



SDG7 Energy Compact of Switch Electric and Gas Ltd

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)

<input type="checkbox"/> 7.1. By 2030, ensure universal access to affordable, reliable and modern energy services.	Target(s): Switch is an energy company situate at a community in Enugu, East of Nigeria and aims to provide solar energy-based power systems to 100,000 persons Time frame: 2030 Context for the ambition(s): Nigeria
<input type="checkbox"/> 7.2. By 2030, increase substantially the share of renewable energy in the global energy mix.	Target(s): To transition its business operations to 100% renewable energy and to provide energy access to a minimum of 100,000 persons with renewable energy solutions through solar based energy system, green hydrogen technology whilst phasing out carbon emitting power system in its operation areas Time frame: 2025- 2030 Context for the ambition(s): Nigeria
<input type="checkbox"/> 7.3. By 2030, double the global rate of improvement in energy efficiency.	Target(s): To introduce a mobile application to reduce wasteful use of energy on unwanted appliances, by providing over 500,000 persons who will subscribe with accurate data on their energy use through the mobile apps thereby making them more efficient. Time frame: 2025 Context for the ambition(s): Nigeria
<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.	Target(s): To develop infrastructure and monitoring system via a mobile application that provides access to data to over 500,000 persons to support research and development of renewable and energy storage technologies and other carbon free technologies. Time frame: 2025-2030 Context for the ambition(s): Nigeria Target(s): Switch is located in environs of a university in Nigeria, to promote advocacy and campaign on renewable energy, energy efficiency and adoption of carbon free technology options. Time Frame: 2025 Context for ambition: Nigeria
<input type="checkbox"/> 7.b. By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries,	Target(s): To research, develop and invest in technology (wind turbines) for the generation of green hydrogen for domestic use on grid and for export to other African countries., Time frame: 2030 Context for the ambition(s): Nigeria and other African 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): To design and develop decentralized micro grids and Smart Solar systems to allow consumers on the micro grid to generate and sell their own electricity locally. The micro grids is to be deployed in a minimum of 20 communities in Nigeria

Time Frame: 2030

Context for Ambition: Nigeria

Targets(s): To set up a network 1000 Electric Vehicle charging stations and hydrogen refilling stations as a means of facilitating adoption of electrified to decarbonize transportation.

Time Frame: 2030

Context for Ambition: Nigeria

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].

<i>Description of action (please specify for which ambition from Section 1)</i>	<i>Start and end date</i>
<p>Ambition 7.1: To provide solar energy-based power systems to 100,000 persons.</p> <ul style="list-style-type: none"> i. Currently improving our locally manufactured battery storage system to power the solar power systems to be deployed. ii. Developing and upgrading our locally manufactured inverters to support the solar power systems to be deployed. iii. Targeting and aggregating women and women led businesses within our area of operation as our first beneficiaries of the solar power systems when deployed. 	2021- 2030
<p><i>Description of action (please specify for which ambition from Section 1)</i></p> <p>Ambition 7.2: To transition its business operations to 100% renewable energy and out carbon emitting power system in its operation areas</p> <ul style="list-style-type: none"> i. Currently we run on partial solar and grid power (which is carbon emitting). The company is in discussion with a solar panel manufacturing company to deploy solar panel to be installed and to attain 100% renewable energy by end of 2022. 	<p><i>Start and end date</i></p> <p>2021- 2030</p>
<p><i>Description of action (please specify for which ambition from Section 1)</i></p> <p>Ambition 7.3 To introduce a mobile application to reduce wasteful use of energy on unwanted appliances</p> <ul style="list-style-type: none"> i. We have commenced the design of the mobile application to detect energy consuming appliances and how to minimize their consumption. It could also be used to remotely turn off power supply from the meter. 	<p><i>Start and end date</i></p> <p>2021-2030</p>

<p><i>Description of action (please specify for which ambition from Section 1)</i></p> <p>Ambition 7.a: To develop infrastructure and monitoring system via a mobile application that provides access to data to over 500,000 persons to support research and development of renewable and energy storage technologies</p> <p>i. The mobile app is being designed to collate energy consumption data of subscribers and this will serve as a data base to support research and development of energy saving appliances, renewable energy power solutions amongst others</p>	<p><i>Start and end date</i></p> <p>2021-2030</p>
<p><i>Description of action (please specify for which ambition from Section 1)</i></p> <p>Ambition: 7.b- To research, develop and invest in technology (wind turbines) for the generation of green hydrogen for domestic use on grid and for export to other African countries.</p> <p>i. In depth research is ongoing on the possible development and deployment of green hydrogen in Nigeria. The company partners with students organization called ‘Technivarse’ at a local university (University of Nigeria, Nsukka) to carry out this research on green hydrogen and other renewable energy sources. <i>Start and End Date- 2021- 2030</i></p> <p>Ambition 7.b. To design and develop decentralized micro grids , meters and Smart Solar systems to allow consumers on the micro grid to generate and sell their own electricity locally. The micro grids is to be deployed in a minimum of 20 communities in Nigeria</p> <p>i. Developing our locally manufactured batteries to serve as a back up for the solar powered micro grids to be deployed. The company have opened discussions with an estate located in a rural area far from the grid on the possible deployment of the microgrids.</p> <p>ii. Currently prototyping a proprietary bi-directional electricity meter with the purpose of providing electricity to Nigerian rural and urban communities. The meter's ability to operate autonomously in off-grid locations is expected to make it a highly desirable choice in providing sustainable energy solutions. The product, expected to be fully operational by late 2022</p> <p>Ambition 7.b- To set up a network 1000 Electric Vehicle charging stations and hydrogen refilling stations as a means of facilitating adoption of electrified to decarbonize transportation.</p> <p>i. Conducting research on our locally manufactured battery technology to be deployed into electric vehicles and eventually upgraded to charging stations. Research with Technivarse is still ongoing for green hydrogen.</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].*

