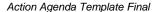


SUSTAINABLE ENERGY FOR ALL (SE4ALL) COUNTRY ACTION AGENDA TEMPLATE

March 2014





This template has been developed in close consultation with SE4ALL partners in order to promote more coherence in the SE4ALL country action process. It is intended to provide guidance to Governments and SE4ALL partners for the development of a SE4ALL Country Action Agenda. It is not intended to be prescriptive; its content is for reference only and can be applied flexibly according to specific country requirements. It is well understood that while a one size fits all approach is neither possible nor desirable, the advantages of an adequate level of consistency are compelling: a powerful brand, the clear articulation of country priorities regarding energy and national development, stronger investor certainty and greater transparency, coherence, coordination and monitoring. It is in this spirit that this template has to be seen.



SE4ALL COUNTRY ACTION AGENDA TEMPLATE

General comments on purpose, scope and content of the SE4ALL Country Action Agenda Template

An SE4ALL Action Agenda process has to be strategy driven and holistic – a novel factor of SE4ALL being that the three targets are discussed together. To avoid SE4ALL being considered like another program, SE4All has to intervene at the higher level as an umbrella framework for the energy sector that also includes the nexus angles (food security, gender, health, water etc.). In this sense, the Action Agenda provides the long-term vision which ensures the overall sector-wide coherence and synergy of the accumulated efforts towards the three goals of SE4All in the country. This is also important in view of a potential energy goal that might emerge out of the post-2015/SDG processes. The Action Agenda will have to be endorsed by Government and national stakeholders. It should naturally serve as the basis for donor coordination and assistance on energy and as a reference document for the private sector and civil society.

The process of developing the SE4ALL Action Agenda is itself of critical importance as it will define the ultimate quality and relevance of the product. It is therefore crucial that there is clear national ownership of the Action Agenda and that its development process is an inclusive exercise of stakeholder engagement led by national authorities. This exercise should bring together stakeholders from all the relevant sectors into one conversation and be endorsed and coordinated at the highest political level in order to optimize its cross-sectoral impact. An indicative outline of the AA development process is therefore included at the end of the template.

The Action Agenda (AA) is envisaged to be generally of a length of 30 up to 50 pages and should be elaborated in a 4-10 month timeframe. There might naturally be variations depending on the specific country context. The time horizon of the Action Agenda should be 2030 in line with the SE4ALL objectives. While it is useful to have long-term planning targets in line with the SE4ALL timeframe, it makes sense to complement the long-term targets with intermediate targets. In any case the Action Agenda should retain flexibility to be adapted to significant changes in the national context. The methodologies and definitions used in the SE4ALL Global Tracking Framework (GTF)¹ should be used to the extent possible.

The Action Agenda should be concise, pragmatic and action oriented building to the extent possible on existing plans (e.g. a country's Integrated Energy Plan) and strategies.

¹ http://www.worldbank.org/en/topic/energy/publication/Global-Tracking-Framework-Report



Executive Summary

A one-page Executive Summary should be included directed at top-level policy makers.

Preamble

The Action Agenda should contain a preamble that makes reference to the guiding principles contained in the Guidelines for Developing National Sustainable Energy for All Action Agendas in Africa that were developed by African stakeholders. The key principles being: (i) Building on existing plans/programmes/strategies; (ii) Political commitment and leadership; (iii) A balanced and integrated approach; (iv) An inter-ministerial and cross-sectoral approach; (v) Adherence to sustainable development principles; (vi) Participation and meaningful involvement of all stakeholders; (vii) Gender equality and inclusiveness; and (viii) Transparency and accountability.

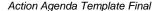
The preamble should state the commitment of the Government to SE4ALL and frame the Action Agenda with regard to the country's overall development objectives (e.g. link to poverty reduction strategy, national development plan etc.).

Introduction

The introduction should provide a brief overview of the country context (inter alia political context, macroeconomic context, socio-economic context, geography and demography) and energy sector context (inter alia energy resources, energy demand and supply, legal, regulatory and institutional framework governing the sector). This section should also include an assessment of the country's finance sector in view of SE4ALL's intention to mobilize investments. This section should provide a basic minimum of information and should refer to other more comprehensive documents as required – reference should also be made to the GTF and the country specific figures contained therein.

