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SDG7 Energy Compact of Sustainable Water and Energy Solutions Network
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]*
(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)

☒ **7.1.** By 2030, ensure universal access to affordable, reliable and modern energy services.	Target(s): ASAZGUA is committing to produce at least 30% of the electricity demanded (T7.1) by the overall country of Guatemala during the three dry months of the year using renewable energy. ASAZGUA will also produce additional electricity throughout each year to feed the national grid contributing to energy access in the country of Guatemala (T7.1). Additionally, ASAZGUA is committed to increase its production of ethanol for transportation purposes by 20% from the 2020 level and to develop a new form of bioenergy from biological residues. Time frame: 2021-2030 ITAIPU: increasing access to reliable renewable energy through investments in the modernization of transmission and distribution systems associated to the ITAIPU hydropower plant in Paraguay and Brazil Time frame: 2021-2025 Context for the ambition(s): ASAZGUA: Increase production of ethanol by 20% to cover local and international demand (from baseline of 173 million liters in 2020). ITIAPU: Increasing access to reliable energy through two major investments in infrastructures and technologies in Paraguay and Brazil.
☒ **7.2.** By 2030, increase substantially the share of renewable energy in the global energy mix.	Target(s): ASAZGUA and CANAL have committed themselves to expand their generation of electricity to cover 100% of their own electricity demand with 100% renewable or clean energy sources (T7.2) through different technologies including bioenergy and solar energy (among others) by 2030. Time frame: 2021-2030 Context for the ambition(s): ASAZGUA: By 2030, to produce 100% of the electricity necessary (from renewable sources) to self-supply the Company's activities (from 93% in 2020) CANAL: By 2030, to produce 100% of the electricity necessary (from renewable and clean sources) to self-supply the Company's activities (from 74% in 2020). Increase the installed capacity of electricity production to go from an installed capacity of 107 to 157 megawatts in 2030.
☒ **7.3.** By 2030, double the global rate of improvement in energy efficiency.	Target(s): ITAIPU, ASAZGUA and CANAL are committed to implement programs related to increases in energy efficiency (T7.3) in their systems and operations. They are also committed to implement capacity development activities designed for the dissemination of knowledge and experiences that will support an accelerated satisfaction of SDG 7 and its targets. Time frame: 2021-2030 Context for the ambition(s): ASAZGUA: Increase by 30% the investment in research and development, particularly that oriented to improving the acquisition, efficient use and management of energy (from baseline of (US$ 100,000 in 2020). CANAL is committed to increase the company's energy efficiency by 2025, in which the goal is saving 6.8%, that is, 34,830 MWh in relation to base consumption. ITAIPU is committed to financially support two major investment programs designed to improve efficiency in transmission and distribution of electricity from ITAIPU power plant in Paraguay and Brazil.

☐ **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): ITAIPU is committed to implement a major capacity development program until 2030 to disseminate knowledge, experiences and lessons learned regarding energy access, efficiency and renewable energy covering relevant technologies and policies. The focus of these activities is the Latin American region (in particular Brazil and Paraguay) but it could possibly reach beneficiaries all over the world. ITAIPU program to disseminate knowledge and for training activities regarding energy access, efficiency and public policies focuses in three instruments: (1) development and dissemination of 10 publications annually with partner institutions; (2) capacity development activities including courses, seminars, videos, documentaries related to SDG 7; and (3) educational field trips to ITAIPU areas where socio environmental activities related to SDG 7 are being conducted. CANAL is carrying out development cooperation actions to improve research and new technologies that support the production of renewable energies and energy efficiency for the development of actions focused on the integral water cycle. ASAZGUA conducts capacity development activities and research and development supporting bioenergy. Time frame: 2021-2030 Context for the ambition(s): ITAIPU is committing for this capacity development program investments of about $0.5 million per year up to 2030. CANAL will carry out these activities in selected developing countries. ASAZGUA conducts these activities supporting countries in Central America.
☐ **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): ITAIPU is committed to financially support two major investment programs related to infrastructure and upgrading of technology during the 2021-2025 period: (1) a program in Paraguay to strengthen the electrical transmission and distribution network and (2) a program in Brazil to upgrade the electric power transmission system of high voltage direct current (HVDC) of FURNAS associated with ITAIPU Hydroelectric Power Plant. These programs are designed to improve reliability, efficiency (T7.3) and access of electricity (T7.1) in these countries. Time frame: 2021-2025 Context for the ambition(s): ITAIPU has committed to invest $200 million in the transmission and distribution enhancement program in Paraguay and additional $200 million in Brazil for the upgrading of the electric power transmission system of high voltage direct current (HVDC) of FURNAS.

