 

**SDG7 Energy Compact of IAEA “Supporting Member States in their Clean Energy Transition”**

**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**

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| **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]* (Member States targets could be based on their NDCs, energy policies, national five-year plans etc. targets for companies/organizations could be based on their corporate strategy)

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| [x]  **7.1.** By 2030, ensure universal access to affordable, reliable and modern energy services.  | Target(s): Offering capacity building assistance to Member States, particularly from developing regions, through training, technical assistance and information exchange in energy systems analysis and planning which allows the countries can identify the role of different technologies in meeting their future energy needs and formulate science-based national energy policy aligned with their national commitment under SDGs and Paris Agreement. This includes providing technical support to the development of sustainable energy strategies, energy environment policy, studies of energy system and electricity sector development and management, energy investment planning and revision/update of Nationally Determined Contributions (NDC). It also includes support in analyzing the links between climate, land (and the production of food), energy and water – so called CLEW framework, as well as the macroeconomic impacts of energy investments in terms of jobs, economic growth, and support to industrialization, which are key to the energy transitions success. These capacity building services have been provided by the Agency to more than 140 Member States worldwide so far.Providing technological support to the Member States operating or planning to deploy nuclear power plants to ensure that nuclear power, currently the 2nd largest low carbon electricity source with 10 % share of global electricity mix, will be continuously used in a safe, secure, peaceful, and sustainable manner and contribute to the global clean energy transition. This support takes the form of various peer review services, advisory services and expert missions, Coordinated Research Projects (CRP) technical meetings and publications capturing the technological advancement, safety standard and security guidance and good practices.Time frame: 2021-2030Context for the ambition(s): Increasing demands from MS for assistance in energy planning, collaboration with other International Organizations such as IRENA, UNDESA and other regional or national organizations. |
| [ ]  **7.2.** By 2030, increase substantially the share of renewable energy in the global energy mix.  | Target(s):Time frame:Context for the ambition(s): |
| [ ]  **7.3.** By 2030, double the global rate of improvement in energy efficiency.  | Target(s): Time frame: Context for the ambition(s): |
| [x]  **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.  | Target(s): Collaborating with other international partners including IRENA, UNDESA and regional organizations to provide effective capacity building in energy planning.Collaborating with international partners, to provide technical support to the Member States on evaluating the financial implication of an expansion plan of a power generating system, and identifying the cost-effective, low-carbon energy demand and supply paths in the run up to net zero, as a contribution to raising energy investment to $ 40 billion annually. Collaborating with Member States and other international partners to facilitate R&D on advanced nuclear reactor and fuel cycle technologies to ensure the sustainability of nuclear energy.Time frame: 2021-2030Context for the ambition(s): Example of international collaboration: IAEA and IRENA chosen as modelling partners to support the development of the African Continental Power Systems Master Plan (CMP), led by the African Union Development Agency <https://www.irena.org/newsroom/articles/2021/Sep/IRENA-and-IAEA-Selected-to-Help-African-Union-Develop-Continental-Power-Master-Plan-with-EU-support>  |
| [ ]  **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.  | Target(s):Continuing to support Member States in the development of the infrastructure to ensure a safe, secure, and sustainable nuclear power programme. This support provided by the IAEA is oriented to the so-called embarking countries and to countries that are operating nuclear power plants and are considering expanding the existing fleet.Time frame: 2021-2030Context for the ambition(s):Energy planning studies are showing a considerable increase in the energy demand in developing countries. To respond to this demand, several countries are considering the introduction of nuclear power in their energy mix. However, a nuclear power programme is a major undertaking requiring careful planning, preparation and investment in studies, institutions, and human resources. While nuclear power is not alone in this respect, it has specific characteristics because of the safety, security and safeguards requirements associated with using nuclear material. A decision to start a nuclear power programme should be based on a commitment to use nuclear power safely, securely and peacefully and should recognize the need for adequate financial and human resources to implement the programme successfully. To respond to the Member States needs, the IAEA established an integrated programme to support countries interested in nuclear power. This programme involves all relevant technical and managerial areas and includes capacity building activities, expert missions and peer review services. |

**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.]***

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| Target(s): IAEA supporting Member States in their objectives of net zero emissions by 2050, including using nuclear power together with renewable energy in electrification, use of clean heat, production of hydrogen, etc., to contribute to the clean energy transition.Time frame: 2021-2050Context for the ambition(s): Mandate of the IAEA, 32 Member States operating Nuclear Power today, about 30 other Member States considering the introduction of Nuclear Power. |