Part 1: Vision and Targets until 2030

Part 1 of the Action Agenda should define the country's overall vision for SE4All. This should include a country specific national interpretation of the global SE4ALL targets of ensuring universal energy access, doubling the share of renewable energy and doubling the rate of improvement in energy efficiency – setting the level of SE4ALL ambition for the country. This goal setting has to be based on an assessment of the energy sector development until 2030 notably in relation to energy demand projections. The goal setting step should include outcomes, intermediate targets, as well as risks to implementation. Due consideration should also be given to the





synergies in terms of economies of scale and efficiency that can derive from approaching targets in an interconnected manner (e.g. electrification and roll out of energy efficient appliances at the same time). The emphasis that is being placed on the specific targets varies from country to country depending on the overall needs and priorities (e.g. in Sub-Saharan Africa the energy access agenda is of critical importance whereas in North Africa access is less of a concern).

1.1 Energy Sector trajectory

This section should provide an overall analysis as to the expected energy sector development trajectory (sections 2.1.1, 2.2.1 and 2.3.1 contain the more detailed trajectory for the areas of access, renewables and energy efficiency), including energy demand projections per sector required to meet national development objectives. This trajectory analysis provides the required analytical basis for an informed target setting.

1.2 Energy access target until 2030

Sustainable energy powers opportunity. The energy access target should generally be in line with the initiative's universal access target². The timeline for achieving the target is generally 2030, but countries are naturally encouraged to set more ambitious timeframes if realistic. Even in such cases the overall time horizon of the Action Agenda should, however, remain until 2030. While there is as yet no internationally agreed comprehensive definition of energy access, the Action Agenda should at a minimum consider access to electricity/lighting and clean cooking. In addition it would be helpful to consider the evolving concept of total energy access which addresses energy access for households, productive uses and community services, and the energy supply and technologies that can deliver the needed energy services. The statistics and methodologies contained in the GTF should be used to the maximum extent possible for consistency (noting that access definitions will be improved and updated over time).

1.3 Renewable Energy target until 2030

Renewable energy offers enhanced energy security, reduced import dependency on fossil fuels, improved local environment and health, reduced levels of greenhouse gas emissions, and increased options for access to energy. The renewable energy target defined as renewable energy in the final energy consumption in line with the definition in the GTF should provide an ambitious, yet realistic, target for the share of renewables at country level until 2030. The global objective of doubling the share of renewable might not be in all cases appropriate at the national level. The analysis should – if and when available – build on existing resource assessments and should take into account the cross-border nature of some renewable energy sources (notably hydro). The renewable energy target should specify the share of biomass in the renewable energy target.

² By opting-in to SE4ALL a country has signed up to the SE4ALL targets. However, it is possible in certain well-justified cases to deviate from the universal access target and instead set stretch goals on energy access (for electricity and clean cooking solutions respectively), while also providing additional information on what it would take to reach universal access and by when.



1.4 Energy Efficiency target until 2030

Energy efficiency – getting more from our limited resources through improved technologies and practices – contributes to more profitable business operations, cheaper and more plentiful energy for households, growing economies for countries a cleaner environment and reduced carbon emissions. The energy efficiency target should provide an ambitious, yet realistic target for the rate of improvement in energy efficiency at country level until 2030 in line with the definition in the GTF³. The global target of doubling the global rate of improvement of energy efficiency might not in all cases be appropriate for the national level. The analysis should – if and when available – build on existing analysis of energy efficiency savings potential.

1.5 Relevant nexus targets until 2030

The three overarching targets can be complemented by additional targets addressing important energy nexus issues, such as on energy and health, gender, agriculture, water, rural development, etc.

Part 2: Priority Action Areas

Part 2 should provide an overview of how the country envisages achieving the objectives defined in Part 1 and set out how the SE4ALL Global Action Areas are interpreted and to be pursued. The criteria for identification of priority areas should be on the basis of the guiding principles for the development of national SE4ALL Action Agendas. Criteria may include consideration of physical accessibility and assessment of alternative supply options, e.g. the respective roles of centralized and decentralized; availability of energy resources and reliable supply; affordability and cost-effectiveness; magnitude and speed of impact; financial resource requirements; and sustainability. It will be important to analyse risks related to implementation including appropriate mitigation actions. Where relevant the priority action areas should also take into account the regional context and local content. In general, except in circumstances where a particular Action Area is clearly not relevant, the SE4ALL Action Agenda should try to avoid eliminating any of the Action Areas set out in the Global Action Agenda⁴, and should instead seek to identify which are most relevant and within them where respective priorities might lie for public, private and civil society actions towards the goals.

