency and other eco-housing attributes, including building codes and compulsory requirements. The application of the environmental performance standards may cover: (a) building materials and techniques; (b) energy performance of the home (building's envelope, windows, lighting, heating and cooling and ventilations systems and appliances); (c) water use standards for potable and non-potable water; (d) solid and liquid waste and drainage management (on-site waste minimization, off-site facilities, recycling of wastes, water run-off systems); (e) other environmental impacts (e.g., protecting the quality of groundwater and reusing materials on-site).

46. While performance standards are typically applied to new housing constructions, the introduction of such standards should also be considered for the improvement of the environmental performance of existing homes, which make up a significant part of the housing stock.

Goal 12

Reduce carbon emissions and increase climate neutrality of housing

47. A progressive transformation of the housing sector towards climate neutrality has to be ensured. It implies both low-energy homes and homes adapted to the negative impacts of climate change. In addition to measures for improving energy efficiency (as in the previous Goal), it is important to consider the overall performance of residential buildings during their full life cycle, as emissions from buildings are not only due to their direct energy consumption, but are also linked to construction and demolition. Use of energy in concrete and steel manufacturing, extraction and transportation of construction materials are some of the activities that contribute to a home's carbon footprint. The construction sector should also envisage efficient means for the recycling of the building at the end of its life, i.e., its efficient dismantling and the reuse of materials, thereby reducing waste and energy use.¹⁶

¹⁶ See *Green Homes: Towards energy-efficient housing in the United Nations Economic*

48. Furthermore, eco-housing should take into account the links between houses and the residential environments surrounding them, as the design, construction and operation of homes can undermine or contribute to the sustainability of the larger residential area and vice versa. Eco-housing is therefore strictly dependent on planning factors such as efficient use of land, compact communities, well-maintained and managed neighbourhoods, sustainable neighbourhood-scale energy infrastructure, the provision of integrated environmental services and green infrastructure. The development of sustainable neighbourhoods involves a rational use of available land, recycling of contaminated sites and social and economic regeneration.

Goal 13

Retrofit existing housing in an environmentally friendly and energy-efficient way

49. Typically in the UNECE region, an existing home has twice as much carbon emissions (and fuel costs) as a new one. It is necessary to pursue a “whole-house” retrofit. Improving energy efficiency involves the following elements: energy surveying; energy-efficient design; energy conservation in the building envelope; day-lighting and artificial lighting; preventing heat loss through ventilation; use of renewable energy; energy-efficient delivery systems; and energy-efficient systems in dwellings. These elements should be supported by the development of regulatory standards and provision of incentives for the residents to use energy in an efficient way.

Goal 14

Review policies and procedures for maintenance and utility systems

50. Not only can a sustainable dwelling operation and maintenance system enhance the operating efficiency of heating, ventilation, air conditioning, lighting and other energy-using systems, it can also reduce the long-term ecological footprint of the dwelling. A sustainable approach to the management of housing stock requires a review of maintenance policy and procedures.

51. Sustainable management and maintenance of housing should also be accompanied by sustainable provision of utility services. Utility services include the supply of water, electricity, heating and waste management. Utility services will need to be developed within a comprehensive programme reflecting environmental values. The following issues should be addressed through the programme: the use of alternative energy technologies for the provision of services (wind turbines, combined and power plants, ground source heat pumps); on-site boreholes and water treatment works for potable water; reuse of “grey” water and on-site wastewater treatment works; recycling of waste; and the use of waste to provide energy, including the potential for waste-to-energy plants in the area in addition to any current proposals.

Goal 15

Ensure the affordability of eco-housing

52. Affordability of eco-housing should be at the heart of eco-housing initiatives if they are to be implemented on a large scale and to have a real effect on both the well-being of people and the environment. While building to higher environmental standards requires additional costs, in the longer term the cost will depend upon the development of the eco-

Commission for Europe region (ECE/HBP/159, 2009); and the draft Action Plan for Energy-Efficient Housing in the UNECE Region (ECE/HBP/2010/4). Additional guiding materials are being prepared by the Committee on Housing and Land Management in 2010 on climate neutral cities.

housing market. Efforts should be made to promote the green real estate sector and energy efficiency in buildings.

