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UNIDO activities in the environment and energy

UNIDO activities related to climate change, environment and energy

Report by the Director General

The present document reports on the implementation of General Conference resolution GC.18/Res.7 and provides information on latest developments and an outlook for the next biennium (2022-2023). It supplements the information contained in the progress report presented to the forty-ninth session of the Industrial Development Board in July 2021 (IDB.49/18) and in the *Annual Report of UNIDO 2020* (IDB.49/2).

I. Introduction

1. In line with the strategic priority of the medium-term programme framework 2018–2021 (IDB.45/8/Add.2) of safeguarding the environment, UNIDO is advancing environmentally sustainable industrial development through its four complementary core functions: (i) technical cooperation; (ii) analytical, research and policy advisory services; (iii) normative function; and (iv) convening and partnerships.

II. Technical cooperation

2. General Conference resolution GC.18/Res.7 requested UNIDO to continue integrating its energy and environment activities, focusing on supporting governments and industries to:

- (a) Provide sustainable and resilient soft and hard infrastructure for industrial development;
- (b) Contribute to climate neutrality and the circular economy;¹
- (c) Fulfill national commitments under multilateral climate and environmental agreements.

¹ Activities relating to circular economy are reported on in document GC.19/12.

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3. In response to this request, under the first focus area mentioned above, UNIDO is supporting Albania, Cabo Verde, Jordan, the Philippines, Thailand, and Tunisia in their shift to electric mobility by accelerating and scaling up innovation and technology transfer. Projects for another five countries are under preparation in order to consolidate a global programme on electric mobility.
4. In cooperation with Austria, China and Germany, UNIDO launched the Global Programme for Green Hydrogen in Industry. The programme will establish a multi-stakeholder platform to disseminate information on policies, technical guidelines and standards relating to the application of green hydrogen technologies. It will also support developing countries through concrete cooperation projects.
5. In March 2021, Ukraine adopted its National Economic Strategy 2030, which is, among others, based on good practices and lessons learned from the UNIDO Global Eco-Industrial Parks Programme. The strategy incorporates financial support measures for the reduction of waste generation, the promotion of renewable energy, as well as energy and resource-efficient technologies, and high-quality energy audits to scale up the transformation of industrial parks into eco-industrial parks. The global programme operates in Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine and Viet Nam.
6. By fostering the cooperation between Brazilian and foreign companies, UNIDO is supporting industries in Brazil to improve their biogas production and localize technological solutions and business models. Another example of strengthening resilience and promoting nature-based solutions in the food-energy-water nexus is UNIDO's cooperation with the Food and Agriculture Organization of the United Nations (FAO) under the Global Bioenergy Partnership to support Cambodia, Indonesia, Nepal, the Philippines and Viet Nam in introducing charcoal as a soil amendment in farming.
7. Together with the African Union Commission, the United Nations Economic and Social Commission for Asia and the Pacific, the Global Bioenergy Partnership and the Sustainable Energy for All, UNIDO convened a virtual expert group meeting on clean cooking with the participation of 20 countries in June 2021, resulting in a call for action to develop local ethanol industries for clean cooking.
8. The Global Cleantech Innovation Programme (GCIP) has expanded to include 14 partner countries. The GCIP global coordination platform has started its operation to enhance programmatic coherence, efficiency, cross-fertilization and synergies between activities in partner countries. GCIP also enlarged its thematic scope by focusing on innovative technologies for climate change adaptation in the agriculture, water and energy sectors.
9. The Private Financing Advisory Network (PFAN) marked an important milestone by reaching \$2 billion in mobilized investments. This enabled PFAN to raise its ambition and further scale up its services to create greater transformative impacts through region and country-specific interventions and projects in new thematic areas such as climate change adaptation.
10. The Climate Technology Centre and Network, the operational arm of the Technology Mechanism of the United Nations Framework Convention on Climate Change, which is co-hosted by the United Nations Environment Programme (UNEP) and UNIDO, underwent its second independent review.² This review will inform the design of hosting agreements for the next work programme covering the period 2023 to 2026.
11. Under the umbrella of the Clean Energy Ministerial, UNIDO, together with India and the United Kingdom of Great Britain and Northern Ireland, launched the Industrial Deep Decarbonisation Initiative, aiming to stimulate the market demand for low-carbon materials, including in the steel and cement manufacturing sectors.

