



SDG7 Energy Compact of the United Nations Industrial Development Organization
A next Decade Action Agenda to advance SDG7 on sustainable energy for all, in line with the goals of the Paris Agreement on Climate Change

SECTION 1: AMBITION

1.1. Ambitions to achieve SDG7 by 2030. [Please select all that apply, and make sure to state the baseline of each target]

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| <input type="checkbox"/> 7.a. By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology. | <p>Target(s): National policy makers and industry representatives have increased access to knowledge products and capacity building for green hydrogen application in industries through awareness raising workshops organized and provided in cooperation with partners.</p> <p>Time frame: 2021 to 2023</p> <p>Context for the ambition(s): UNIDO aims to facilitate a cooperative environment for knowledge sharing and exchange for developing and in-transition countries. It will support the creation of industrial competitiveness in countries through strengthening capacity, awareness raising, policy frameworks and standards. This target would be mainly achieved through disseminating information amongst a range of stakeholders from governments, industries, financial sector, academia and international organizations to contribute towards knowledge exchange. Knowledge products would be developed in forms of guidelines, booklets and reports for green hydrogen production and application in industries.</p> |
| <input type="checkbox"/> 7.b. By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programs of support. | <p>Target(s): 10 countries have developed national industrial roadmaps and strategies for industry application through the application of green hydrogen in industrial clusters, zones, parks and hydrogen valleys by 2025</p> <p>Time frame: 2021 to 2025</p> <p>Context for the ambition(s): UNIDO aims to promote the global uptake of green hydrogen through enhancing domestic uses of green hydrogen in industry of developing countries. This would be proceeded through the creation of roadmaps for the decarbonization of industrial clusters, zones, parks and creation of hydrogen valleys that apply green hydrogen. UNIDO will deliver this target through two phases:</p> <ol style="list-style-type: none"> 1. Phase I: Undertake initial preparations for the uptake of green hydrogen through awareness raising and capacity building activities and an extensive stakeholder engagement analysis. This Phase would focus mainly on optimizing innovation, investment and supporting the technological readiness of green hydrogen for the 10 cooperating countries. 2. Phase II: In the longer term, examine the application of green hydrogen and its application in industrial processes, where it would decarbonize carbon-intensive industries and complement renewable energy technologies and energy storage solutions. |

1.2. Other ambitions in support of SDG7 by 2030 and net-zero emissions by 2050. [Please describe below e.g., coal phase out or reforming fossil fuel subsidies etc.]

Target(s): Promote knowledge for policy makers and industries to foster solutions in diverting from fossil fuels and adapt new technologies and business models to mobilize energy transition

Time frame: 2030

Context for the ambition(s):

- Provide technical advice to policy makers to develop knowledge products (i.e. reports, guidelines, manuals, booklets) for hydrogen use in industry, especially hard to abate sectors
- Develop training and awareness raising material to be disseminated at global level through the platform and series of events
- Initiate consultation workshops to accelerate energy transition and fossil fuel phase out and promote the opportunities and potential of green hydrogen

SECTION 2: ACTIONS TO ACHIEVE THE AMBITION

2.1. Please add at least one key action for each of the elaborated ambition(s) from section 1. [Please add rows as needed].

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| <p>1. National policy makers and industry representatives have increased access to knowledge products and capacity building for green hydrogen application in industries through awareness raising workshops organized and provided in cooperation with partners.</p> <p>Action 1: Develop knowledge products for capacity building in green hydrogen industry application</p> <ul style="list-style-type: none"> - At least 4 online workshops aimed at policy makers and industry - At least 1 online workshop/webinar to raise awareness of stakeholders (policymakers and industries) - At least 3 panel discussions <p>Action 2: Create website for UNIDO's Global Hydrogen Programme within the UNIDO main homepage and an individual webpage respectively</p> <p>Action 3: Publish 3 policy papers on the potential of green hydrogen, certification and standards and green hydrogen industrial clusters</p> <p>Action 4: Review and develop standards and certifications for green hydrogen and its application in industry</p> | <p>2021-2022</p> |
| <p>2. 10 countries have developed specific milestones for national industrial roadmaps and strategies for industry application through the development of green hydrogen clusters by 2025</p> <p>Action 1: Create a green hydrogen industrial cluster model in form of a roadmap, which can be applied and replicated in developing countries</p> <p>Action 2: Conduct an Expert Group Meeting to validate the green hydrogen industrial cluster model developed from UNIDO</p> <p>Action 3: Disseminate the cluster model to developing countries that accommodate their needs and conditions of the country</p> | <p>2021-2025</p> |

SECTION 3: OUTCOMES

3.1. Please add at least one measurable and time-based outcome for **each** of the actions from section 2. [Please add rows as needed].

