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Habitat III thematic meeting on sustainable energy and cities

Note by the secretariat

The secretariat of the United Nations Conference on Housing and Sustainable Development (Habitat III) hereby transmits the outcome document of the Habitat III thematic meeting on sustainable energy and cities, held in Abu Dhabi on 20 January 2016.

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Outcome document of the Habitat III thematic meeting on sustainable energy and cities

I. Introduction

1. Sustainable energy must be a core focus of the New Urban Agenda to be adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), to be held in Quito in October 2016. Cities today represent over 70 per cent of global energy consumption and a roughly equivalent share of energy-related carbon dioxide emissions. They are also home to millions of urban poor who lack access to basic energy services. Affordable, reliable, sustainable and modern energy in cities will therefore be essential for the realization of both the Paris Agreement on climate change and the 2030 Agenda for Sustainable Development.

2. Cities have an unprecedented opportunity to transform, decarbonize and enhance the resilience of their energy production, supply and use. Breakthroughs in cost and business models have made renewable energy and energy-efficiency technologies not only the environmentally sound choice, but also a financially attractive possibility for a wide and growing variety of urban stakeholders. Prices of solar photovoltaic devices, for example, have declined by 80 per cent in the past five years. These new options stand out as one of the most marked changes in the urban landscape since the Second United Nations Conference on Human Settlements (Habitat II).

3. To address such an opportunity, the United Arab Emirates, the International Renewable Energy Agency and the Habitat III secretariat hosted a thematic meeting on sustainable energy and cities on 20 January 2016 during Abu Dhabi Sustainability Week, the world's largest annual gathering on clean energy. Ministers, national and subnational government officials, private sector representatives and other stakeholders came together to articulate how the New Urban Agenda could accelerate the uptake of sustainable energy solutions and align itself with the landmark climate and development goals that the international community had set.

4. Their recommendations on actions were compiled in the form of a declaration, finalized by an advisory group established as part of the thematic meeting and comprising members representing all main stakeholders. The Abu Dhabi declaration, in section III below, serves as an official input to the preparation of the zero draft of the New Urban Agenda. For context, the Declaration is preceded by a summary background in section II below.

II. Context for sustainable energy in cities

5. The thematic meeting was held against the backdrop of the Paris Agreement and the adoption of the 2030 Agenda. The twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, at its twenty-first session, had established a universal vision for mitigating global carbon dioxide emissions and the imperative of decarbonizing the economy, at the same time that sustainable energy was enshrined as Sustainable Development Goal 7 and indirectly in other Goals, such as Goal 13 on climate change. The thematic meeting forms a critical link between Habitat III, processes under the United Nations

Framework Convention on Climate Change and the Goals and can facilitate a thematic alignment and the achievement of their objectives.

6. Numerous cities around the world are implementing energy measures to meet the objectives set out in the Paris Agreement and the 2030 Agenda. Furthermore, these cities can make both short-term and long-term economic gains by doing so. There is evidence that sustainable energy is cheaper than other alternatives in a large and rapidly increasing number of countries and contexts, even before accounting for externalities. On this basis, renewables are now the dominant technology for new power generation additions, which marks a shift that had been unforeseen even recently, let alone at Habitat II. When other potential benefits are accounted for, such as better health through reduced pollution, poverty alleviation, job creation, gender equality, enhanced access to water and food, reduction of waste, less traffic and supply security, the case for sustainable energy in cities is even more compelling. With the costs for renewable energy technologies projected to continue to decline, the business case for deployment will persist well beyond Habitat III.

