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**UNIDO activities related to the environment,
energy and circular economy**

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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 further work. It supplements the information contained in the reports presented to the Industrial Development Board ([IDB.50/15](#) and [IDB.51/18](#)) and in the Annual Report of UNIDO 2022 ([IDB.51/2](#)).

I. Introduction

1. In line with the focus area of climate-neutral industry and circular economy of the medium-term programme framework 2022–2025, 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. The Global Eco-Industrial Parks Programme, implemented in partnership with Switzerland, covers selected industrial parks in Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine, and Viet Nam. It supports stakeholders at the policy, industrial ecosystem, and firm levels to reduce resource consumption and improve economic, social, and environmental performance through the development of guidelines, regulations, road maps, and standards. A regional conference for Latin America and the Caribbean, held in June 2023 in Cartagena, Colombia, demonstrated how the Eco-Industrial Park approach can contribute to a circular economy.

For reasons of sustainability, this document has not been printed. Delegates are kindly requested to refer to electronic versions of all documents.



3. UNIDO is supporting Member States to reduce plastic pollution in Africa. This includes: (i) capacity-building for eco-design in industries and enacting new regulations on plastic bags in Egypt; (ii) developing plastic waste management policy guidelines in Nigeria; (iii) preparing an action plan for sustainable transitions towards food container alternatives in South Africa; and (iv) introducing policies and legislation on the Extended Producer Responsibility scheme in Ghana.
4. Under the EU4Environment project, UNIDO supported Azerbaijan, Georgia, and Ukraine in preparing industrial waste maps and providing recommendations on potential industrial symbiosis and recycling approaches.
5. “SWITCH to circular economy value chains” project, jointly implemented by UNIDO, Chatham House, Circle Economy, and the European Investment Bank, promotes investments in green businesses, job creation and circularity actions in textile and garments as well as ICT and electronics value chains.
6. UNIDO launched climate adaptation and resilience innovation programmes in support of small and medium-sized enterprises (SMEs) in the Democratic Republic of the Congo, Madagascar, and Sierra Leone.
7. During the reporting period, UNIDO extended its clean energy innovation acceleration services under the Global CleanTech Innovation Programme to ten additional countries; expanded its e-mobility programme to eight new countries; and covered seven more countries under its industrial energy efficiency programme.
8. Under the Global Network of Sustainable Energy Centres, UNIDO supported the Economic Community of Central African States to establish the Centre for Renewable Energy and Energy Efficiency for Central Africa, which aims to accelerate energy transition and climate action. The Centre was inaugurated in March 2023.
9. In 2022, the implementation of UNIDO energy-related portfolio resulted in the reduction of 9 million tons of CO₂-equivalent and contributed to energy savings of 5 million MWh. The Private Finance Advisory Network supported 47 projects to mobilize over \$865 million in Sub-Saharan Africa and South East Asia.
10. UNIDO and partners collaborate with developing nations to expedite green hydrogen adoption in challenging industries via the Global Programme for Hydrogen in Industry. Under the pillar on partnerships, as well as the pillar on technical cooperation, the programme guides country-specific interventions, the development of market policies, standards, skills, financial instruments and innovation solutions for a just transition to a hydrogen economy. Additionally, UNIDO coordinates the International Hydrogen Trade Forum, a Clean Energy Ministerial (CEM) initiative fostering international hydrogen trade, reducing related barriers and fostering productive market conditions.
11. UNIDO is assisting Member States to increase sustainability of their fishery and aquaculture sectors by adopting circular economy and blue economy approaches while conserving marine biodiversity and ecosystems. This includes introducing resource-efficient production practices in Morocco and Tunisia; managing surf ecosystems in Costa Rica, Panama and Peru; addressing market access barriers in Colombia, Indonesia and Mozambique; facilitating the incubation of youth- and women-led businesses in Cabo Verde; upgrading regulatory and institutional systems for inclusive post-harvest fishery value chains development in Cambodia; improving fisheries governance and blue economy trade corridors in the Southern African Development Community; and conserving natural habitat and ecosystems of coastal and marine zones in the Gulf of Mexico.
12. UNIDO’s support to Member States in fulfilling their obligations under the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury, including the development of National Implementation Plans and National Action Plans, resulted in the elimination or safeguarding of more than 90,000 metric tons of hazardous wastes and chemicals, as well as reducing 185,000 tons of CO₂-equivalent during the reporting period.

13. UNIDO significantly contributed to advancing the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer. The Kigali Implementation Plans workshop was held in June 2023 in Vienna, with the participation of 55 countries and international organizations. Furthermore, during its 92nd meeting held in Montreal in 2023, the Executive Committee of the Multilateral Fund approved the world's first Kigali hydrofluorocarbons Implementation Plan for Cameroon, with UNIDO as the executing agency.

III. Analytical, research and policy advisory services

14. During the reporting period, UNIDO supported Member States to elaborate more than 80 strategic and policy documents on industrial energy efficiency, energy performance standards, electric mobility, and incentives for bio-energy development. UNIDO also supported the development of a regional energy efficiency policy for the East African Community in collaboration with East Africa Centre for Renewable Energy and Energy Efficiency.