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| <p>1. National policy makers and industry representatives have increased access to knowledge products and capacity building for green hydrogen application in industries through awareness raising workshops organized and provided in cooperation with partners.</p> <p>1.1: A global Knowledge Exchange Platform is established to facilitate knowledge sharing and exchange on the application of green hydrogen industry</p> <p>1.2: A website for UNIDO's Global Hydrogen Programme with access to publications, knowledge products and information on pilot projects provided</p> | <p>Date: 2022</p> |
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| 1.3: 3 policy papers published to deliver information on the potential of green hydrogen, certification and standards and green hydrogen industrial clusters | |
| 1.4: Green hydrogen standards and certifications are developed for industry application | |
| <p>2. 10 countries have developed specific milestones for national industrial roadmaps and strategies for industry application through the development of green hydrogen clusters by 2025</p> <p>2.1: 10 countries have national industrial strategies, policies and document prepared for green hydrogen by 2025</p> <p>2.2: An Expert Group Meeting delivered to validate the green hydrogen industrial cluster model with industry experts of industrial clusters, zones, parks and hydrogen valleys and its applicability further evaluated by experts from developing countries</p> <p>2.3: Industrial cluster model designed, developed and applied in 10 countries</p> | Date: 2025 |

SECTION 4: REQUIRED RESOURCES AND SUPPORT

4.1. Please specify required finance and investments for **each** of the actions in section 2.

UNIDO aims to access multiple funding sources, including bilateral funding from countries and funds from multilateral entities such as the Global Environment Facility, Green Climate Fund, EU and Asia Clean Energy Fund.

The Global Programme for Green Hydrogen in Industry aims to acquire USD 40,000,000 by 2025 to implement actions highlighted.

SECTION 5: IMPACT

5.1. Countries planned for implementation including number of people potentially impacted.

The Global Programme aims to work with the following countries with more to be confirmed:

Brazil, Costa Rica, Morocco, South Africa, Thailand, Vietnam, Ukraine, Uruguay

5.2. Alignment with the 2030 Agenda for Sustainable Development – Please describe how **each** of the actions from section 2 impact advancing the SDGs by 2030.
[up to 500 words, please upload supporting strategy documents as needed]

As a specialized agency of the United Nations, UNIDO maintains a unique global mandate to promote and accelerate inclusive and sustainable industrial development (ISID). UNIDO is specifically committed to supporting developing and in-transition countries, and their industries to advance SDG 7 on sustainable energy by 2030 and achieve net-zero emissions by 2050.

The nexus of SDG7 (energy), SDG13 (Climate), SDG9 (Industry), and SDG 17 is highlighted in the work of UNIDO’s Global Programme for Green Hydrogen in Industry. The organization primarily aims to promote sustainable industrialization and foster innovation by leveraging its convening power to galvanize international action on decarbonization in the industrial sector. As such, the wide-scale deployment of green hydrogen represents a valuable opportunity to i) support the decarbonization of hard-to-abate sectors and thus mitigating greenhouse gas emissions, ii) accelerate the clean energy transition from fossil fuels, and iii) encourage innovation to support an inclusive industrialization. Furthermore, one of the project’s pillars is the establishment of a global partnership between key stakeholders including industry players and governments. This will strengthen global cooperation and thereby advance the application of green hydrogen in industrial processes, which aligns closely with SDG17.

5.3. Alignment with Paris Agreement and net-zero by 2050 - Please describe how **each** of the actions from section 2 align with the Paris Agreement and national NDCs (if applicable) and support the net-zero emissions by 2050. [up to 500 words, please upload supporting strategy documents as needed]

Achieving net-zero emissions is a challenging task, particularly for hard-to-abate sectors and heavy industry, which accounts for 18% of global CO2 emissions and 25% of energy demand. Industrial energy efficiency is a critical step to achieve clean energy transition and the transformation of energy systems for decarbonization is an imperative to achieve the climate agenda of carbon neutrality by 2050. Green hydrogen represents a valuable technology option to support the decarbonization of the energy value chains associated with such hard-to-abate industrial sectors. UNIDO identifies green hydrogen, or renewable hydrogen to be produced from renewable sources (or from biomass), if in compliance with sustainability requirements. There is a strong momentum for green hydrogen development, with reduced renewable energy costs and the increased need to improve the reliability of renewable energy sources.

However, green hydrogen faces challenges due to high costs of electrolyzers and fuel cell technologies, safety issues and lack of qualified local capacity to manage green hydrogen systems. There is a pressing need to deliver and implement an enabling environment for policies, certification and standards and innovation through industrial strategies and instruments to enable the production, storage, transport and use of hydrogen. In this vein, UNIDO's Global Programme will promote the uptake of green hydrogen through collaboration between different stakeholders including the public and private sectors, financial organizations and academia, who are crucial to support an inclusive energy transition for developing and in-transition countries. In this context, international organizations such as UNIDO will bring forth knowledge and experience that may not be present in the given country and convene the relevant capacity, resource and entities to embrace hydrogen as a mechanism for transforming the energy system of developing countries.

SECTION 6: MONITORING AND REPORTING

6.1. Please describe how you intend to track the progress of the proposed outcomes in section 3. Please also describe if you intend to use other existing reporting frameworks to track progress on the proposed outcomes.

