SDG7 Energy Compact of EarthSpark International
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): Deploy electric cooking solutions powered by solar microgrids for over 1,500 households (9,000+ people) in Southwestern Haiti and demonstrate potential for significant scale-up for microgrid-powered electric cooking. Time frame: 2021 - 2026 Context for the ambition(s): Currently, over 97% of Haitian households utilize woodfuels, charcoal, and kerosene for cooking which causes significant negative health impacts from exposure to household air pollution while also limiting socioeconomic development and exacerbating gender inequalities. EarthSpark currently operates two solar hybrid microgrids in Haiti and will be expanding this portfolio of microgrids to serve 22 additional communities with 100% renewable energy power systems over the next five years as part of a project with the Green Climate Fund. In 2020, EarthSpark International conducted an innovative research project with the Modern Energy Cooking Services (MECS) initiative deploying modern electric cooking solutions (electric pressure cookers and electric induction stoves) for 20 households connected to EarthSpark's solar microgrid in Les Anglais, Haiti and 8 households connected to a SUNSPOT electric cooking solar home system. The project demonstrated that electric cooking can not only be effectively integrated into solar microgrid models for energy access, but also can help drive socio-economic development for participants and improved operations for microgrid models. EarthSpark is now looking to massively scale up electric cooking alongside the planned microgrid expansion deploying electric cooking solutions for at least 10% of its customer base and creating a foundation for a robust electric cooking market in Haiti.
☐ **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):
☐ **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): Time frame: Context for the ambition(s):

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

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) 2.1.1 Refinement of the electric cooking business model for solar microgrids including elaboration of tariff structures and incentives, identification of finance streams (especially results-based financing, pay as you save models, and climate finance) to support accessibility/affordability for rural households, as well as technological innovation for the devices themselves including improved data monitoring and reporting and smart controls.	*January 2022 – June 2023*
Description of action (please specify for which ambition from Section 1) 2.1.2 Deployment of electric pressure cookers and electric induction cooktops for at least 1500 households connected to EarthSpark's 100% solar microgrids.	*January 2022 – June 2026*
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 2.1.1. Outcome: By 2023, a validated model for offering electric cooking services to an average of at least 10% of microgrid customers in a way that enhances the overall microgrid business model 2.1.2. Outcome: By 2026, at least 1500 households have reduced their charcoal/woodfuel consumption by over 70% (scaling to 100% over time) leading to reduced exposure to household air pollution, increased time savings and convenience (especially for women), and economic savings compared to baseline fuels.	*2022 – 2026* *2.1.1 will be accomplished by June 2023* *2.1.2 will be accomplished by June 2026*

SECTION 4: REQUIRED RESOURCES AND SUPPORT

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

Critical innovation funding and partnerships will be needed initially to position the electric cooking model for scale within EarthSpark's solar microgrids.

For 2.1.1, this will include:

- Econometric research for identifying the appropriate tariff and incentive frameworks for electric cooking solutions and customers ($40k)
- Technological innovation for electric cooking devices including improved data-collection and verification, cooking-specific predictive and dynamic smart-controls for microgrid operators and customers, and better tailored language/instructions for customers. ($700K)
- Identification and validation of supporting finance streams, particularly results-based financing and climate finance either on a per kWh or a per connection basis to support long-term market development, adoption, affordability/accessibility, and utilization of electric cooking solutions over charcoal fuels. ($140k)

For 2.1.2, this will include:

- electric cooking appliances and home connection costs ($350k)

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.

Haiti - 1500 households and over 9000 people supported with clean cooking solutions

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]

Clean cooking can significantly contribute to a variety of SDG goals, particularly when deployed in concert with energy access microgrids as planned above. Specifically, the following high-level alignment with the SDG framework is expected:

- **Goal 1: No Poverty** – With the right support, electric cooking can reduce household expenditures on charcoal and woodfuels which have been steadily increasing in price. These savings can then be utilized to address other household needs like education, income activities, etc.
- **Goal 2: Zero Hunger** – While primarily focused on the methods of cooking and not the availability of food itself, electric cooking still supports the goal of zero hunger by improving cooking practices and enabling more convenient and effective cooking options for vulnerable households as well as saving money which can be utilized to support household food expenditures (among other items like education, income activities, etc.)
- **Goal 3: Good Health and Well Being** – Electric cooking powered by solar microgrids directly eliminates dangerous household air pollution and associated health risks like COPD, lung cancer, pneumonia, etc. which globally kills over 3 million people per year (including over 11,000 Haitians).
- **Goal 5: Gender Equality** – Because women predominately are responsible for cooking in Haitian households, electric cooking can reduce exposure to harmful household air pollution, while also decreasing time-intensive cooking and fuel procurement tasks, allowing women and girls to pursue other activities, such as education, earning income, or rest. Also, reducing and redistributing unpaid care work including cooking and fuel collection is vital to the economic and social empowerment of women and girls and their household, community and national economies.
- **Goal 7: Affordable and Clean Energy** – Electric cooking as a key strategy for integrated electrification and energy access
- **Goal 9: Sustainable Cities and Communities** – The project is focused on creating models for sustainable climate resilient utility services in municipalities through public-private partnerships
- **Goal 13: Climate Action** – Electric cooking provides for climate mitigation pathways through reduction of kerosene and biomass fuels for cooking and the associated emissions (particularly black carbon). Additionally, by enhancing the business models for solar microgrids and climate smart utility services, electric cooking can help to scale impact and create new incentives for investments in low-emission development.

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]

Electric cooking, especially when powered by 100% solar microgrids, eliminates downstream GHG emissions from household cooking which is estimated to contribute 1.9-2.3% of global greenhouse gas emissions annually). This transition aligns with the Paris Agreement and net-zero by 2050 goals. Further, energy access and clean cooking are all embedded in national priorities for Haiti, particularly national planning and communication on climate change. In 2013, Haiti developed its Second National Communication on Climate Change which established priority action areas for mitigation and adaptation as well as sample project structures including projects for "encouraging less woodfuel-consuming patterns of use" and measures for substitution/use of wood products, particularly charcoal. [1] Following the Second Communication, Haiti developed its Intended Nationally Determined Contribution (INDC) [2] in 2015 which further establishes the goals to increase the share of solar and renewable energy and specifically to reduce emissions 31% by 2030 and specifically to "promote the use of energy-efficient stoves by replacement of traditional fireplaces" and to "reduce wood energy consumption by 32% by 2030." Finally, the Haiti National Energy Sector Development Plan (NESDP) 2007 — 2017[3] - introduced measures for reducing wood fuel use including 25% of urban biomass use switched to new energy sources and the dissemination of improved cookstoves to 17% of families in urban areas.

[1] Haiti Second National Communication on Climate Change (2013), Available at: https://unfccc.int/resource/docs/natc/htinc2.pdf

[2] Haiti Intended Nationally Determined Contribution (2015), Available at: https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Haiti/1/CPDN_Republique%20d'Haiti.pdf

[3] Haiti National Energy Plan; Available at: http://www.bme.gouv.ht/energie/National_Energy_Plan_Haiti_Revised20_12_2006VM.pdf

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.

Electric cooking customers and their consumption will be integrated into EarthSpark's internal operations reporting as well as quarterly reporting for donors and the Haitian energy regulator. This reporting will include the number of customers, number of cooking events, electricity consumption (kWh), etc. Further, as EarthSpark works to develop/integrate specific methodologies for results-based financing and climate finance (ex. MECS) additional reporting and verification protocols will be integrated to monitor and verify the emissions benefits and social utilization of electric cooking.

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

Multi-solving for clean cooking and electricity access in Haiti

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)

EarthSpark International (NGO, http://www.earthsparkinternational.org/)

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

Allison Archambault, President; allison@earthsparkinternational.org

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.

- MECS/EarthSpark International, “Final MECS Programme Report”, November 2020; Available at: https://mecs.org.uk/wp-content/uploads/2021/02/EarthSpark-Final-Report-LEIA.pdf
- EarthSpark International, “Kwison Elektrik: Solar Power for Electricity Access and Electric Cooking in Haiti”, April 2021; Available at: http://www.earthsparkinternational.org/blog/electric-cooking-can-improve-lives-reduce-emissions-and-boost-microgrids
- EarthSpark International/Green Climate Fund, “SAP013: Scaling Smart, Solar, Energy Access Microgrids in Haiti”, March 2020; Available at: https://www.greenclimate.fund/project/sap013
- Kwison Elektrik Social Media Community
    - Instagram: @kwison_elektrik
    - Twitter: @KwisonElektrik
    - Facebook: @KwisonElektrik