2.1 Energy Access:

2.1.1 What is the current status and trajectory?

³ It is acknowledged that energy efficiency improvements need to be measured relative to a base case. This can prove difficult in some countries where the electrical industry is virtually non-existent.

⁴ http://www.se4all.org/wp-content/uploads/2014/01/SEFA-Action-Agenda-Final.pdf



The Action Agenda should provide the latest available information on the current situation regarding energy access, both for electricity and for access to clean cooking fuels and provide an analysis as to the current trajectory. The rapid assessment/gap analysis might provide an initial basis for such analysis. The trajectory assessment should link back to the overall energy sector trajectory.

2.1.2 What are the existing plans/strategies and what are the gaps?

This should contain a mapping of existing plans and strategies, such as access strategy, rural electrification plan, sub-sectoral strategies etc. and also identify plans that are missing at this point and which should be developed subsequently to complete the picture. Ideally funding requirements for such additional plans/studies should be identified. Also with regard to existing strategies these will have to be analyzed in light of the overarching objectives as defined at the outset, which might lead to the conclusion that they are not ambitious enough or need to be updated⁵.

2.1.3 What are the actions needed to achieve the overarching objective in the field of energy access?

This part should provide an analysis of how the various SE4ALL Action Areas as set out in the Global Action Agenda could combine at country level to achieve the targets – it should respond to both centralized (on-grid) and decentralized (off-grid or mini-grid) energy access options taking into account the cross-sectoral dimension of energy access (i.e. impact on health, water, etc.). It is recommended that top level indicative costing of the activities is provided, as well as an assessment of the risks (political, economic, social & environmental, financial, and implementation) and their mitigation.

- 2.1.3.1 Grid infrastructure and supply efficiency: this action area includes the expansion of grid infrastructure to areas or people without access to electricity; reinforcing transmission and distribution infrastructure so as to reduce losses and improve reliability, measures to reduce commercial losses, measures that increase the efficiencies of energy generation and supply infrastructure (e.g. improving the thermal efficiency of power plants), and smart grid solutions and grid-scale storage that would improve the efficiency of advanced grids. It should also consider non-technical solutions such as revenue management, safety, marketing and customer service outcomes.
- 2.1.3.2 Distributed electricity solutions: this action area includes all distributed options for electrification, which range from island-scale grid infrastructure to minigrids to individual household systems. This area should also identify and prioritize specific solutions for providing energy services, including mechanical power, for productive uses, community services and household needs to rural and other communities that do not have access to grid-based energy services. Ultimately some of these systems may be connected to the grid. The African Strategy for Decentralized Energy Services Delivery (DESD) provides a framework for

 $^{^5}$ When assessing existing plans ownership and implementation structures and track record should be considered.



analysing decentralized energy access solutions, eliminating barriers to their implementation at scale, and incorporating decentralized solutions into national SE4ALL Action Agendas. The regulatory framework will be crucial to determine the ease of access/constraint that will be encountered.

- 2.1.3.3 Modern cooking appliances and fuels: this action area includes all options that enable households to shift to cleaner fuels and stoves, including cookstoves fuelled by cleaner fuels such as biogas, solar, ethanol, propane, LPG, and advanced biomass cookstoves.
- 2.1.3.4 Other priorities (this can, for example, include demand side management initiatives)

2.1.4 Which (global) High-Impact Opportunities are relevant?

High-Impact Opportunities (HIOs) are sectors or categories of action that have been identified as having significant potential to advance the 3 SE4ALL objectives globally. They serve as a collective forum for stakeholders working on various High Impact Initiatives (i.e. targeted on the ground programs or projects in support of SE4ALL) within the same general sub-sector (such as on mini-grids, or biofuels). Approximately 50 HIOs have been identified to date. Annex 1 contains the current list of formalized HIOs (an updated version of this list can be obtained from the Global Facilitation Team). It is recommended to identify relevant HIOs and involve the HIO co-leaders in the development of priority actions in the concerned field, enabling maximum potential for targeted follow-up support and investment.

2.2 Renewable Energy:

2.2.1 What is the current status and trajectory?

The Action Agenda should provide the latest available information on the current situation regarding the share of renewables and an analysis of the trajectory for the share of renewables until 2030. The rapid assessment/gap analysis might provide an initial basis for such analysis. The trajectory assessment should link back to the overall energy sector trajectory, notably in relation to proper energy demand projections. As above, the SE4ALL Global Tracking Framework should be referred to as far as possible.