7. The portfolio of sustainable energy solutions is expanding on both the supply and demand side. Distributed electricity generation will become a key feature of new and existing cities, complementing sustainable utility-scale power plants, which are often located outside cities. Cogeneration and district energy networks also provide the flexibility and storage to integrate an increasing share of renewables into the energy mix, while simultaneously improving energy efficiency through demand aggregation, the increased scale of production sources and the use of waste heat. Smart grids are enabling major energy-efficiency and resilience gains, and electric transport, when based on renewable power, can make a sizeable dent in the carbon footprint of the urban transport sector. In numerous cities in developing countries, access to cleaner fuels and efficient equipment for cooking and heating households, which are currently still largely biomass-based, would address multiple development challenges such as indoor and outdoor pollution. Accelerating energy-efficiency improvements in all sectors of the economy has multiple development benefits and is a cornerstone of meeting climate targets. New technologies, business models and policy approaches are also turning unavoidable waste into energy, including surplus and low-grade wasted heat from city systems and industry, and better managing the nexus among other resources, such as water.

8. Local governments, when given appropriate responsibilities, are well placed to encourage, enable, measure and regulate sustainable energy, as well as inform the decisions on deployment options, including the adaptation to and anticipation of new technologies and changing energy requirements. Even for cities that do not control power generation directly, they may control local infrastructure and codes that can drive clean energy in end-use sectors, such as buildings, industry, transport, waste or sanitation. Municipalities can also optimize land-use patterns to increase the feasibility of energy solutions. Cities, as major purchasers of energy, can also preferentially procure sustainable energy, further stimulating investment.

9. Important challenges remain in the form of market barriers, inappropriate policy frameworks, a lack of empowerment of cities to manage energy and financing gaps, as well as a limited capacity for planning and implementation. This is particularly the case in poor and vulnerable communities, least developed countries and small island developing States, where citizens disproportionately lack

access to modern energy services. The case for poverty alleviation in this context is compelling. Improved access to sustainable energy sources for cooking, heating and powering devices represents one of the swiftest ways to improve health, economic potential and human dignity.

III. Abu Dhabi Declaration on Sustainable Energy and Cities

We, the representatives of national and subnational governments, international organizations, the private sector, non-governmental organizations, academia and civil society, participating in the Habitat III thematic meeting on sustainable energy and cities, held on 20 January 2016 during Abu Dhabi Sustainability Week,

1. *Recommend* that Habitat III establish sustainable energy as an integral part of the New Urban Agenda;

2. *Recognize* the importance of a holistic, system-wide, pro-poor perspective and of further integration of sustainable energy considerations into city planning and management, including through the use of performance metrics for energy production and consumption in zoning and land-use planning, permits, infrastructure and transport decisions;

3. *Also recognize* the importance of developing a nexus approach in the urban context, such as in the integrated management of the energy, water, waste, transport and food sectors to improve efficiencies, access and carbon footprints;

4. *Acknowledge* the need for closer cooperation among cities, utilities and national and subnational governments to ensure that sustainable energy goals are achieved expeditiously and cost-effectively;

5. *Highlight* that the following actions provide examples of effective ways to pursue sustainable energy objectives at the local level that can be endorsed by the New Urban Agenda:

(a) Promotion of and support for city-level renewable energy, energy efficiency and energy access targets for all sectors, including heating and cooling, transport and power, that contribute to meeting the aspirations and targets of Sustainable Development Goal 7 contained in intended nationally determined contributions;

(b) Development of integrated, city-scale energy and emissions plans incorporating transport, buildings, generation, heating and cooling, waste heat and solid and liquid waste;

(c) Introduction of dedicated policy and regulatory frameworks to enable the deployment of urban energy solutions, such as grid connection regulations that permit solar rooftop and cogeneration systems to feed into central or local energy grids, including for informal housing;

(d) Introduction of solar water heating requirements;

(e) Establishment of measures, such as minimum energy use targets or heat tariffs that reflect the cost of connection and the degree to which supply is guaranteed, to provide an enabling environment for converting waste heat to useful energy;

(f) Establishment of a protocol to map or identify major waste heat sources and high heating and cooling demand in cities, together with the development of city plans for heating and cooling;

(g) Establishment of mandatory and enforced disposal fees for municipal solid waste in order to reduce waste and drive waste-to-energy solutions for non-recyclable materials;