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| **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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| *Description of action (please specify for which ambition from Section 1)* **Capacity Building in Energy Planning:**The IAEA has provided a suite of energy planning tools (covering energy demand, energy supply strategies, financial analysis of electricity system expansion, etc.) for free to its Member States, as part of various national or regional technical cooperation programmes.The IAEA has extensive experience in building and reinforcing national capabilities to conduct energy system analysis, so that countries can assess options and develop their own sustainable, climate-friendly energy strategies. Capacity building activities in energy system analysis and planning of the IAEA are organized around the development and maintenance of IAEA’s energy system assessment tools, online support and sessions, various types of trainings, multi-lingual approach and technical assistance for elaboration of sustainable energy strategies. These activities are aimed to build and sustain local expertise as well as to support decision and policy making in countries by transferring modern planning tools and methodologies to national teams, increasing knowledge and reinforcing skills that many countries are lacking in this domain**Peer Review and Advisory Service:** The IAEA will continue to provide peer reviews and advisory services in different areas, including infrastructure, regulatory framework, safety operation, waste management, etc., to ensure nuclear energy will continue to play its unique role in achieving the objectives of SDG 7 and the net zero transition. For example, the IAEA can offer its Member States the Integrated Nuclear Infrastructure Review (INIR) service, a holistic peer review to assist Member States in assessing the status of their national infrastructure to ensure the introduction or expansion of nuclear power programmes will be conducted in a safe, secure and sustainable manner. Since 2009, 33 INIR missions have been conducted in 23 countries including in 7 Sub-Saharan African countries. **Gender Equality Action Plan:**Committing to mitigating the gender gap and empowering women in the nuclear sector. The IAEA has set clear gender policy and action plan to facilitate creating a more gender balanced workforce within the IAEA and the nuclear sector more broadly, such as increasing the ratio of women in total Professional and higher categories from current 35% to 50% by 2025 and implementing gender mainstreaming in its programmes and activities including in energy planning related training and peer review and advisory service. In order to address the root cause of gender gap and attract more girls and young women to pursue their career in nuclear science field, the Marie Sklodowska Curie Fellow Program (MSCFP) was launched in 2020, which will each year support 100 or more girls and young women for their master’s degree study in various nuclear subjects worldwide. By 2030, at least 1000 female graduates will be supported by MSCFP. | *Start and end date* *On-going work* |
| *Description of action (please specify for which ambition from Section 1)***Capacity Building in Energy Planning:**Supporting the development of the African Continental Power Systems Master Plan (CMP) led by the African Union Development Agency. IAEA’s message tool will be used together with IRENA’s SPLAT model. <https://www.irena.org/newsroom/articles/2021/Sep/IRENA-and-IAEA-Selected-to-Help-African-Union-Develop-Continental-Power-Master-Plan-with-EU-support>  | *Start and end date*  |
| *Description of action (please specify for which ambition from Section 1)***Contribution of nuclear power to net zero goals:**As part of its Mandate, the IAEA is supporting its Member States in the peaceful use of nuclear energy, including technical and economic assessment of nuclear power, its contribution to climate change mitigation, and its contribution to decarbonize the electricity sector but also non-power applications such as heat, hydrogen, or desalination. The IAEA will participate in the COP27 (and other future climate/energy events) in various events to contribute to highlight the contribution of nuclear power and more generally nuclear technologies, to Climate Change mitigation, the transition towards clean and resilient energy systems and sustainable development goals. | *Start and end date* *On-going work* |
| *Description of action (please specify for which ambition from Section 1)***Contribution to the gender equality:**The Agency will continuously work closely with its partners and donors to ensure sufficient resources can be mobilized to ensure the sustainability of MSCFP. | *Start and end date*  |

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| **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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| *Outcome*Train 700 professionals from IAEA Member States in the use of Agency’s energy planning tools in the next biennium (2022-2023) | *Date* 2022-2023 |
| Training of national, regional, and interregional modelling teams, development of the models (e.g., Africa with the Continental Masterplan Project, Latin America, Asia, Europe) and assist on the dissemination of the outcome of the studies.  | 2022-2023 |
| Organize the 2nd International Conference on Climate Change and the Role of Nuclear Power | 2023 |
| Conducting INIR (Integrated Nuclear Infrastructure Review) phase 3 in 1 country to support their first nuclear power generation by 2023 Conduct 3 INIR phase 1 in new embarking countries including 1 in Sub-Saharan African region. | 2022-2023 |

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| **SECTION 4: REQUIRED RESOURCES AND SUPPORT** 4.1. Please specify required finance and investments for **each** of the actions in section 2.

