



United Nations Industrial Development Organization

Distr.: General
3 October 2013

Original: English

General Conference

Fifteenth session

Lima, 2-6 December 2013

Item 15 of the provisional agenda

UNIDO activities in environment and energy

UNIDO activities related to energy

Report by the Director General

The present document provides information on progress achieved in the area of energy. The document will update the information included in the report by the Director General presented to the forty-first session of the Industrial Development Board (IDB.41/17) and complement chapter 4 of the *Annual Report of UNIDO 2012* (IDB.41/2).

I. Introduction

1. Energy productivity and the resulting social, economic and environmental impacts of energy production and use are major points of concern for twenty-first century industrialization. In the past two centuries industrialization delivered broad-based growth and well-paying jobs in manufacturing industries for many countries that are today ranked as developed economies. Today, developing countries are counting on industrialization to do the same for them. Sustainable energy solutions are central to this challenge.

2. In this context and within the parameters of its unique mandate to promote and accelerate sustainable industrialization in developing countries and economies in transition, UNIDO is working closely with its partner organizations and key national and international stakeholders in industry, the private and public sectors and academia to deliver integrated energy solutions that provide a broad range of benefits to economy and society. These benefits include poverty reduction,

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industrial productivity and competitiveness, and global environmental and climate change benefits.

3. UNIDO sees its role in aligning the transformational agenda of the energy sector, with the opportunities for realizing higher-value, low-carbon growth and business opportunities across industrial sectors, driven by clean, efficient and sustainable energy technologies and systems.

4. UNIDO seeks to strengthen its role in acting as a catalyst in increasing industrial energy efficiency and promoting renewable energy for industrial applications and productive uses. In partnership with the Global Environment Facility (GEF) and key national and international stakeholders in industry, the public sector and academia, UNIDO promotes a holistic approach to addressing policy, economic, technical, environmental and social aspects, to disseminate and support best available practices and technologies for energy management, and for the adoption of low carbon technologies in the industrial sector in developing countries and emerging economies.

II. Industrial energy efficiency

5. The use of energy efficiency policies in industry continues to receive growing appreciation in many developing countries and economies in transition. UNIDO's mandate is clearly focused on supporting industrialization and manufacturing growth, generating employment and promoting sustainable industrial development. Its energy-efficiency related activities should therefore be seen within the context of the Organization's overall objective to promote higher levels of productivity in the use of natural resources and materials, to sustain the global growth in industrial production and to protect the environment.

6. In order to meet these objectives, the main focus of UNIDO's energy efficiency related work is on the following areas:

(a) Facilitating international dialogue and cooperation on industrial energy efficiency. This is achieved through participation in global forum activities and major international initiatives and partnerships, such as Sustainable Energy for All (SE4All), the Global Green Growth Forum and the Vienna Energy Forum;

(b) Promoting the implementation of energy management in industry through the adoption of and conformity with energy management system standards (EnMS), such as ISO 50001;

(c) Helping enterprises to adopt energy management best practices, such as the energy systems optimization approach (rather than a components approach) that minimizes the use of energy in the industrial processes;

(d) Supporting capacity-building to build qualified professional skill sets and expertise in the area of industrial energy management.

7. 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 EnMS in the industrial sector in some 20 countries including Cambodia, China, Ecuador, Egypt, India, Indonesia, Iran (Islamic Republic of), Malaysia,

the Philippines, the Republic of Moldova, the Russian Federation, South Africa, Thailand, the former Yugoslav Republic of Macedonia, Turkey, Ukraine and Viet Nam. The budget of the initiative is financed by the GEF grant funding in the amount of \$88 million, which helped to leverage \$618 million in co-financing from financial institutions, business and industry and recipient governments.

III. Renewable energy

8. As a central component of UNIDO's work for the promotion of sustainable industry — and in recognition that energy is one of the largest industrial sectors — UNIDO promotes sustainable industrialization through increased use of renewable energy for productive uses and industrial applications. In line with the renewable energy strategy, which is being finalized, the main focus of UNIDO's renewable energy programme is on the following areas:

(a) Mainstreaming the use of renewable energy in industrial applications, in particular in small and medium-sized enterprises, as well as by increasing their competitiveness and reducing dependence on fossil fuels;

(b) Creating business development opportunities aimed at increasing access to energy and boosting the use of renewable energy mini-grids;

(c) Supporting innovative business models, particularly in rural areas, by augmenting the use of locally available renewable energy sources.

