LEAP-RE

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Presentation of a more detailed Plan of Activities for the whole 10

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Summary

This project aims to develop a standalone solar cooking appliance (cooker), to address the challenges caused by traditional cooking methods and faced by rural communities in Africa. The project will study cooking in three countries namely Mozambique, Rwanda and Kenya and develop a solar powered clean cooking solution for these areas. The specific objectives of the project can be summarized as follows: = To do an off-grid market assessment for solar cooking, a solar resource assessment to enable cooker design and capacity assessment to support piloting of systems To develop a standalone solar cooker and pilot it To identify business models and engage policy makers to create an enabling environment To develop or improve solar photovoltaic module technology for use in the cooker design

Approval

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LEAP-RE

Long-Term Joint EU-AU Research
and Innovation Partnership on Renewable Energy

Detailed Work Plan WP10
PURAMS

Deliverable D10.1

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Acronym

DoA	Description of Action
GA	Grant Agreement
MS	Milestone
M&E	Monitoring & Evaluation
O&F	Organisational & Funding
tbd	to be determined
WP	Work Package

1.1 Description of WP10 - PURAMS

See Annex 1: WP10 GANTT Chart
Work Package Leaders: Anne Wambugu & Ignatius Maranga (SU)

This project aims to develop a standalone solar cooking appliance (cooker), to address the challenges caused by traditional cooking methods and faced by rural communities in Africa. The project will study cooking in three countries namely Mozambique, Rwanda and Kenya and develop a solar powered clean cooking solution for these areas. The specific objectives of the project can be summarized as follows:

- To do an off-grid market assessment for solar cooking, a solar resource assessment to enable cooker design and capacity assessment to support piloting of systems
- To develop a standalone solar cooker and pilot it
- To identify business models and engage policy makers to create an enabling environment
- To develop or improve solar photovoltaic module technology for use in the cooker design

1.1.1 Task 10.1.: Resource assessment and business model development

Task Leaders: LNEG
Contributors: SU, AESG, REREC, UEM, UCO

This task will provide data to support other tasks, technical design parameters to be observed during the development stage of the cooker, and will evaluate the commercial viability of the developed cooker. It includes the following activities:

Action 1: Data collection (M7- M14)

Data collection activities will be performed in Kenya, Rwanda and Mozambique to provide an outlook on local food types and required technical parameters. The collected data will include energy consumption, types of food, existing equipment for cooking, cooking times and other data points that are relevant for the project.

Sub-action 1: Review of existing information

Responsible partner & PMs: LNEG (1PM)

Contributing partners & PMs: REREC (0.5 PMs), AESG (0.5 PMs), UEM (0.5 PMs), SU (0.5 PMs), UCO (0.5 PMs)

- Definition of required information to use in the actions to be developed in the project including check-list elaboration and review of state-of-the art literature
- Identification of existing and available solar resource data (databases and similar sources) for use
- Contact local entities responsible for the data publishing on the sectors to characterize social, economic and technological data
- Data quality checks and storage

Sub-action 2: Data collection in Kenya

Responsible partner & PMs: SU (3 PMs)

Contributing partners & PMs: REREC (3 PMs), LNEG (0.5 PMs)

For Kenya:

- Identification of target groups including users and responsible local entities

- Development of study design including obtaining relevant local permits
- Selection of data collection location
- Elaboration of suitable questionnaires to gather data
- Data quality checks, gathering and storage

Sub-action 3: Data collection in Rwanda

Responsible partner & PMs: AESG (4 PMs)

Contributing partners & PMs: Contributing partners & PMs: SU (0.5 PMs), LNEG (0.5 PMs),

For Rwanda:

- Identification of target groups including users and responsible local entities
- Development of study design including obtaining relevant local permits
- Selection of data collection location
- Elaboration of suitable questionnaires to gather data
- Data quality checks, gathering and storage

Sub-action 4: Data collection in Mozambique

Responsible partner & PMs: UEM (4 PMs)

Contributing partners & PMs: Contributing partners & PMs: SU (0.5 PMs), LNEG (1 PMs)

For Mozambique:

- Identification of target groups including users and responsible local entities
- Development of study design including obtaining relevant local permits
- Selection of data collection location
- Elaboration of suitable questionnaires to gather data
- Data quality checks, gathering and storage

Action 2: Demand assessment and development of load profiles

Data collected from the previous action will be used to perform the analysis in order to develop suitable load profiles. This will include the definition of the available solar resource during the times of use of the cooker to increase the accuracy of the developed load profile. Therefore, this action will include the following sub-actions:

Sub-action 1: Data analysis and processing

Responsible partner & PMs: LNEG (1 PMs)

Contributing partners & PMs: Contributing partners & PMs: REREC (1 PMs), SU (1 PMs), UEM (1 PMs), AESG (1 PMs),

- Processing of collected data including cleaning and visualization
- Creation of a database for each locality on a needs basis
- Contextualizing collected data guided by the consortium

Sub-action 2: Development of typical load profiles for the different countries

Responsible partner & PMs: LNEG (2.5 PMs)

Contributing partners & PMs: Contributing partners & PMs: REREC (0.5 PMs), SU (0.5 PMs), UEM (0.5 PMs), AESG (0.5 PMs), UCO (0.5 PMs)

- Review of existing information on cooking load profiles
- Definition of the required information for the load profiles

- Characterization of the cooking load profiles based on the collected data

Sub-action 3: Time of use and resource availability assessment

Responsible partner & PMs: LNEG (6 PMs)

Contributing partners & PMs: Contributing partners & PMs: REREC (0.5 PMs), SU (0.5 PMs), UEM (0.5 PMs), AESG (0.5 PMs), UCO (0.5 PMs)

- Solar resource assessment in selected countries using satellite data, interpolated (or similar techniques) with available data from other sources such as public databases, Global Solar Atlas and others.
- Assessment of the resource availability during times of use of the cooker in the selected regions
- Definition of scenarios for the best use of the cooker

Sub-action 4: Sizing of PV system to satisfy the load profiles

Responsible partner & PMs: LNEG (3 PMs)

Contributing partners & PMs: Contributing partners & PMs: REREC (0.5 PMs), SU (0.5 PMs), UEM (0.5 PMs), AESG (0.5 PMs), UCO (1 PMs)

- Correlation of the solar resource availability with the cooking load profiles
- Optimal sizing of the PV system and respective components

Action 3: Development of business model

Different business models for the selected geographies will be explored in order to select, adapt and develop the most suitable ones. The following actions will be developed:

Sub-action 1: Cost assessments

Responsible partner & PMs: LNEG (2 PMs)

Contributing partners & PMs: Contributing partners & PMs: REREC (0.5 PMs), SU (1 PMs), UEM (0.5 PMs), AESG (0.5 PMs), UCO (0.5 PMs)

- Compilation of associated costs of the cooker
- Breakeven and payback assessment
- Modelling of cost scenarios

Sub-action 2: Assessment of consumer ability to pay

Responsible partner & PMs: LNEG (2 PMs)

Contributing partners & PMs: Contributing partners & PMs: REREC (0.5 PMs), SU (1 PMs), UEM (0.5 PMs), AESG (0.5 PMs), UCO (0.5 PMs)

- Analysis of collected consumer data on payment capacity
- Analysis of electricity purchase models for the consumers
- Development of consumer behaviour scenarios

Sub-action 3: Development of the business model

Responsible partner & PMs: LNEG (6 PMs)

Contributing partners & PMs: Contributing partners & PMs: SU (0.5 PMs), UEM (0.5 PMs)

- Identification and characterization of the most suitable business plans
- Collection of feedback on the business models
- Implementation of changes to business model

1.1.2 Task 10.2.: Productive use: Standalone solar cooking and piloting

Task Leaders: SU
Contributors: AESG, REREC, UEM, UCO, LNEG
This task aims to develop a standalone cooking appliance (cooker) that's suitable for rural Africa communities. Data collected and the analysis done in Task 10.1 feeds into this task whose activities are as follows:

Action 1: Design of the cooker
A cooker will be developed as per Task 1 recommendations and based on an outlook of collected data. Task 4 recommendations will inform the solar module to be used in the design.

Sub-action 1: Selection of the suitable cooker technology

Responsible partner & PMs: SU (2 PMs)

Contributing partners & PMs: REREC (1 PMs), AESG (0.5 PMs), UEM (1 PMs), LNEG (2 PMs), UCO (1 PMs)

- Evaluation of existing standalone solar cookers
- Characterization of each technology
- Selection of the most suitable technology

Sub-action 2: Design of the cooker

Responsible partner & PMs: SU (4 PMs)

Contributing partners & PMs: REREC (2 PMs), AESG (0.5 PMs), UEM (2 PMs), LNEG (1 PMs), UCO (1 PMs)

- Review and analysis of relevant data from Task 1
- Development of the first design iteration of the cooker
- Simulation of the performance of the designed cooker
- Collection of feedback from prospective users

Action 2: Development of the cooker
An acceptable design will be selected for prototyping based on design iterations and performance during simulation. The first prototype will be developed in consultation with prospective users and will be tested extensively in the laboratory. Design iterations will then be proposed to enable a satisfactory design that is safe for use and that provides the functionality required by prospective users.