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| Agency regular budget and possibly Extra Budgetary Funding resources  |

4.2. [For countries only] In case support is required for the actions in section 2, please select from below and describe the required support and specify for which action. *[Examples of support for Member States could include: Access to low-cost affordable debt through strategic de-risking instruments, capacity building in data collection; development of integrated energy plans and energy transition pathways; technical assistance, etc.]*

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| [ ] Financing | *Description* |
| [ ]  In-Kind contribution  | *Description* |
| [ ]  Technical Support  | *Description* |
| [ ]  Other/Please specify  | *Description*  |

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| **SECTION 5: IMPACT** 5.1. Countries planned for implementation including number of people potentially impacted.

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| 150 IAEA Member States use the Agency’s Energy Planning Tools |

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]*

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| * To contribute to SDG 13. Nuclear Power has avoided 70-78 Gt CO2 in the past five decades and is avoiding more than 1 Gt CO2 each year with the current fleet.
* To contribute to SDG 8. For example, in Europe, each gigawatt of installed nuclear capacity generates €9.3 billion in annual investments in nuclear and related economic sectors and provides permanent and local employment to nearly 10,000 people. To contribute to SDG 9, nuclear is demonstrated it can contribute to the resilience of the energy infrastructures in extreme weather conditions and drive the scientific development of other fields.
* To contribute to SDG 5 with gender action through initiatives taken by the Agency to achieve gender parity by 2025
* To contribute to SDG 12 by using less mineral materials per kWh generated compared to other low-carbon technologies (IEA critical minerals report, 2021) and by supporting the sustainable, safe, secure, reliable and economic management of the fuel cycle.
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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]*

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| Energy planning support to Member States provided by the IAEA helps countries develop their energy plans to meet SDGs and Paris Agreement objectives. For some countries choosing the nuclear option, nuclear power will help decarbonize electricity and non-electric sectors.  |

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| **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.

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| Internal Agency key performance indicator targets |

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| **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?* [x] Yes [ ] No *I.2. Does the Energy Compact increase the geographical and/or sectoral coverage of SDG7 related efforts?* [x] 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?* [x] 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?* [x] 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?* [x] Yes [ ] No*II.3. Has the Energy Compact considered a timeframe in line with the Decade of Action?* [x] 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?* [x] Yes [ ] No*III.2. Has the Energy Compact considered energy-related targets and information in the updated/enhanced NDCs?* [x] Yes [ ] No*III.3. Has the Energy Compact considered alignment with reaching the net-zero emissions goal set by many countries by 2050?* [x] 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?* [x] Yes [ ] No*IV.2. Does the Energy Compact identify steps towards an inclusive, just energy transition?* [x] 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)?* [x] 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?* [x] Yes [ ] No*V.2. Has the Energy Compact considered inclusion of a set of SMART (specific, measurable, achievable, resource-based and time based) objectives?* [x] 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)?* [x] Yes [ ] No |

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| **SECTION 8: ENERGY COMPACT GENERAL INFORMATION** 8.1. Title/name of the Energy Compact

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| “Supporting Member States in their Clean Energy Transition” |

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)

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| International Atomic Energy Agency |

8.3. Lead entity type

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| [ ]  Government [ ]  Non-Governmental Organization (NGO) [ ]  Private Sector  | [ ]  Local/Regional Government[ ]  Civil Society organization/Youth [ ]  Philanthropic Organization  | [x]  Multilateral body /Intergovernmental Organization [ ]  Academic Institution /Scientific Community [ ]  Other relevant actor  |

8.4. Contact Information

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8.5. Please select the geographical coverage of the Energy Compact [x] Africa [ ] Asia and Pacific [ ] Europe [ ] Latin America and Caribbean [ ] North America [ ] West Asia [x] Global 8.6. Please select the Energy Compact thematic focus area(s)[x]  Energy Access [x]  Energy Transition [x]  Enabling SDGs through inclusive just Energy Transitions [x]  Innovation, Technology and Data [x]  Finance and Investment. |

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| **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. <https://www.iaea.org/topics/energy-planning/energy-modelling-tools><https://www.iaea.org/newscenter/news/planning-for-a-sustainable-future-energy-experts-in-latin-america-and-caribbean-analyse-future-demand-with-iaea-support> <https://www.iaea.org/topics/economics/energy-economic-and-environmental-analysis/climate-land-energy-water-strategies> <https://www.iaea.org/topics/nuclear-power-and-climate-change><https://www.iaea.org/newscenter/news/with-just-100-days-before-climate-conference-iaea-highlights-nuclears-contribution-to-mitigation-and-adaptation><https://www.iaea.org/topics/climate-change/solutions-for-climate-change> <https://www.iaea.org/sites/default/files/20/10/integrated-work-plan-an-isrs-strategic-planning-framework-to-support-member-states-in-introducing-nuclear-power.pdf> <https://www.iaea.org/topics/infrastructure-development/milestones-approach>  |