<i>Outcome</i>	<i>Date</i>
<p>Outcome for Action 1 - Developing and upgrading our locally manufactured inverters to support the solar power systems to be deployed. Targeting and aggregating women and women led businesses within our area of operation as our first beneficiaries of the solar power systems when deployed.- Upon successful testing of our batteries and inverters, it will within 2 years of completion power a minimum of 50 women led small business within our company’s area of operation.</p>	2023
<p>Outcome Action 2- Currently we run on partial solar and grid power (which is carbon emitting). The company is in discussion with a solar panel manufacturing company to deploy solar panel to be installed and to attain 100% renewable energy by end of 2022- This action plan will result on the running of our business operations with 100% renewable power solution (solar power system) by the end of 2022.</p>	2022
	2028

<p>Outcome for Action 3- We have commenced the design of the mobile application to detect energy consuming appliances and how to minimize their consumption. It could also be used to remotely turn off power supply from the meter – The mobile app when fully deployed will improve energy efficiency for the first 500,000 subscribers (estimate of residents within the location of the company) by 50% and will invariably lead to the purchase of more energy efficiency appliances .</p>	2022- 2030
<p>Outcome for Action 4: To develop infrastructure and monitoring system via a mobile application that provides access to data to over 500,000 persons to support research and development of renewable and energy storage technologies: The data collated from the mobile app over a period of 3years and above can be used to aid research and development in energy efficiency.</p>	
<p>Outcome for Action 5.: In-depth research is ongoing on the possible development and deployment of green hydrogen in Nigeria. The company partners with students organization called ‘Techniverse’ at a local university (University of Nigeria, Nsukka) to carry out this research on green hydrogen and other renewable energy sources- This will lead to development of hydrogen technology that is suited for the Nigerian context and will also create opportunity of capacity building and skill acquisition in green hydrogen for about 100 members of students research hub.</p>	2030
<p>Outcome for Action 6: Developing our locally manufactured batteries, meters and inverters to serve as a back up for the solar powered micro grids to be deployed. The company have opened discussions with an estate located in a rural area far from the grid on the possible deployment of the microgrids- The locally manufactured batteries will reduce the incidental additional cost of importing batteries into the country and help provide affordable batteries to power solar systems. The batteries when deployed to a micro grid can power up to 10 more estates within the locality.</p>	2022- 2028
<p>Outcome Action 7: Conducting research on our locally manufactured battery technology to be deployed into electric vehicles and eventually upgraded to charging stations. Research with Techniverse is still ongoing for green hydrogen- Research will help local capacity and skill for the youths in the area of electric vehicles and green hydrogen. This is in addition to advocacy and knowledge to over 5000 residents on the use of electric vehicles.</p>	2022- 2030

SECTION 4: REQUIRED RESOURCES AND SUPPORT

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

Action 1 - Developing and upgrading our locally manufactured inverters to support the solar power systems to be deployed. Targeting and aggregating women and women led businesses within our area of operation as our first beneficiaries of the solar power systems when deployed- Low cost financial investment to improve our research and development of the inverter and then to eventually scale for mass production. Technological support is required to improve on the deficiencies of existing technology. Approximate of \$250,000 annually is required for the first 2 years until product development. Afterwards, a total investment of about \$21.5 million is required to meet the target of providing solar energy- based power system to N100,000 persons.

Action 2- We have commenced the design of the mobile application to detect energy consuming appliances and how to minimize their consumption. It could also be used to remotely turn off power supply from the meter- Financial and technological support to complete the development of the application and to launch it for use. Approximate of \$250,000 annually until the application is fully built and launched.

Action 3: In-depth research is ongoing on the possible development and deployment of green hydrogen in Nigeria. The company partners with students organization called ‘Techniverse’ at a local university (University of Nigeria, Nsukka) to carry out this research on green hydrogen and other renewable energy sources- Policy support to enable Nigeria develop an enabling environment for green hydrogen. Technological and financial support to aid research and eventual deployment of the green hydrogen infrastructure. Training materials to improve capacity building for members of the Techniverse Hub in green hydrogen. \$10million dollars is required to finance research, development and launch of 1000 electric charging and hydrogen refilling stations between 2023 and 2030.

