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### UNIDO activities related to energy and the environment

## UNIDO activities related to energy

### Report by the Director General

The present document reports on the implementation of General Conference resolution GC.15/Res.4 and provides information on latest developments. It supplements the information contained in progress reports presented to the Board at its forty-second session in document IDB.42/13, as well as in the *Annual Report of UNIDO 2013* (IDB.42/2) and the *Annual Report of UNIDO 2014* (IDB.43/2).

## I. Introduction

1. It is recognized that sustainable energy is one of the key factors required for addressing social, economic, and environmental dimensions of sustainable development. Energy productivity and the resulting social, economic, and environmental impacts of energy generation and use are major concerns for twenty-first century industrialization. Sustainable energy, which is central to this challenge, enables and empowers inclusive and sustainable industrial development (ISID) by contributing to numerous aspects of today's society, from job creation to economic development and from security concerns to the empowerment of women. Therefore, sustainable energy lies at the heart of every country's core economic and social interests.
2. UNIDO sees its role in aligning the transformational agenda of the energy sector, in realizing value addition, low carbon growth, and business opportunities

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across industrial sectors, driven by clean, efficient, and sustainable energy technologies and solutions.

3. UNIDO seeks to strengthen its role in acting as a catalyst in increasing industrial energy efficiency (IEE); promoting renewable energy for industrial applications and productive uses; and achieving gender equality and empowering women in the energy sector. In partnership with the Global Environment Facility (GEF), Sustainable Energy for All (SE4All), and key national and international stakeholders in industry, the public sector, and academia, UNIDO seeks to promote a holistic approach in addressing policy, economic, technical, environmental, and social aspects related to sustainable energy. Together with these partners, UNIDO disseminates best available practices and technologies for energy management and the adoption of low carbon and renewable energy technologies for productive uses in developing countries and economies in transition.

## **II. Renewable energy for productive uses**

4. As a central component of UNIDO's work in promoting ISID, and sustainable energy being a key pillar for industrialization, UNIDO promotes increased use of renewable energy for productive uses and industrial applications for achieving inclusive and sustainable industrialization. The main focus of UNIDO's renewable energy programme is on the following areas:

(a) Policy development and capacity-building for mainstreaming renewable energy use in industries;

(b) Expanding access to renewable energy for productive uses, in off-grid areas, and creating business and employment opportunities by promoting mini-grids based on renewable energy;

(c) Promoting innovative business models and partnerships by augmenting the use of locally available renewable energy sources, particularly in rural areas; and

(d) Empowering enterprises and key stakeholders through knowledge management, capacity-building and networking.

5. As of August 2015, UNIDO has 62 ongoing renewable energy projects amounting to \$110 million of grant funding, with an additional amount of committed co-financing made available by bilateral donors, international donors and recipient governments totalling approximately \$520 million.

6. By using locally available and distributed renewable energy solutions, UNIDO helps to reduce dependency on imported fossil fuels, thereby improving energy security and reducing energy-related greenhouse gas emissions. UNIDO also works on providing access to electricity from renewable energy in rural and peri-urban areas, where grid extension is uneconomical.

## **III. Industrial energy efficiency**

7. The use of energy efficiency policies in industry continues to receive growing appreciation in many developing countries and countries with economies in

transition. UNIDO's mandate is clearly focused on supporting industrialization and manufacturing growth, generating employment, and promoting ISID. Its energy efficiency-related activities should therefore be seen within the context of the Organization's overall objective to promote higher levels of productivity regarding the use of natural resources and materials, to sustain global growth in industrial production, and to protect the environment.

8. To meet these objectives, the main focus of UNIDO's energy efficiency programme is on the following areas:

(a) Policy and regulatory development, and the application of energy management standards;

(b) Promoting the implementation of energy management within industry through the adoption of Energy Management Systems (EnMS) compliant with ISO 50001 standards;

(c) Technology demonstration and supporting capacity-building and awareness-raising to build qualified professional skills and expertise in the area of industrial energy management; and

(d) Knowledge-sharing to advance IEE through global dialogue and by partnering with relevant stakeholders.

9. UNIDO continues to respond to the growing demand for technical assistance in the area of industrial energy management. In doing so, UNIDO has developed and launched an initiative that supports the widespread introduction of the ISO 50001 compliant EnMS within the industrial sector. As of August 2015, UNIDO has 36 ongoing IEE projects amounting to \$105 million of grant funding, and over \$700 million in additional co-financing committed by government partners, industry and financing institutions.

#### **IV. Climate policy and networks**

10. UNIDO responds to the increasing demand for innovative partnerships, multi-level, and integrated solutions to address the energy, climate, and development challenges simultaneously. By establishing and participating in climate policy and networks, UNIDO is developing and implementing integrated policies, global and regional multi-stakeholder partnerships, as well as advocacy and outreach activities in the field of sustainable energy and climate change.

11. Through this work UNIDO is strategically positioned within the global energy and climate change forums to execute global and regional programmes focusing on low carbon climate resilient technologies, innovations and entrepreneurship, and to establish technology networks and sustainable energy centres linking with the SE4All initiative.

12. The main focus of the climate policy and networks programme is on promoting programmatic approaches and coordinating work related to new and ongoing global and regional programmes, cross-cutting themes, nexus and knowledge management issues. It also includes the crucial work of coordinating global forums such as the Vienna Energy Forum series, and participating in the

meetings of the Conference of the Parties, relevant SE4ALL and climate conferences as well as other events.