Sub-action 1: Development of the cooker prototype

Responsible partner & PMs: SU (3 PMs)

Contributing partners & PMs: REREC (0.5 PMs), AESG (0 PMs), UEM (2 PMs), LNEG (0 PMs), UCO (0 PMs)

- Selection of design for prototyping based on Action 10.2.1
- Consultations with prospective users
- Sourcing of material required for prototype development
- Development of the first prototype of the cooker

Sub-action 2: Testing of the cooker

Responsible partner & PMs: SU (1 PMs)

Contributing partners & PMs: REREC (1 PMs), AESG (1 PMs), UEM (3 PMs), LNEG (0 PMs), UCO (1 PMs)

- Laboratory testing of the performance of the cooker
- Consultations with prospective users
- Improvement of designs based on the results from laboratory tests
- Approval of final design for piloting

Action 3: Piloting of cooker

The developed standalone cooking appliances will be piloted in the laboratory using both recommended and fabricated modules to assure the safety and functionality of each cooker. Selected households in Kenya, Rwanda and Mozambique will then be provided the cookers for piloting using recommended modules. Usage data will be collected to enable further improvement of the cooker and to determine the suitability of the cooker to local foods.

Sub-action 1: Laboratory based pilots

Responsible partner & PMs: SU (1 PMs)

Contributing partners & PMs: REREC (0.5 PMs), AESG (0 PMs), UEM (1 PMs), LNEG (0 PMs), UCO (0 PMs)

- Development of prototypes for piloting
- Laboratory piloting to ensure safety and functionality
- Piloting using fabricated solar modules
- Consultations with prospective users

Sub-action 2: Market pilots

Responsible partner & PMs: SU (2 PMs)

Contributing partners & PMs: REREC (2 PMs), AESG (1 PMs), UEM (1 PMs), LNEG (0 PMs), UCO (0 PMs)

- Identification of prospective sites for piloting
- Development of study design and sourcing of necessary permits
- Collection and analysis of pilot data
- Improvement of cooker design based on obtained results

Sub-action 3: Final Report Preparation

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: UEM (1 PMs)

- Compilation of information for the final report
- Development of final report

1.1.3 Task 10.3.: Market, capacity assessment and policy environment

Task Leaders: AESG
Contributors: SU, REREC, UEM, UCO, LNEG

This task will provide an overview of the target market of the solar cooker, acceptability of the cooker in the target market and outreach required to promote acceptance and adoption of the cooker by local communities. The task will also assess the policy landscape and engage policy makers. It includes the following activities:

Action 1: Engagement with policy makers

Policy makers will be engaged to educate them on the benefits of electric cooking in general especially with regards to healthcare. They will also be provided recommendations on how they can enable the growth potential of electric cooking especially using standalone solar.

Sub-action 1: Identification and engagement of policy stakeholders

Responsible partner & PMs: AESG (1 PMs)

Contributing partners & PMs: REREC (1 PMs), SU (0.5 PMs), UEM (2 PMs), LNEG (1.5 PMs)

- Identification of policy stakeholders involved in electricity cooking
- Interviews to collect baseline information on their work
- Agenda building and engagement through webinars and workshops

Sub-action 2: Policy Analysis

Responsible partner & PMs: REREC (1 PMs)

Contributing partners & PMs: AESG (2 PMs), SU (0.5 PMs), UEM (2 PMs), LNEG (1 PMs)

- High level analysis of existing policies, regulations and legal frameworks
- Recommendations on possible improvements

Action 2: Mapping of product value chain

This action will provide a map of the electric cooking value chain which will serve as a high level visual of the placement of the cooker in the sector in the three localities. It will also propose marketing methods that can be used given the structure of the supply chain.

Sub-action 1: Mapping of product value chain

Responsible partner & PMs: AESG (1 PMs)

Contributing partners & PMs: REREC (1 PMs), SU (0.5 PMs), UEM (2 PMs), LNEG (1.5 PMs)

- Desk study and collation of information from existing state of the art literature
- Identification of key stakeholders in standalone electric cooking
- Data collection from key stakeholders
- Map of the product value chain including its placement

Sub-action 2: Marketing methods for the developed cooker

Responsible partner & PMs: AESG (1 PMs)

Contributing partners & PMs: REREC (1 PMs), UEM (2 PMs), LNEG (1.5 PMs), SU (1 PMs)

- Desk study and collation of information from existing state of the art literature
- Collation of feedback from relevant stakeholders
- Summary of marketing methods

Action 3: Capacity needs assessment

Electrical appliances in general need repair technicians while solar photovoltaic systems need basic to advanced installation training. Therefore, it's crucial to analyze the capacity needs of the standalone solar cooker in order to anticipate and prepare for it.