53. Financing mechanisms should be available to enable homeowners to cover the upfront capital costs. A range of mechanisms are available, including personal green mortgages (whereby mortgage rates are linked to the energy standard of the home), loans, and Pay-As-You-Save schemes (whereby a standing charge is placed on a property for a set period of time, regardless of owner). Governments should also support renewable energy measures such as feed-in tariffs. Integrating eco-housing objectives into planning policies (e.g., statutory requirements on the percentage of affordable housing to be produced within an eco-housing development) can additionally improve the affordability of eco-housing.

VI. Conclusions

54. This background paper outlines 3 key principles and 15 crucial goals for affordable, healthy and ecological housing and provides the rationale for the development of a UNECE-wide comprehensive policy framework for affordable, healthy and ecological housing.

55. The UNECE Committee on Housing and Land Management (CHLM) has produced a number of policy guidelines and recommendations in the housing field, covering the main challenges of the housing sector in the region. The proposed set of principles and goals is intended to integrate their application and implementation under a single comprehensive international framework which will address the housing sector as a whole, provide countries with an effective instrument for the development of additional policies and tools and improve the sustainability of the housing sector in the UNECE region. The application of the existing and new guidance will contribute to the achievement of the above-mentioned principles and goals, which should be well reflected in all national housing policies.

56. **The Committee is invited to:**

- **Discuss the Principles and Goals for Affordable, Healthy, and Ecological Housing contained in the background paper and endorse them;**
- **Recommend that UNECE member States integrate these principles and goals in their national housing policies and strategies;**
- **Further recommend the issuance of the Principles and Goals for Affordable, Healthy, and Ecological Housing as a UNECE publication;**
- **Based on the discussion of the background paper, recommend to explore the potential added value of and possible options for a UNECE-wide legally binding instrument on affordable, healthy and ecological housing;**
- **To this end, decide to set up a Working Group to explore the potential added value of and possible options for a UNECE-wide legally binding instrument on affordable, healthy and ecological housing;**
- **Review and agree on the Terms of Reference for the above-mentioned Working Group (the draft Terms of Reference for which are presented in Annex II to this document);**
- **Request the Secretariat to present the findings of the Working Group at the next session of the CHLM for consideration and decision on a possible UNECE-wide legally binding instrument on affordable, healthy and ecological housing.**

Annex I

Synopsis of recent UNECE CHLM policy guidelines

Country profiles on the Housing Sector:

Belarus (ECE/HBP/150, 2008); Georgia (ECE/HBP/143, 2007); Serbia and Montenegro (ECE/HBP/139, 2006); Russia (ECE/HBP/131, 2004); Armenia (ECE/HBP/132, 2003); Albania (ECE/HBP/130, 2002); Republic of Moldova (ECE/HBP/125, 2002); Romania (ECE/HBP/124, 2001); Lithuania (ECE/HBP/117, 2000); Slovak Republic (ECE/HBP/111, 1999); Poland (ECE/HBP/107, 1998); Bulgaria (ECE/HBP/101, 1996)

Land administration reviews:

Bulgaria (ECE/HBP/WP.7/2009/5); Azerbaijan (ECE/HBP/2007/3); Lithuania (HBP/WP.7/2005/3); Russian Federation (HBP/WP.7/2003/7); Georgia (HBP/WP.7/2001/9); Armenia (HBP/WP.7/2001/5)

Policy Framework for Sustainable Real Estate Markets: Principles and Guidelines for the Development of a Country's Real Estate Sector (ECE/HBP/147, 2010)

Guidance and Good Practice for the Application of Fees and Charges for Real Property Cadastre and Registration Services (ECE/HBP/WP.7/2009/4)

Relationship between Housing and Population (ECE/HBP/158, 2009)

Green Homes: Towards Energy-efficient Housing in the United Nations Economic Commission for Europe region (ECE/HBP/159, 2009)

Self-Made Cities: In Search of Sustainable Solutions for Informal Settlements in the United Nations Economic Commission for Europe Region (ECE/HBP/155, 2009)

Spatial Planning: Key Instrument for Development and Effective Governance with Special Reference to Countries in Transition (ECE/HBP/146, 2007)

Guidelines on Social Housing (ECE/HBP/137, 2006)

Guidelines on Condominium Ownership (ECE/HBP/123, 2005)

UNECE, Inventory of Land Administration Systems in Europe and North America, 4th edition (July 2005). Available at <http://www.unece.org/hlm/documents/Publications/landadminsistemas.inventory.ed4.pdf>

UNECE, Social and Economic Benefits of Good Land Administration, 2nd edition (January 2005). Available at <http://www.unece.org/hlm/documents/Publications/benefits.landadmin.pdf>.