UNIDO has adopted a results-based management (RBM) strategy which is laid out by the United Nations Joint Inspection Unit. It underlines the following key principles: 1. Vision and Goals; 2. Causality and the Results Chain; 3. Systems Operation and Strategic Management; 4. Performance Measurement; 5. Monitoring and Evaluation. In sequence, UNIDO has established a set of policies and tools that would facilitate and drive UNIDO's performance and results at scale:

- Medium-term programme framework
- UNIDO Integrated Results and Performance Framework (IRPF)
- UNIDO Quality Assurance Framework
- UNIDO Evaluation Policy and Manual
- Managing for Results: A guide to UNIDO's Integrated Results and Performance Framework Approaches and Tools

UNIDO's monitoring and reporting would be fundamentally carried out in accordance with donors, and other requirements as outlined in the project/programme documents and Monitoring, Reporting and Evaluation Plan.

SECTION 7: GUIDING PRINCIPLES CHECKLIST

Please use the checklist below to validate that the proposed Energy Compact is aligned with the guiding principles.

I. Stepping up ambition and accelerating action - Increase contribution of and accelerate the implementation of the SDG7 targets in support of the 2030 Agenda for Sustainable Development for Paris Agreement

I.1. Does the Energy Compact strengthen and/or add a target, commitment, policy, action related to SDG7 and its linkages to the other SDGs that results in a higher cumulative impact compared to existing frameworks?

Yes No

I.2. Does the Energy Compact increase the geographical and/or sectoral coverage of SDG7 related efforts? Yes No

I.3. Does the Energy Compact consider inclusion of key priority issues towards achieving SDG7 by 2030 and the net-zero emission goal of the Paris Agreement by 2050 - as defied by latest global analysis and data including the outcome of the Technical Working Groups? Yes No

II. Alignment with the 2030 agenda on Sustainable Development Goals – Ensure coherence and alignment with SDG implementation plans and strategies by 2030 as well as national development plans and priorities.

II.1. Has the Energy Compact considered enabling actions of SDG7 to reach the other sustainable development goals by 2030? Yes No

II.2. Does the Energy Compact align with national, sectoral, and/or sub-national sustainable development strategies/plans, including SDG implementation plans/roadmaps? Yes No

II.3. Has the Energy Compact considered a timeframe in line with the Decade of Action? Yes No

III. Alignment with Paris Agreement and net-zero by 2050 - Ensure coherence and alignment with the Nationally Determined Contributions, long term net zero emission strategies.

III.1. Has the Energy Compact considered a timeframe in line with the net-zero goal of the Paris Agreement by 2050? Yes No

III.2. Has the Energy Compact considered energy-related targets and information in the updated/enhanced NDCs? Yes No

III.3. Has the Energy Compact considered alignment with reaching the net-zero emissions goal set by many countries by 2050? Yes No

IV. Leaving no one behind, strengthening inclusion, interlinkages, and synergies - Enabling the achievement of SDGs and just transition by reflecting interlinkages with other SDGs.

IV.1. Does the Energy Compact include socio-economic impacts of measures being considered? Yes No

IV.2. Does the Energy Compact identify steps towards an inclusive, just energy transition? Yes No

IV.3. Does the Energy Compact consider measures that address the needs of the most vulnerable groups (e.g. those impacted the most by energy transitions, lack of energy access)? Yes No

V. Feasibility and Robustness - Commitments and measures are technically sound, feasible, and verifiable based a set of objectives with specific performance indicators, baselines, targets and data sources as needed.

V.1. Is the information included in the Energy Compact based on updated quality data and sectoral assessments, with clear and transparent methodologies related to the proposed measures? Yes No

V.2. Has the Energy Compact considered inclusion of a set of SMART (specific, measurable, achievable, resource-based and time based) objectives? Yes No

V.3. Has the Energy Compact considered issues related to means of implementation to ensure feasibility of measures proposed (e.g. cost and financing strategy, technical assistant needs and partnerships, policy and regulatory gaps, data and technology)? Yes No

SECTION 8: ENERGY COMPACT GENERAL INFORMATION

8.1. Title/name of the Energy Compact

UNIDO's Global Programme for Green Hydrogen in Industry

8.2. Lead entity name (for joint Energy Compacts please list all parties and include, in parenthesis, its entity type, using entity type from below)

United Nations Industrial Development Organization

8.3. Lead entity type

Government

Local/Regional Government

Multilateral body /Intergovernmental Organization

Non-Governmental Organization (NGO)

Civil Society organization/Youth

Academic Institution /Scientific Community

Private Sector

Philanthropic Organization

Other relevant actor

8.4. Contact Information

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8.5. Please select the geographical coverage of the Energy Compact

Africa Asia and Pacific Europe Latin America and Caribbean North America West Asia Global

8.6. Please select the Energy Compact thematic focus area(s)

Energy Access Energy Transition Enabling SDGs through inclusive just Energy Transitions Innovation, Technology and Data Finance and Investment.

SECTION 9: ADDITIONAL INFORMATION (IF REQUIRED)

Please provide additional website link(s) on your Energy Compact, which may contain relevant key documents, photos, short video clips etc.

- Video clip on Global Hydrogen Programme of UNIDO: https://www.youtube.com/watch?v=J_Pv-ciQG8s