Sub-action 1: Cooker ecosystem capacity needs

Responsible partner & PMs: AESG (1 PMs)

Contributing partners & PMs: UEM (0.5 PMs), LNEG (1 PMs), UCO (1 PMs)

- Summary of capacity needs related to standalone solar electric cooking
- Analysis of capacity building efforts targeting the sector

Sub-action 2: Capacity development strategies

Responsible partner & PMs: AESG (1 PMs)

Contributing partners & PMs: UEM (0.5 PMs)

- Engagement of capacity building institutions in dialogue
- Development of strategies to enable curriculum development

1.1.4 Task 10.4.: Solar photovoltaics technology

Task Leaders: UCO
Contributors: SU, AESG, REREC, UEM, LNEG
This task will recommend the solar technology to be used in the cooker based on parameters as stated by relevant standards, expert and user experiences. The task will also support the fabrication of an improved solar technology for use in the laboratory pilot of the solar cooker. The fabricated version will target to be comparatively better at selected parameters of importance such as ease of cleaning. Other parameters of interest in the selected solar technology are; cost effectiveness, ease of installation, performance considerations in given environmental and climatic conditions, and accessibility of the technology in the locations of piloting. This task includes the following activities:

Action 1: Existing solar PV technologies
Existing solar PV technologies will be assessed based on above stated parameters, performance as specified by relevant standards, and existing state of the art literature on solar photovoltaics in the given localities. Field experts such as solar installers in the different localities will be consulted for their experiences working with the different technologies and their experiences incorporated in the assessment.

Sub-action 1: Assessment of existing PV technologies

Responsible partner & PMs: SU (1 PMs)

Contributing partners & PMs: REREC (0.5 PMs), AESG (0.5 PMs), UEM (0.5 PMs), LNEG (2.5PMs), UCO (3 PMs)

- Development of PV technology selection criteria including parameters above
- Compilation of suitable parameters based on relevant standards
- Desk study of existing PV technologies to develop summary of suitability

Sub-action 2: Selection of PV technology

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: REREC (0.5 PMs), UEM (0.5 PMs), LNEG (1 PMs), UCO (2 PMs)

- Interviews of experts such as solar installers on experience with solar technologies
- User consultations to understand social considerations of interest
- Compilation of parameters of interest to experts and users
- Selection of the most suitable technology for use in the cooker

Action 2: Fabrication of selected PV technology

The most suitable PV technology will be selected and improvements to be carried out where identified. These improvements and any required fabrication will be done in the laboratory taking into consideration cost and performance implications.

Sub-action 1: Component sourcing for the selected PV technology

Responsible partner & PMs: UCO (4 PMs)

- Sourcing of components for fabrication
- Preparation of laboratory equipment for the fabrication

Sub-action 2: Fabrication of the selected PV technology

Responsible partner & PMs: UCO (6 PMs)

- Fabrication of selected technology
- Testing iterations to enable improvements

Action 3: Assessment of the performance of the PV modules

The fabricated modules will be tested to ensure their safety of use and compliance to the initially identified parameters of interest. The tests will include laboratory tests in accordance with set standards and outdoor tests to test exposure to elements and performance in field operating conditions.

Sub-action 1: Laboratory testing of the PV modules

Responsible partner & PMs: UCO (3 PMs)

- Performance of the fabricated solar based on the relevant standards
- Performance of the fabricated solar based on the stipulated parameters
- Safety assessment of the fabricated solar

Sub-action 2: Field testing of the PV modules

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: REREC (1 PMs), UEM (1 PMs), UCO (3 PMs)

- Selection of field testing location based on relevant standards
- Development of field testing procedures
- Field testing of modules

1.1.5 Task 10.5.: Project management and dissemination

Task Leaders: SU
Contributors: AESG, REREC, UEM, UCO, LNEG
The management activity is developed in accordance and coordination with the WP3 leaders (Pillar 2 coordinators) and in synergy with other WPs constituting the Pillar 2. Specifically, this task will perform the following actions:

Action 1: Administrative and financial management

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: REREC (0.5 PMs), AESG (0.5 PMs), UEM (0.5 PMs), LNEG (0.5 PMs), UCO (0.5 PMs)

This action involves communication management with Pillar 2 coordinators and cost management of project funds.