9. Around 50 renewable energy projects are being implemented in more than 30 countries, with an additional 15 projects in the pipeline. The bulk of these projects are funded by the GEF, whereas around 15 per cent of the circa \$100 million project portfolio is made available by bilateral donors, international donors and recipient governments.

10. By using locally available distributed renewable energy solutions, UNIDO helps to reduce dependency on imported fossil fuels, as well as energy related emissions. UNIDO also works on providing access to electricity from renewable energy in rural or semi-urban areas, where grid extension is uneconomical.

11. The following UNIDO projects exemplify the highly successful implementation of distributed energy generation:

(a) In Zambia, the realization of three renewable energy mini-grids provides electricity to rural areas. The mini-grids are based on three different renewable energy technologies: biomass, solar and mini-hydro. Over 25,000 people have access to the electricity from the 1 MW Small Hydro-power Plant, which is the first power plant to be built in Zambia since the 1970s;

(b) As Cuba's second largest island, Isla de la Juventud, has no grid connection to the main island, the development of four business models for biomass production, biomass power generation, wind energy and the use of process heat for the food industry represents a good opportunity for renewable energy technologies in Cuba;

(c) A UNIDO project in Gambia takes a systematic approach to remove barriers to enhance investments in mini-grids in rural areas based on renewable

energy. The main project component, the connection of 450 kW wind power, demonstrates the successful implementation of distributed energy generation solutions through isolated mini-grids in rural areas.

IV. Regional centres for renewable energy and energy efficiency in Africa

12. As mentioned in document IDB.41/17, UNIDO is the main technical partner of the Economic Community of West African States (ECOWAS) in the establishment process of the ECOWAS Centre for Renewable Energy and Energy Efficiency. Based on this successful model, UNIDO has been invited by both the Southern African Development Community (SADC) and the East African Community (EAC) to assist with the creation of similar regional sustainable energy centres.

13. Significant progress has been achieved in recent months. The project documents for both centres have been developed, and key stakeholder workshops involving all EAC and SADC countries have been held successfully. It is the intention of UNIDO to create a strong South-South cooperation network between the regional sustainable energy centres in Africa. The Government of Austria has committed to provide €2.5 million for the establishment and the first operational phase of both centres through UNIDO. Further funding will be mobilized from other key donor partners, including the GEF and the European Union. This planned network can play an important institutional role in achieving the goals under the SE4ALL.

V. Trust fund on renewable energy

14. The trust fund on renewable energy (TFRE) was established by UNIDO to support the formulation, design and subsequent implementation of a concrete portfolio of projects and programmes to scale up the use of renewable energy for productive uses in developing countries and economies in transition. As of September 2013, the TFRE amounts to €1,072,138, including support costs.

15. For more than two years, the TFRE has been fully operational and has achieved a number of significant milestones. From a relatively small funding base, the TFRE has been able to leverage funding from the GEF and other sources. The total funding of \$219 million comprises \$34 million in GEF grants and \$185 million targeted to be mobilized as co-financing.

VI. UNIDO-GEF global clean technology programme

16. As mentioned in document IDB.41/17 the UNIDO-GEF global clean technology programme seeks to promote innovations in clean technologies by using a cross-sectoral and multi-tiered approach to build sustainable innovation entrepreneur ecosystems for small businesses.

17. In the biennium 2013-2014, UNIDO will work closely with the GEF and national partners to launch Cleantech projects in several countries, including Brazil, Thailand, Pakistan, the Russian Federation, South Africa, Turkey and Viet Nam.

18. Launches of Cleantech projects are also planned in October 2013 in Armenia, hosted by the Enterprise Incubator Foundation and in Malaysia, hosted by the Malaysian Industry-Government Group for High Technology.

VII. Global forums

19. The third Vienna Energy Forum (VEF 2013) was held from 28 to 30 May 2013. Under the theme “One Year After Rio+20: The Energy Future We Want”, it brought together around 1,600 participants from 116 countries including Ministers, high-level dignitaries, experts and representatives from the private sector and civil society. The VEF 2013 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 framework.

20. During the VEF 2013, key sustainable energy issues were addressed including energy access, financing and partnerships, policies and technologies and the development of an energy development goal. The discussion was led by over 110 experts in the field of energy from the public and private sectors as well as academia.

21. In the context of negotiating a new development framework, the key message of the VEF 2013 clearly positions energy in the post-2015 development agenda and underlined the significance of financing and partnership in ensuring a sustainable energy future. The outcome of the deliberations was summarized in six key recommendations on energy in the post-2015 development agenda.

VIII. Action required of the Conference

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