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): Time frame: Context for the ambition(s):

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].*

Description of action (please specify for which ambition from Section 1)	*Start and end date*
Action 1 - For ambitions 7.1, 7.3, 7.a and 7.b, ITAIPU will undertake: 1. Investment of about $200 million for the improvement of the electrical transmission and distribution systems in Paraguay consequently helping to improve reliability and access of electricity in the country. This objective will include: (1) acquisition of equipment and material for expansion, improvement and maintenance of transmission and distribution systems; (2) technical assistance for the inspection and supervision of the electrical works; (3) acquisition of the new commercial management system; (4) assembly and commissioning of compact substations; and (5) strengthening of transmission lines.	*2021 -2025*
2. Investment of about $200 million for the upgrading of the electric power transmission system of high voltage direct current (HVDC) of FURNAS in Brazil associated with ITAIPU Hydroelectric Power Plant consequently helping to improve reliability and access of electricity in the country. This objective will include: (1) modernization of the HVDC system to extend the service life of all related facilities; (2) maintaining reliability and continuity of the public services provided by FURNAS; (3) ensuring operational flexibility for ITAIPU; and (4) strengthening the quality and reliability of transmission services.	*2021-2025*
3. Capacity development investments of about $0.5 million per year up to 2030 to disseminate knowledge and for training activities regarding energy access, efficiency and public policies focusing in three instruments: (1) development and dissemination of 10 publications annually with partner institutions; capacity development activities including courses, seminar, videos, documentaries related to SDG 7; and (3) educational field trips to ITAPU areas where socio environmental activities related to SDG 7 are being conducted.	*2021-2030*

Action 2 - For ambitions 7.1, 7.2, 7.3 and 7.a ASAZUGA will undertake: 1. Continue producing electricity for the operation of the sugar mills and to cover at least 30% of the electricity demanded in the country, all by using 100% of the residue biomass (bagasse) obtained during sugar production which is renewable energy. 2. Increase production of ethanol by 20% to cover local and international demand. 3. Increase 30% of the investment in research and development, particularly that intended to improve the generation, use and management of energy. 4. Development of one new source of renewable energy (from harvest residues) to help substitute fossil fuels. Action 3 - For ambitions 7.2, 7.3 and 7.a CANAL will undertake: 1. By 2030, to produce 100% of the electricity necessary to self-supply the Company's activities, and that this electricity be renewable and/or clean. 2. To increase the company's energy efficiency by 2025, in which the goal is saving 6.8%, that is, 34,830 MWh in relation to base consumption. 3. Increase activities that encourage the circular economy in the company's production processes and production, through the generation of initiatives based on the bioeconomy such, the production of green hydrogen, the valorization of sludge to produce fertilizers or biofuel for vehicles. 4. Increase the installed capacity of electricity production, although energy efficiency will be increased, to go from an installed capacity of 107 to 157 megawatts, the excess of the electricity produced will be delivered to the central system or grid. 5. To carry out development cooperation actions to improve research and new technologies that support the production of renewable energies and energy efficiency for the development of actions focused on the integral water cycle in developing countries.	*2021-2030* *2021-2030* *2021-2030* *2021-2030* *2021-2030* *2021-2030* *2021-2030* *2021-2030* *2021-2030* *2021-2030*
Description of action (please specify for which ambition from Section 1)	*Start and end date*
Description of action (please specify for which ambition from Section 1)	*Start and end date*