(h) Enactment of mandatory minimum energy performance standards, ratings and labels for energy efficiency in buildings, equipment and appliances, especially lighting, heating and air-conditioning units, to reduce energy consumption;

(i) Enactment of energy-efficiency measures in buildings that take into account efficiency in energy supply and target the reduction of fossil primary energy, such as through the promotion of integrated renewables;

(j) Scaling up the use of non-fossil-fuel-based transport, such as renewable energy-based public transport and electric vehicles, as well as the increased use of other forms of ecomobility and non-motorized transport;

(k) Use of planning measures to improve density, compactness and street connectivity in cities in support of the efficient provision of energy and transport services;

(l) Establishment of district-level strategies, such as the combination of building-related energy-efficiency improvements (heating systems and insulation), decentralized energy production (solar, wind, geothermal, biomass, hydro, process or waste heat from industry, commerce and households) and system efficiency and large-scale renewables integration through district heating and cooling networks (including cogeneration, waste heat, large-scale renewables and thermal storage);

(m) Establishment of cross-sectoral working groups composed of urban planners, community representatives and energy providers to work on strategies for improving access to sustainable energy in the city and in lower-income neighbourhoods;

(n) Consideration of the impacts of energy interventions on social issues, such as inequality, poverty, environmental justice and access to services;

(o) Enactment of public-private partnership frameworks in order to increase financial resources and expertise for sustainable energy infrastructure and services;

(p) Enactment of energy pricing regimes that discourage wasteful use, create a level playing field for sustainable energy technologies, shift consumption to periods with the highest availability of affordable sustainable energy and guard against negative impacts on low-income consumers;

(q) Use of protocols and accounting systems that illustrate both the life-cycle costs and the cobenefits of different energy choices for outcomes in public and environmental health, economic development, increased resilience and others;

(r) Enactment of sustainable energy public procurement policies by local governments in order to reduce environmental and carbon footprints and to foster market growth;

(s) Establishment of citywide strategies to improve the resilience of the local energy system, including the increased use of local resources, local energy storage

and distributed power production capable of providing emergency backup power and heat to vital buildings, such as hospitals and emergency shelters;

6. *Encourage* national, regional and international networks and partnerships between and with cities, as well as between large cities and their surrounding regions, to advance sustainable energy solutions;

7. *Also encourage* national Governments to establish clear planning guidance and regulations that provide local governments with a mandate to act on energy, for example in the areas of energy master planning and mapping, energy service provision and building codes;

8. *Recognize* the urgent need for the introduction of innovative financing approaches, such as city-owned revolving funds, with a focus on derisking private investment, including not only financing structures, but also models of ownership and governance and the enhanced capacity of city officials to design, execute, monitor and report on energy programmes;

9. *Encourage* consideration of improving cities' authority and capacity to take and repay loans or access other sources of finance for energy infrastructure and programmes;

10. *Also encourage* Governments to mainstream sustainable energy investment objectives into existing national development banks and publicly capitalized green investment banks;

11. *Call upon* the development community to support the deployment of sustainable energy in cities in developing countries, especially with a view to facilitating private investment, while pursuing sustainable development;

12. *Call for* commitments to capacity-building and technical assistance, especially in developing countries, as a key element of sustainable urban energy solutions;

13. *Recommend* further commitments to take non-technological measures supporting behavioural shifts, such as knowledge-sharing and public information campaigns, and recognize the important role of community engagement and education in understanding issues of climate change and energy transition;

14. *Emphasize* the critical need for commitments to incorporate the gender dimension of sustainable energy into urban planning and the implementation of sustainable energy, including through such measures as the reporting of gender-disaggregated data on access to energy and finance for energy, as well as employment in the energy sector;

15. *Commit ourselves* to promoting the principles and actions outlined in this declaration in the context of the upcoming formulation of the New Urban Agenda at Habitat III.