Action 4: Developing our locally manufactured batteries, meters and inverters to serve as a back up for the solar powered micro grids to be deployed. The company have opened discussions with an estate located in a rural area far from the grid on the possible deployment of the microgrids- Financial and technological support to complete development of locally manufactured meters, batteries and inverters. Technological support to implement and deploy micro grids in target off grid rural areas. Approximate of \$250,000 annually is required for the first 2 years until product development.

Action 5-Conducting research on our locally manufactured battery technology to be deployed into electric vehicles and eventually upgraded to charging stations. Research with Techniverse is still ongoing for green hydrogen: Policy support to provide enabling environment to deploy electric vehicles in Nigeria. Technological and financial support to aid research and eventual deployment in Nigeria. Training materials to improve capacity building for members of the Techniverse Hub in electric vehicles. Approximate of \$150,000 annually is required for the first 2 years until product development. Additional funds will be required afterwards to scale up production.

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.]

<input type="checkbox"/> Financing	Description
<input type="checkbox"/> In-Kind contribution	Description
<input type="checkbox"/> Technical Support	Description
<input type="checkbox"/> Other/Please specify	Description

SECTION 5: IMPACT

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

Nigeria and other African countries

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]

Action 1- Developing and upgrading our locally manufactured inverters to support the solar power systems to be deployed. Targeting and aggregating women and women led businesses within our area of operation as our first beneficiaries of the solar power systems when deployed- This aligns with SDG 7 as it will promote access to clean, affordable and modern energy for all. It also promotes SDG9 on fostering innovation and industrialization. The focus on women led businesses will promote SDG 5 to promote gender equality and empower women and girls.

Action 2- We have commenced the design of the mobile application to detect energy consuming appliances and how to minimize their consumption. It could also be used to remotely turn off power supply from the meter- This action plan promotes energy efficiency and thus focuses on SDG 12 by promoting sustainable energy production and consumption patterns. This further aligns with SDG 13 as energy efficiency can help combat climate change and its impact.

Action 3- In-depth research is ongoing on the possible development and deployment of green hydrogen in Nigeria. The company partners with students organization called ‘Techniverse’ at a local university (University of Nigeria, Nsukka) to carry out this research on green hydrogen and other renewable energy sources- This aligns with SDG 7 as it ultimately leads in providing clean and affordable energy for target beneficiaries. It aligns with SDG 4 in ensuring quality and inclusive education in clean and renewable energy education for participants of Techniverse.

Action 4- Developing our locally manufactured batteries, meters and inverters to serve as a back up for the solar powered micro grids to be deployed. The company have opened discussions with an estate located in a rural area far from the grid on the possible deployment of the microgrids- This aligns with SDG 7 in providing modern and affordable power to persons living in off grid rural areas. . It also promotes SDG9 on fostering innovation and industrialization in the renewable energy space. It also aligns with SDG8 in making residents productive economically by engaging in decent work as a result of the availability of power.

Action 5: Conducting research on our locally manufactured battery technology to be deployed into electric vehicles and eventually upgraded to charging stations. Research with Techniverse is still ongoing for green hydrogen- This aligns with SDG7 as it help provide access to modern energy, it also aligns with SDG 13 as renewable energy sources help to combat climate change by reducing carbon emitting technologies. It aligns with SDG 4 in ensuring quality and inclusive education in clean and renewable energy education for participants of Techniverse.

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]

Implementation of Actions 1-5 above aligns with the Paris Agreement as it helps:

- i. Reduce reliance on diesel generators and grid power which is mostly carbon emitting. Reduce reliance will mean reduced production of power from carbon emitting generators.
- ii. Development of green hydrogen technology and electric vehicles will reduce carbon emission in the transport sector thereby contributing to Nigeria’s NDC goal of reducing carbon emission by 50% by 2030.
- iii. Research and development of locally made batteries and inverters will provide more green jobs in line with the NDC of Nigeria and ultimately achieving Net Zero in the long term.
- iv. The mobile application on energy efficiency will help reduce the use of energy consuming appliances thereby reducing climate change and its negative effect. It also provides available data for making policy and business decisions in the attainment of Nigeria’s NDC.

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.

The Company is developing an online reporting system which would make our annual progress reports more easily accessible to the public. With this system in place, regular update of our progress will be made against each of the specific actions set in the UN Energy Compact

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

SWITCH INNOVATIVE AND INCLUSIVE ENERGY COMPACT

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)

Switch Electric and Gas Ltd

8.3. Lead entity type

- | | | |
|--|---|--|
| <input type="checkbox"/> Government | <input type="checkbox"/> Local/Regional Government | <input type="checkbox"/> Multilateral body /Intergovernmental Organization |
| <input type="checkbox"/> Non-Governmental Organization (NGO) | <input type="checkbox"/> Civil Society organization/Youth | <input type="checkbox"/> Academic Institution /Scientific Community |
| <input checked="" type="checkbox"/> Private Sector | <input type="checkbox"/> Philanthropic Organization | <input type="checkbox"/> Other relevant actor |

8.4. Contact Information

www.WhyNotSwitch.com Email: info@whyNotSwitch.com, Mr. Ifeanyi Christwin (CEO)- ichristwin@gmail.com, Chinenye Ajayi (Energy Advisor)- chinenyeajayi@gmail.com

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.