Land Administration in the UNECE Region: Development Trends and Main Principles (ECE/HBP/140, 2005)

Housing Finance Systems for Countries in Transition: Principles and Examples (ECE/HBP/138, 2005)

Guidelines on Real Property Units and Identifiers (ECE/HBP/135, 2004)

UNECE, Restrictions of Ownership, Leasing, Transfer and Financing of Land and Real Properties in Europe and North America (2003). Available at <http://www.unece.org/hlm/wpla/publications/restrictionsanalysis.pdf>

UNECE, Land (Real Estate) Mass Valuation Systems for Taxation Purposes in Europe (2001). Available at <http://www.unece.org/hlm/documents/Publications/mass.valuation.pdf>.

ECE Strategy for a Sustainable Quality of Life in Human Settlements in the 21st Century (ECE/HBP/120, 2001)

UNECE, Study on Key Aspects of Land Registration and Cadastral Legislation (May 2000). Available at http://www.unece.org/hlm/wpla/publications/wpla_inv2_p2.pdf

Case Studies on the Implementation of Urban Renewal and Housing Modernization: Vienna (ECE/HBP/106, 1998); Bratislava (ECE/HBP/112, 1999); Budapest (ECE/HBP/115, 2000); Ljubljana (ECE/HBP/116, 2000); and Evaluation (HBP/1999/9)

Housing Finance, Key Concepts and Terms (ECE/HBP/102, 1998)

Major Trends Characterizing Human Settlement Development in the ECE Region (ECE/HBP/108, 1998)-

UNECE, Statement on Social and Economic Benefits of Good Land Administration (1998)

Human Settlements Trends in Central and Eastern Europe (ECE/HBP/105, 1997)

Guidelines on Sustainable Human Settlements Planning and Management (ECE/HBP/95, 1996)

Strategies to Implement Human Settlements Policies on Urban Renewal and Housing Modernization (ECE/HBP/97, 1996)

Land Administration Guidelines (ECE/HBP/96, 1996)

ECE Compendium of Model Provisions for Building Regulations (ECE/HBP/81/Rev.1, 1996)

Housing Policy Guidelines: the Experience of the ECE with Special Reference to Countries in Transition (ECE/HBP/84, 1993)

Annex II

Draft Terms of Reference for a Working Group on a possible legally binding instrument on affordable, healthy and ecological housing in the UNECE region

Purpose and expected output

The Working Group has been established to explore the potential added value of, and define the scope, objectives and possible options for, a UNECE-wide legally binding instrument on affordable, healthy and ecological housing.

The Working Group shall present the final report for consideration and decision by the seventy-second session of the Committee on Housing and Land Management (CHLM) on a possible UNECE-wide legally binding instrument on affordable, healthy and ecological housing.

Composition

The Working Group is open-ended and composed of experts/representatives to be nominated by the member States of the UNECE by the end of [*October*] 2010.

The Secretariat of CHLM will service the meetings of the Working Group to provide support to the Chair and to assist the Group as required to enable timely completion of its work.

Chair

The Working Group will be led by a Chair [*to be decided by the CHLM*].

The Chair will guide the process and moderate the Group meetings. In preparing for the meetings and in follow-up, the Chair will work closely with the members of the Group and the CHLM Secretariat.

Process and working methods

There will be at least three meetings of the Working Group. The Chair, with the support of the members of the Group and the CHLM secretariat, will decide on the timing, duration, venue and agenda of the Group's meetings. The Working Group should also work through electronic means.

The Working Group should submit, through its Chair, regular reports to the meetings of the Bureau of CHLM in the intersessional period.

The Working Group shall carry out its work under the auspices of CHLM and build on the UNECE Principles and Goals for Affordable, Healthy, and Ecological Housing, the UNECE Strategy for a Sustainable Quality of Life in Human Settlements in the 21st Century and relevant policy guidelines and recommendations developed by the Committee on Housing and Land Management. The Working Group shall also take into account comments to the UNECE background paper "Principles and Goals for Affordable, Healthy, and Ecological Housing" provided by member States at the seventy-first session of the CHLM.