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].*

Outcome	*Date*
For all actions: 1. The cumulative energy produced by the energy efficiency programs in terms of GWh. (ASAZGUA, CANAL) 2. Number of projects and cooperation agreements developed related to capacity building and training courses measured by the number of seminars, courses, videos, articles, documentaries and people trained including savings through educational field trips. 3. Financial progress level of the investments for the implementation of these commitments (in USD equivalent), according to the project timeframe. 4. The percentage of self-generated electricity with respect to the total electricity used by the organizations in their own activities (ASAZGUA, CANAL). 5. The percentage of electricity generated with renewable energy with respect to the total electricity consumed in the operations of the organizations (ASAZGUA, CANAL). 6. The number of new infrastructures installed and commissioned and their generation capacities for the production of new electricity based on renewable energies in terms of kWh (ASAZGUA, CANAL). 7. Physical and financial progress level of the modernization of the transmission and distribution systems associated to the ITIAPU hydropower plant, according to the project timeframe.	2021-2030

8. Volume of ethanol produced for transportation by ASAZGUA (cubic meters per year) 9. Percentage of investment in Research and Development by ASAZGUA in energy related projects.	

SECTION 4: REQUIRED RESOURCES AND SUPPORT

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

Finance and investments:
Action 1 - ITAIPU has committed to invest, by 2025, $200 million in the transmission and distribution enhancement program in Paraguay and additional $200 million in Brazil for the upgrading of the electric power transmission system of high voltage direct current (HVDC) of FURNAS. ITAIPU is also committed to invest about $500,000/year until 2030 in capacity development activities that support SDG 7.

Action 2 - ASAZGUA expect that sugar companies, members of the organization, will continue to invest with private funds, subject to some conditions needed to be fulfilled for the investments to be successful. This is mostly achieved through continuing alliances.

Action 3 - CANAL has planned investments of more than 80 million Euros for the next 10 years for these commitments.

The actions also depend on the following partnerships:
Action 1 – ITAIPU partnerships: The capacity development program is in partnership with the Itaipu Technological Park, academia and governmental organizations. The electrical transmission and distribution enhancement program in Paraguay is conducted in partnership with ANDE the National Electricity Administration of Paraguay which is the executing agency. The program for the upgrading of the electric power transmission system of high voltage direct current (HVDC) of FURNAS is implemented by FURNAS Centrais Elétricas which is the executing agency.

Action 2 – ASAZGUA partnerships: members of the Sugar Agroindustry of Guatemala, academia, local governments

Action 3 – CANAL partnerships: the municipalities in the territory of the Community of Madrid, Spain

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.]

☐Financing	*Description*
☐ In-Kind contribution	*Description*
☐ Technical Support	*Description*
☐ Other/Please specify	*Description*

SECTION 5: IMPACT

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

The geographic coverage is as follows:
1. ITAIPU capacity development program is designed to have coverage of the Latin American region but could expand to a global level.
2. ITAIPU transmission and distribution enhancement program will cover the country of Paraguay. Upgrading of the electric power transmission system of high voltage direct current (HVDC) of FURNAS will cover the South, Southeast and Midwest regions of Brazil.
3. ASAZGUA renewable electricity and ethanol programs will impact the overall country of Guatemala.
4. ASAZGUA capacity development and research activities support bioenergy development in countries of Central America.
5. CANAL electricity program will impact the Community of Madrid in Spain.
6. CANAL capacity development activities support selected developing countries.

The beneficiaries are as follows:
ITAIPU: the capacity development program is expected to benefit at least about 2,500 people per year. The program on the electrical transmission and distribution enhancement in Paraguay will benefit 1.6 million users. Upgrading of the electric power transmission system of high voltage direct current (HVDC) of FURNAS will benefit about 56.8 million users in Brazil.
ASAZGUA: 100% of the 22 departments of Guatemala, as each of them will receive electricity generated by the sugar agroindustry of the country. Almost 4.9 million households will benefit from it.
CANAL: 174 municipalities in the territory of the Community of Madrid, Spain, whose beneficiaries will be the citizens of these municipalities (6.7 million persons).