15. Building on lessons learned from technical cooperation, UNIDO released a synthesis report “Unlocking the Bioethanol Economy”¹ and “Technical Guidelines for Integrated Applications of Electric Vehicles and Renewable Energy”² in 2022.

16. In 2023, UNIDO supported the Indian presidency of the G20 through analytical contributions on cost-effective measures for industrial decarbonization and clean hydrogen as a fuel of the future and contributed to related events and dialogues.

17. UNIDO is co-hosting the Secretariat of the Council of Engineers for the Energy Transition, an independent advisory body to the United Nations Secretary-General. In 2023, the Council prepared analytical briefs on hydrogen, regional grid interconnection, digitalization, and its role in the green energy transition, and decarbonization pathways for various sectors.

18. Based on a comprehensive technical assessment, UNIDO, in collaboration with the Pacific Centre for Renewable Energy and Energy Efficiency, developed a regional policy document on integrated e-mobility solutions, including related targets to be met by 2030 and 2050.

IV. Normative function

19. Through the Industry Deep Decarbonization Initiative under the CEM, UNIDO continues to lead efforts towards harmonized carbon accounting standards for steel, cement, and concrete, as well as benchmarks for the environmental impact and sustainability of low-emission products.

20. In partnership with the European Commission and the Climate Parliament, UNIDO brought together over 100 members of parliament from Africa and Asia in November 2022 in Luxor, Egypt, to discuss good practices in developing climate-compatible legislation that encourages investments in renewable energy.

21. UNIDO, in cooperation with Sweden and the United Nations Environment Programme, is supporting countries in Africa to adopt minimum energy performance standards for lighting products, household refrigerators and air conditioners.

22. UNIDO is cooperating with the International Organization for Standardization to develop an international standard on accounting of greenhouse gas emissions from hydrogen production.

¹ www.unido.org/sites/default/files/files/2022-08/UNIDO_Ethanol_Summary_Report_screen.pdf.

² www.unido.org/sites/default/files/files/2022-10/TechnicalGuidelines_for_EV_RE_Integration-compressed.pdf.

V. Convening and partnerships

23. In accordance with resolution GC.18/Res.7, UNIDO organized regional meetings on circular economy in September 2022 and held a briefing for Member States in March 2023. It also co-organized side events on circular economy during the high-level political forum on sustainable development, and co-convened high-level meetings of the Global Alliance on Circular Economy and Resource Efficiency in 2022 and 2023.

24. Together with Austria and the International Institute for Applied Systems Analysis, UNIDO has revamped the Vienna Energy Forum to better capitalize on synergies between green energy transition and climate action. The rebranded International Vienna Energy and Climate Forum³ will be held in November 2023.

25. UNIDO convened a High-Level Dialogue on Industry Decarbonization on the margins of the CEM meeting in July 2023 in Goa, India, where it called for action to unlock financing for industrial decarbonization in developing countries and emerging economies.

26. UNIDO has been closely collaborating with the presidencies of the Conference of the Parties to the United Nations Framework Convention on Climate Change to hold events on industry-related topics.

27. UNIDO with its partners launched the Global Ocean Energy Alliance at the United Nations Ocean Conference in June 2022 in Lisbon. The Alliance will address the needs of small island developing States and coastal developing countries to access ocean energy technology, finance, and expertise.

28. During the Seventh Assembly of the Global Environment Facility (GEF) in August 2023 in Vancouver, Canada, UNIDO participated in a number of high-level plenary and round-table sessions, and convened side events on climate technology innovation, clean hydrogen, and biodiversity-industry nexus. Through strategic Member State and partner consultations on the margins of the Assembly, UNIDO secured a pipeline of potential GEF-financed projects which will help countries address their urgent environmental and climate challenges.

VI. Outlook

29. The UNIDO Climate Change Strategy, developed in accordance with resolution GC.19/Res.2 and endorsed by the Industrial Development Board at its fifty-first session, will guide the work of the Organization on climate change mitigation and adaptation, once approved by the Conference.

30. Building on its expertise in accelerating the commercialization of technology innovation, UNIDO will manage the Accelerate-to-Demonstrate Facility, supported by the United Kingdom of Great Britain and Northern Ireland. The Facility will provide grants to companies with innovative technology solutions to fast-track their large-scale uptake. Furthermore, UNIDO will expand its portfolio of climate adaptation innovation projects.

31. Responding to the increase in global demand for green energy technologies and the need to secure critical supply chains of raw materials, UNIDO will launch a global programme on green industrialization and clean energy value chains at the upcoming International Vienna Energy and Climate Forum.

32. To leverage the ingenuity and resources of industry and the private sector to address the triple planetary crisis of climate change, biodiversity loss and pollution, UNIDO will develop strategic approaches and expand its services to Member States in the areas of the industry-biodiversity nexus and plastics value chains. With its expertise in fisheries, aquaculture, marine biotechnology, ocean energy and

³ www.ivecf.org/.

commerce, UNIDO aims to position itself as a significant contributor to the blue economy, to promote sustainable use, management, and conservation of aquatic resources to foster economic growth, livelihood improvement and environmental health.

VII. Action required of the Conference

33. The Conference may wish to take note of the information contained in this report and provide guidance on further work in the areas of environment, energy, and circular economy.