² <https://unfccc.int/documents/302658>.

Standards for low-carbon products and green procurement are key areas of the initiative's intervention.

12. Under the third focus area mentioned in paragraph 2, UNIDO is supporting Member States in fulfilling national commitments under the Stockholm Convention on Persistent Organic Pollutants (POPs), through a combination of activities on capacity-building, technology transfer, waste management and reduction or elimination of the release of POPs and other toxic chemicals from industrial processes into the environment. During the period 2014-2020, these efforts resulted in 86,756 metric tons of POPs hazardous wastes eliminated or safeguarded and 131,194 mg of unintentional POPs emissions avoided or safeguarded. Assuming that 60 kg of hazardous waste is generated per year for each person in the world, UNIDO's interventions led to a better management of the amount of hazardous wastes equivalent to that generated by a city with 240,000 inhabitants on an annual basis.

13. To advance the implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer, UNIDO has designed an online training scheme for refrigeration service technicians and trainers, which has been tested in nine countries. A concept to reduce refrigerant leaks to avoid emissions of ozone-depleting substances and greenhouse gases, while reducing energy consumption related to refrigerating systems, has also been developed and applied in several Latin American countries. In 2020, UNIDO's portfolio of projects under the Montreal Protocol resulted in the phase out of more than 700 tons of ozone-depleting substances. It also helped avoid the potential emission of 72 million tons of CO₂-equivalent, which corresponds to emissions from 16 million passenger vehicles driven for one year.

14. UNIDO has supported 23 countries in completing their initial assessments under the Minamata Convention on Mercury, with ongoing assessments in four additional countries. Six countries have completed their national action plans for the artisanal and small-scale gold mining sector, while seven countries are currently preparing these plans with UNIDO's support. Through the planetGOLD programme, UNIDO is assisting Burkina Faso, Mongolia and the Philippines to increase gold recovery while eliminating the use of mercury. Consultations with partners are underway to achieve more formal and traceable value chains.

III. Analytical, research and policy advisory services

15. UNIDO and UN Women are partnering on the Economic Empowerment of Women in Green Industry project in Cambodia, Peru, Senegal and South Africa. An assessment report of opportunities, constraints and measures to increase the participation of women in green industry³ was published in March 2021 for the sixty-fifth session of the Commission on the Status of Women. The report found that an increasing number of women are inspired to work in green industry due to a perception that as the sector provides more opportunities to progress compared to conventional industries.

16. The *Clean Energy Mini-Grid Policy Development Guide*,⁴ published in March 2021, aims to help policymakers navigate renewable mini-grid markets towards achieving universal electricity access.

17. In 2020, UNIDO published *Lessons Learnt from Assessing 50 Industrial Parks in Eight Countries against the International Framework for Eco-Industrial Parks*,⁵ as a guide for policymakers on transitioning from industrial parks to eco-industrial parks, while the publication *An International Framework for Eco-Industrial Parks, Version 2.0*⁶ was published in January 2021.

³ www.unido.org/sites/default/files/files/2021-03/SYNTHESIS_REPORT_komprimiert.pdf.

⁴ www.unido.org/sites/default/files/files/2021-03/CEMG_Development_Guide_EN.pdf.

⁵ www.greenindustryplatform.org/research/lessons-learnt-assessing-50-industrial-parks-eight-countries-against-international.

⁶ <https://openknowledge.worldbank.org/handle/10986/35110>.

18. A joint publication resulting from UNIDO's collaboration with Austria, Germany and Switzerland, *Chemical Leasing Function to Impact: A performance-based business model for sustainable chemicals management*,⁷ provides guidance on how chemical leasing relates to circular economy, the Sustainable Development Goals (SDGs), digitalization, green chemistry, gender and inclusiveness, change management and long-term sustainability benefits.

19. In partnership with the International Network on Small Hydro Power, and with inputs from around 80 international experts and 40 international agencies, UNIDO developed the *Technical guidelines for the development of small hydropower plants – Part 3: Design Principles and Requirements*,⁸ which were published by the International Organization for Standardization in March 2021.

20. Under the Partnership for Action on Green Economy, UNIDO is assisting governments through a green recovery support programme⁹ and advising on green policy areas that could optimize economic recovery in collaboration with the University of Oxford.