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]

The commitments by ITAIPU, ASAZGUA and CANAL cover Target 7.3 on improving energy efficiency and 7.a on enhancing international cooperation through capacity development. ASAZGUA and CANAL also cover Target 7.2 on increasing substantially the share of renewable energy. Other commitments by ITAIPU and ASAZGUA cover Target 7.1 on energy access. ITAIPU also covers Target 7.b on expanding infrastructure and upgrading technology.

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]

The commitments by the three members of the Sustainable Water and Energy Solutions Network - ITAIPU, CANAL and ASZAGUA - support all the objectives of the Paris Agreement since they translate into the reduction of GHG emissions and accelerate the transition to clean and renewable energy. All the commitments are within the framework for financial, technology and capacity development support and contribute to the goal of limiting global warming preferably to 1.5 degrees Celsius compared to pre-industrial levels.

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.

Annual Sustainability reports and financial reports. For the electrical transmission and distribution enhancement program in Paraguay and the upgrading of the FURNAS HVDC transmission system in Brazil, periodic reports on progress in the implementation of these projects will be issued.

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

Sustainable Water and Energy Solutions (SWES) Network

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)

SWES Network, Itaipu Binacional (ITAIPU), Sugar Agroindustry of Guatemala (ASAZGUA), Canal de Isabel II (CANAL)

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

SWES Network: Ivan Vera (vera@un.org) ; Isabelle Marantz (mckusick@un.org)

ITAIPU: Paraguay- Maria Eugenia Alderete: alcormar@itaipu.gov.py
Brazil- Ligia Leite Soares: ligial@itaipu.gov.br/ Romeu de Bruns: romeu@itaipu.gov.br

ASAZGUA: Luis Fernando Salazar (lsalazar@azucar.com.gt)

CANAL: David Peral (dperalpo@canal.madrid)

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.

Preamble
The Sustainable Water and Energy Solutions Network recognizes the need to significantly increase the scale and speed of actions necessary to achieve SDG 7 (energy), in an integrated manner with actions supporting SDG 6 (water) and helping to advance all SDGs always in line with the goals of the Paris Agreement on Climate Change.

The Sustainable Water and Energy Solutions Network through its current Energy Compact provides commitments from some of its members to advance these goals through effective, specific and trackable actions.

The Energy Compact reflects the current commitments of three of the members of the Sustainable Water and Energy Solutions Network and will be updated periodically as more members add additional commitments that directly or indirectly support the goals and targets of SDG 7.

As of August 2021, the three members of the Sustainable Water and Energy Solutions Network which have made voluntary commitments for this Energy Compact include: Itaipu Binacional (ITAIPU - the binational hydropower organization of Brazil and Paraguay), ASAZGUA (the Sugar Agroindustry of Guatemala), and Canal de Isabel II (CANAL - the water company of the Madrid Region from Spain).

Principles
The Sustainable Water and Energy Solutions Network commits to the following principles:

The Network recognizes energy’s fundamental connection to delivering the Sustainable Development Goals and commits to actions to achieve SDG 7 and to reduce inequality, enhance quality of life, and improve human development, always recognizing the importance of following an integrated approach to energy and water.

The Network commits to supporting the achievement of universal access to sustainable energy, increasing substantially the share of renewable energy use and improving considerably energy efficiency by 2030. The commitments by the participating members are based on effective and ambitious actions in systems, programmes and projects of these members of the Network.

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The Network commits to promote the energy transition by supporting ambitious actions by its participating members on sustainable energy targets, consistent with accelerated actions to SDG 7 in line with the goals of the Paris Agreement on Climate Change and complementary to Nationally Determined Contributions.

The Network commits to promote new partnerships to support the realization of the commitments presented by its participating members in this Energy Compact.

The Network commits to support the effective actions by its participating members related to the collection, development, and sharing of data, linked to SDG 7 indicators and energy transition to achieve the commitments presented in this Energy Compact.