2.2.2 What are the existing plans/strategies and what are the gaps?

This should contain a mapping of existing plans and strategies in the sphere of renewable energy, such as a Scaling-up Renewable Energy Plan (SREP), Renewable Readiness Assessment (RRA) etc. and also identify plans and technical analysis that are missing at this point and which should be developed subsequently to complete the picture (e.g. a specific strategy on geothermal may be missing from a wider energy strategy). Furthermore, the Action Agenda should contain an assessment of existing strategies in light of the overarching objectives as defined at the outset. This might lead to the conclusion that a



strategy is not ambitious enough or needs to be updated.

2.2.3 What are the actions needed to achieve the overarching objective in the field of renewable energy?

This part should provide an analysis of the various options for actions with a view to achieve the set targets. Where relevant this should also take into account the regional context (i.e. nature of interface with power pools). It is recommended that an indicative costing of the activities is provided that should take into account both OPEX and CAPEX considerations, as well as an assessment of the risks (political, economic, social & environmental, financial, and implementation) and their mitigation. This should make use of renewable energy resource and readiness assessments to the extent practical (or highlight their lack if not in place).

- 2.2.3.1 Renewable power generation: this action area includes options to accelerate the deployment of all renewable technologies, including on-shore and off-shore wind, solar PV, solar thermal including CSP, geothermal, hydro, marine power, and biomass; the research and innovation needed to continue pushing down the cost of these technologies; specific policies and business models to support them (e.g. feed-in tariffs and public auctions); and the removal of barriers to large and small-scale renewables. Due consideration need to be given to questions of affordability, availability of base load generation capacity, network stability, cross-border energy flows and energy trading.
- 2.2.3.2 Grid infrastructure and supply efficiency: with a focus on the infrastructure necessary to enable the target penetration of renewables and exploit domestic renewable energy resources to best effect.
- 2.2.3.3 Industrial and agricultural processes: notably in relation to the capture and recycling of waste heat; as well as the use of renewable energy sources in industrial and agricultural processes.
- 2.2.3.4 Buildings and Appliances: this action area includes design and retrofit of buildings incorporating renewable self-generation options (e.g. rooftop solar and solar hot water).
- 2.2.3.5 Transportation: this sector should in particular contain actions focusing on increasing the share of renewables in the fuel supply.
- 2.2.3.6 Other priorities



2.2.4 Which High-Impact Opportunities are relevant?

The guidance is above for access, noting that some High Impact Opportunities are relevant to both access and renewable energy targets.

2.3 Energy Efficiency:

2.3.1 What is the current status and trajectory?

The Action Agenda should provide the latest available information on the current situation regarding the situation in the field of energy efficiency and provide an analysis of the trajectory for the rate of improvement in energy efficiency until 2030. The trajectory assessment should link back to the overall energy sector trajectory. The rapid assessment/gap analysis might provide an initial basis for such analysis and the SE4ALL Global Tracking Framework should be used to the extent possible to ensure a common methodology and baseline.

2.3.2 What are the existing plans/strategies and what are the gaps?

This should contain a mapping of existing plans and strategies in the sphere of energy efficiency addressing inter alia residential, industrial & commercial energy efficiency and energy efficiency in transport, and also identify plans that are missing at this point and which should be developed subsequently to complete the picture. Also with regard to existing strategies these will have to be analyzed in light of the overarching objectives as defined at the outset, which might lead to the conclusion that they are not ambitious enough or need to be updated.

- 2.3.3 What are the priorities to be addressed to achieve the overarching objective in the field of energy efficiency?
- 2.3.3.1 Buildings and Appliances: this action area includes retrofitting of the building envelope to decrease consumption; appliance efficiency, including lighting, space cooling and heating and refrigeration.
- 2.3.3.2 Industrial and agricultural processes: this action area includes opportunities to improve the efficiency of business operations and product design, reduce energy consumption and wasteful practices along the value chain.
- 2.3.3.3 Transportation: this action area includes all options that improve efficiency and reduce fuel consumption per distance travelled, that shift fuel demand to sustainable biofuels or electric power trains, that promote modal shifts to less polluting and more efficient transportation means and that reduce demand for transportation services.