13. Together with the United Nations Environment Programme (UNEP), UNIDO is co-hosting the Climate Technology Centre and Network (CTCN), a mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) tasked with stimulating technology cooperation and enhancing the development and transfer of technologies to developing countries. The CTCN is supported by a consortium of eleven partner organizations around the world. The network provides technology solutions, capacity-building, and advice on policy, legal, and regulatory frameworks tailored to the needs of individual countries. The CTCN is supported by the following donors and partners: UNEP; the Governments of Canada, Denmark, Germany, Japan, Norway, Switzerland and the United States of America; and the European Union (EU).

## **V. Low Carbon Low Emission Clean Energy Technology Transfer (LCET) Programme**

14. UNIDO's Low Carbon Low Emission Clean Energy Technology Transfer (LCET) Programme, funded by the Ministry of Economy, Trade and Industry (METI) of Japan, aims to promote the rapid deployment and dissemination of new low carbon, low emission clean energy technologies, products, services, and systems globally. This is achieved by implementing demonstration projects, raising awareness through capacity-building, and enhancing knowledge management strategies in selected developing countries. By using locally available distributed renewable energy solutions, UNIDO helps to reduce energy-related emissions and dependency on imported fossil fuels. UNIDO also works on providing access to electricity from renewable energy in rural or peri-urban areas, where grid extension is uneconomical. Following close consultations with its funding and implementing partner METI, UNIDO determined that phase I of this programme should initially focus on promoting ultra-low head micro hydropower and solar energy technologies in Ethiopia and Kenya.

## **VI. Renewable Energy Trust Fund**

15. The Renewable Energy Trust Fund (RETF) was established in compliance with decision GC.13/Dec.15, adopted by the General Conference at its thirteenth session in 2009. The RETF was designed as a strategic initiative to promote programmatic approaches and partnerships through concrete renewable energy projects with a focus on technology demonstration, policy frameworks, and capacity-building, in expectation that measurable results and impacts would be achieved on the ground. An independent thematic evaluation of the RETF was completed by the UNIDO Office for Independent Evaluation in March 2015. The evaluation found that the Trust Fund mechanism has been a very useful vehicle for UNIDO to leverage funds to undertake its renewable energy activities. It also found that the RETF was used in an effective manner in developing proposals and mobilizing funds that led to the development, and ultimately the implementation of a significant number of renewable energy projects.

## **VII. Global Cleantech Innovation Programme (GCIP)**

16. The Global Cleantech Innovation Programme (GCIP) is focused on promoting cleantech innovation start-ups in each participating country, as well as on improving the local entrepreneurial ecosystem and supporting policy frameworks for small and medium-sized enterprises (SMEs). The GCIP programme, which is funded by the GEF, involves four key features: a competition to create an ecosystem for sustainable growth; the showcasing of innovative technologies; the provision of mentoring and training through the Cleantech Accelerator; and the enhancement and facilitation of access to capital.

17. The GCIP for SMEs, in close partnership with the GEF and Cleantech Open, is currently working in seven countries: Armenia, India, Malaysia, Pakistan, South Africa, Thailand, and Turkey. More than 10 countries have already expressed interest for GCIP to be developed in their countries. Under the 2014 cleantech competition cycle, a total of 555 applications were received across the seven countries, of which 159 innovative clean energy technology entrepreneurs were selected to take part in the Cleantech Accelerator from the following four categories: renewable energy, energy efficiency, waste to energy, and water efficiency.

## **VIII. Global Network of Regional Sustainable Energy Centres (GN-SEC)**

18. The Global Network of Regional Sustainable Energy Centres (GN-SEC) platform is a South-South and triangular multi-stakeholder partnership, run by UNIDO in cooperation with various regional economic communities and organizations. It comprises various centres in Africa, the Caribbean and the Pacific regions.

19. The network is acknowledged as a priority initiative in various United Nations outcome documents, such as the “Vienna Declaration” and the “Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014-2024” and the “Small Island Developing States Accelerated Modalities of Action (Samoa Pathway)”. Currently the following eight centres are operational or are under development:

(a) The Economic Community of West African States ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE);

(b) The Regional Centre for Renewable Energy and Energy Efficiency (RCREEE) in the Arab Region;

(c) The East African Centre for Renewable Energy and Energy Efficiency (EACREEE);

(d) The Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE);

(e) The Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE);

(f) The Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE);

(g) The Himalayan Centre for Renewable Energy and Energy Efficiency (HCREEE);

(h) The Mesoamerican Centre for Renewable Energy and Energy Efficiency. (MCREEE).

20. Among the donors and partners of the network are the Austrian Development Agency (ADA), the Spanish Agency for International Development Cooperation (AECID), the EU and the GEF, and the SIDS Sustainable Energy and Climate Resilience Initiative (SIDS DOCK).

## **IX. Global forums**

21. The fourth Vienna Energy Forum (VEF 2015) took place from 18 to 20 June 2015, as reported to the forty-third session of the Board in conference room paper IDB.43/CRP.2. Under the theme “Sustainable Energy for Inclusive Development”, it brought together around 1,700 participants, including over 500 women participants, from 100 countries. The VEF 2015 served as a high-level platform for energy practitioners, experts and policymakers to engage in an interactive dialogue on the way forward for the energy sector in the post-2015 development agenda and the climate agenda. Key sustainable energy issues addressed at the VEF 2015 included energy access; energy efficiency; financing and partnerships; policies and technologies; sustainable cities; and transport. The discussions were led by over 110 experts in the field of energy, from the public and private sectors as well as academia. The VEF 2015 reaffirmed that sustainable energy is the golden thread that connects the 2030 Agenda to climate action. The outcome of the deliberations of the VEF 2015 was summarized in eight key messages for the United Nations Sustainable Development Summit 2015 and the twenty-first Conference of Parties to the UNFCCC (IDB.43/CRP.2, para. 7).

## **X. Action required of the Conference**

22. The Conference may wish to take note of the information provided in the present document.

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