IV. Normative function

21. The Parliamentary Action on Renewable Energy, a joint initiative of UNIDO, the European Commission and the Climate Parliament, is raising awareness, building capacity and mobilizing the political will of policymakers from Africa and the Middle East to address the climate crisis and accelerate the transition to renewable energy. The project has held over 30 parliamentary roundtables with the participation of over 300 members of parliament, including 100 women.

22. In Latin America, UNIDO is supporting 13 countries to develop regulatory frameworks and fill gaps in national environmental, health and labour policies to ensure the sound management of e-waste. Two hundred thirty-one environmental policies and regulations have been approved under the POPs programme. UNIDO is also building national capacities to adopt regulatory frameworks to prevent industrial accidents, reduce their frequency and severity, and mitigate their effects, including in a transboundary context.

V. Convening and partnerships

23. In preparation for the 2021 high-level political forum on sustainable development, UNIDO led the development of two policy briefs on interlinkages between SDG 7 and SDG 9 as well as SDG 7 and SDG 12, which were launched under the umbrella of the Multi-Stakeholder Technical Advisory Group on SDG 7. UNIDO, UNEP and the United Nations Department of Economic and Social Affairs also partnered to convene two expert group meetings on SDG 12 in preparation for the forum.

24. Together with FAO and the United Nations Human Settlements Programme, UNIDO co-led the development of the *Theme Report on Innovation, Technology and Data* for the High-level Dialogue on Energy, which was convened by the United Nations Secretary-General in September 2021. The report puts forward recommendations on key actions at the national, regional and global levels to bring the energy and climate goals within reach.¹⁰ The Council of Engineers for the Energy Transition, a body that will bring together engineers and energy experts to contribute to the Secretary-General's coalition to achieve carbon neutrality by 2050, was launched in September 2021. UNIDO will co-chair this initiative together with the

⁷ www.greenindustryplatform.org/research/chemical-leasing-function-impact-performance-based-business-model-sustainable-chemicals.

⁸ www.iso.org/standard/82192.html.

⁹ www.un-page.org/page-inclusive-green-recovery.

¹⁰ www.un.org/sites/un2.un.org/files/2021-twg_4-062121.pdf.

United Nations Sustainable Development Solutions Network and contribute to bringing inputs on science and technology to drive the decarbonization of energy systems by 2050.

25. The preparatory process for the Vienna Energy Forum,¹¹ a flagship event co-hosted by Austria, the International Institute for Applied Systems Analysis and UNIDO, included a series of online events running from October 2020 to April 2021. This virtual series brought together over 500 speakers and 1,500 participants in 20 sessions to explore the role of energy with regard to the food system, industry and product sectors in the context of green COVID-19 recovery. The main event was held under the theme “Where action meets ambition” from 5 to 7 July 2021, aiming to spur action on 2030 and 2050 climate and energy goals and build momentum towards the High-level Dialogue on Energy.

VI. Outlook

26. In the framework of the United Nations Decade of Action, UNIDO will amplify efforts to assist Member States in achieving targets of those SDGs relating to the environment, climate change¹² and sustainable energy, through ISID approaches and in synergy with green COVID-19 recovery efforts.

27. UNIDO will continue promoting the transition to a circular economy at the global, regional and country levels to mitigate climate change, slow down the rate of biodiversity loss and reduce pollution. UNIDO will intensify efforts to support its Member States in developing carbon-neutral industries through, inter alia, the Industrial Deep Decarbonization Initiative. UNIDO will expand its work on green hydrogen as a technology option to decarbonize energy value chains associated with hard-to-abate industrial sectors through the Global Partnership for Hydrogen in Industry.

28. Having obtained accreditation to the Green Climate Fund on 20 August 2020 and submitted its first Entity Work Programme on 19 August 2021, and in line with resolution GC.18/Res.7, UNIDO will strive to facilitate Member States’ access to climate finance required to meet their national commitments under the Paris Agreement on Climate Change.

VII. Action required of the Conference

29. The Conference may wish to take note of the information provided in the present report.

¹¹ www.viennaenergyforum.org/.

¹² A strategic framework for UNIDO’s climate action is presented for the consideration of the General Conference in document GC.19/14.