2.3.3.4 Grid infrastructure and supply efficiency

2.3.3.5 Other priorities

2.3.4 Which High-Impact Opportunities are relevant?

2.4 Additional nexus targets (follow same structure as above)

2.5 Enabling Action Areas:

The Enabling Action Areas are of importance for all of the above outlined priorities. The inter-linkages with above priorities will need to be clearly spelled-out given that progress in all of the above areas depends substantially on enabling environment activities – it is also an option to include a dedicated enabling area section under each of the above priorities while focusing in this section on cross-cutting enabling environment issues. Enabling policies, measures and regulations are necessary at all levels to facilitate innovation and overcome market and other barriers to the dissemination and commercialization of sustainable energy technologies, products and service delivery approaches. These sections should naturally build on existing assessments, studies, strategies etc.

2.5.1 Energy planning and policies

This should contain actions focusing on putting in place supportive policies and regulatory frameworks that are clear, transparent, and predictable and that create the right environment for long-term investments incl. national level target setting, appropriate pricing, tax regimes and tariff structures, along with robust, effective institutional and governance environments. This section should also address the critical aspect of utility reform. Furthermore, actions aimed at strengthening of statistical capacity and data reliability should be developed.

2.5.2 <u>Business model and technology innovation</u>

This section should consider how improved business models and technology innovation can be fostered. Options could include for example approaches to making it more attractive for the private sector to pursue decentralized access solutions or for small businesses to pursue energy-saving technologies. It should also look at research and technology innovation policies. Due consideration should be given to models for sustainable operation of utilities/municipalities and co-operatives in providing sustainable and affordable energy solutions to consumers.

2.5.3 Finance and risk management



This enabling action area includes approaches and instruments to mobilize the amount of capital required, to direct that capital to the appropriate priority opportunities, and very importantly to reduce the risk of private investment in sustainable energy through the targeted use of philanthropic and public capital and the engagement of local financial institutions. It should also outline actions required to modernize the country's finance sector, sustainable pricing policies etc.

2.5.4 Capacity building and knowledge sharing

This action area could include a diverse array of programs: technical assistance to governments, companies and organizations; efforts to build strong local institutions; the gathering and dissemination of knowledge and best practices; general advocacy and consumer education programs.

2.5.5 Other priorities

Progress on the SE4ALL targets is not only dependent on enabling actions in the energy sector, but also relates to broader issues, for example, in relation to the rule of law, taxation, fight against corruption etc. Use this section to identify critical areas for progress that should be addressed.

Part 3: Coordination and follow-up

Part 3 of the Action Agenda should outline the national SE4All coordination structures and the follow-up mechanisms in terms of subsequent analysis, reporting and monitoring arrangements. It should also highlight the link to the Investment Prospectus as the second pillar of SE4ALL country action.

3.1 National SE4ALL coordination structure

It is essential that at the outset of the AA process a representative of an appropriate national institution is nominated SE4All coordinator for example in the Ministry of Energy, although delivery units reporting to the President are also possible. There are four key factors necessary in preparing and implementing an achievable country action agenda: i) the involvement of the SE4ALL National Coordinator throughout the AA development process; ii) a champion at the highest level to drive the process; iii) good stakeholder engagement; and iv) the identification of bankable projects in the process as input for the Investment Prospectus(es). The latter might include the set-up of a Financing Working Group bringing together Government stakeholders and financing institutions. Mapping the mandates, roles and responsibilities of institutions and stakeholders helps assess the adequacy of the institutional framework to implement the SE4ALL Action Agenda (see also proposed stakeholder set-up under process). The issue of quality control is an important dimension that will also need to be addressed.

3.2 Follow-up analysis



The Action Agenda provides the strategic framework towards achieving the SE4ALL targets, but in many cases there will be a need for subsequent in-depth studies and analysis (e.g. electrification plan, priority sub-sector market mapping). The Action Agenda should outline the needs for which resources would need to be mobilized if not covered by existing resources.

3.3 Monitoring, evaluation and reporting

It is important to establish a flexible but robust monitoring and evaluation framework for the national SE4ALL Action Agenda to monitor implementation, support lessons learning, and make necessary adjustments over time (including provisions for regular review/update of the Action Agenda, which should be seen as a living document). To continually build support for the SE4ALL Action Agenda and foster ownership and accountability, a mechanism should be put in place to track progress that should link to the Government's own monitoring and evaluation instruments and where relevant build on existing monitoring exercises by the different partners, facilitate the collaborative participation of stakeholders in monitoring, and make the monitoring information accessible to the public. This work should also link to the Global Tracking Framework ensuring the provision of the most accurate data. It will also be important to make provisions for regular reporting on Action Agenda implementation to the GFT and Regional Hub.

3.4 Link to Investment Prospectus(es)

The Action Agenda should be followed by the development of SE4ALL Investment Prospectus(es) with a view to mobilize the required investments to implement the Action Agenda. The work on the Investment Prospectus(es) does not have to be sequential and can already start during the preparation of the Action Agenda (see Investment Prospectus description in the SE4ALL Country Action Reference Document).

Part 4: Indicative process for development of the Action Agenda

Figure 1 outlines an indicative Agenda Agenda development process covering 5 phases.



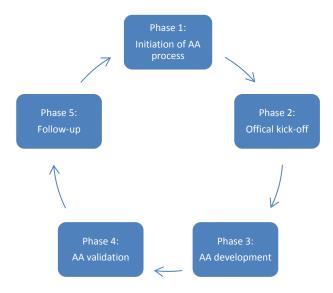
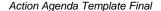


Figure 1: Indicative AA development process

- Phase 1: Initiation of AA process (week 1-2)
 - o Identification of lead development partner(s) providing technical assistance for the AA-development (this is not a requirement a country can naturally decide to self-fund the process).
 - o Identification of the AA coordination group, National Expert Group and Validation Group including assignment of roles.
 - Recruitment of consultants (if necessary) to support development of the AA
- Phase 2: Official kick-off (week 3)
 - The Action Agenda development process should be kicked-off at a high-level workshop led by President or Prime Minister to give the Action Agenda process the necessary political impetus and achieve the inter-ministerial dimensions of SE4ALL.
 - o Identification of sectoral working groups and champions for the SE4ALL target areas (access, renewables, energy efficiency) and any priority sub-groups
- Phase 3: AA development (weeks 5-21):
 - o Expert groups to convene with consultant support to identify priority actions in the different areas of the Action Agenda.
 - Consultations with key domestic stakeholder groups.
 - o Prepare draft AA led by AA Coordination Group consolidating inputs from sectoral working groups





- Phase 4: AA validation (weeks 22-30):
 - The results of the specialized working groups to be reported back to a high-level consolidation workshop that would also ensure that the inputs provided by the sectoral areas are aligned with the vision and overall targets.
 - o Convene a validation workshop with the Validation Stakeholder Group ensuring quality control of the draft Action Agenda
 - Once the Action Agenda is agreed, the Action Agenda should preferably be nationally endorsed (Government and possibly Parliamentary approval) and the goals and targets should feedback to and inform national development and sectoral planning, budgets and implementation.
- Phase 5: Follow-up, including monitoring and evaluation and periodic adjustments

Figure 2 provides an indicative overview of Action Agenda stakeholders:



Figure 2: Indicative AA stakeholders

The roles and functions of a national <u>SE4ALL Action Agenda Coordination Group</u> could include: (i) coordinate and manage the SE4ALL Action Agenda development and endorsement process, and inform on progress and emerging key issues; (ii) act as a focal point to manage broad cross-sectoral and multi-stakeholder consultation and





inputs; (iii) commission studies and information gathering to support and inform the SE4ALL Action Agenda, and support working groups and committees, as needed; (iv) act as a focal point for communication, dissemination of information, and outreach; (v) act as liaison to the Regional Hub and GFT. National Expert Group(s) could be set-up for the respective priority areas and will include relevant representatives from Ministries and Government entities, private sector and civil society with the role to: (i) formulate the priority actions in the respective priority area; (ii) define additional information needs; (iii) communicate results to the AA Coordination Group. The Validation Stakeholder Group could be a wider range of stakeholders with the role to validate the AA draft and provide outside expertise and input to the process.



Annex 1 - Active High-Impact Opportunities

An initial set of 50 potential HIOs have been identified. The most advanced ones are listed below.

Close to being formalized

- 1. Energy and Women's Health
- 2. Phase out of Gas Flaring in Oil Production
- 3. Sustainable Bioenergy
- 4. Vehicle Fuel Efficiency
- 5. Water-Energy-Food Nexus
- 6. Clean Energy Mini-Grids

Discussions underway

- 1. Advanced Lighting & Appliance Efficiency
- 2. Energy Efficiency in Buildings
- 3. Off-Grid Lighting & Charging
- 4. Sustainable Energy for Island Economies
- 5. Universal Adoption of Clean Cooking Solutions

Figure 3: List of advanced HIOs