Action 2: Coordinate project activities

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: LNEG (0.5 PMs)

This action involves the coordination of project activities between WP members and Pillar 2 coordinators. It involves time and scope management of the project activities.

Action 3: Monitor quality and timing of results' delivery

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: AESG (0.5 PMs), UEM (0.5 PMs), LNEG (0.5 PMs), UCO (0.5 PMs)

Monitoring and evaluation techniques will be used to monitor the quality and timeline of the deliverables of the project.

Action 4: Disseminate the obtained results

Responsible partner & PMs: SU (0.5 PMs)

Contributing partners & PMs: REREC (0.5 PMs), AESG (0.5 PMs), UEM (0.5 PMs), LNEG (0.5 PMs), UCO (0.5 PMs)

The obtained results of the project will be disseminated in the form of reports, blog posts and webinars.

Action 5: Liaise with Pillar 2 Leadership

Responsible partner & PMs: SU (1 PMs)

Contributing partners & PMs:

This action involves communication between WP10 participants and the Pillar 2 leadership. Regular updates on the progress of the tasks, actions and subactions will be communicated to the Pillar 2 leadership.

1.2 Deliverables

The project's deliverables are as follows:

Number	Title	Due Date	Responsible
D10.1	Standalone solar cooking appliance design metrics	M17	LNEG
D10.2	Business model for standalone solar cooking appliance	M32	LNEG
D10.3	First Design of standalone solar cooking appliance	M17	SU
D10.4	Prototypes of standalone solar cooking appliance	M27	SU
D10.5	Report on field testing of standalone solar cooking appliance	M36	SU
D10.6	Report on policy, legislative and regulatory environments	M24	AESG
D10.7	Report on value chain and social factors	M30	AESG
D10.8	Progress report on choice of solar photovoltaics technology	M18	UCO
D10.9	Report on field performance of solar photovoltaic modules	M30	UCO

1.3 Milestones

The project's milestones are as follows:

Number	Title	Verification mean	Due Date	Responsible
MS6	Launch of the projects (Pillar 2)	Kick off meeting minutes	M7	SU

1.4 Risks

The anticipated risks are as follows:

Number	Risk description	Risk mitigation	Proba	Impact
1	Lack of availability/ openness of data in demand assessment, evaluation of existing technologies, capacity, market and policy assessment. Likelihood: Low	Alternative/parallel methods for obtaining data when there is a lack of availability of the required data.	2	2
2	Rejection of new solar powered cookers by the target communities. Likelihood: Low	Create awareness on the importance of solar powered electric cookers through workshops and consultative meetings.	3	3
3	Challenges (delays and inaccuracy) in quality testing of solar powered cookers. Likelihood: Low	Select accredited laboratories to carry out quality tests for the solar powered cookers.	3	4

1.5 Interaction/synergies with other WPs

WP10, via the Project Leader, will participate in WP3 Activities as part of the Scientific Board of Pillar 2 and will work with the Pillar Coordinators to maximise synergies across the WPs in Pillar 2, both in terms of R&I and capacity building.

Number	Interaction description	Responsible
1	**Project Management** will be carried out in synergy with WP3 and the Pillar 2 Board Governance indications	SU

2	Information on the current **capacity building /training** activities within each WP9-WP16 will be valorized to increase the "impact" of each capacity building activity back to WP9-WP16	SU
3	Based on the sharing during the first months of LEAP-RE, a constant link on cross-cutting interests relative to **Technological development**, **methodological approach**, Modelling tools and other R&I related topics that will take place into WP9, WP10, WP11, WP12, WP13, WP14, WP15, WP16 is promoted in Task 3.1	SU
4	**Scientific Dissemination** will be carried out in agreement with the Scientific Dissemination Strategy defined in WP3	SU
5	**Other dissemination activities** will follow the guidelines provided by WP4 in the LEAP-RE Communication and Awareness Raising strategy	AESG, SU
6	**Monitoring and Evaluation** will be carried out receiving input from the M&E plan for Pillar 2 developed in WP3 and coordinated by WP5	SU
7	**Financial Reporting** will be managed by WP1 and supported by the WP leader and WP3 Leaders	SU

8 **Business model development** (Task 10.1, Action 3) will be shared with WP6 "Financial model of the future partnership"

9 **Engagement with policy makers** (Task 10.3, Action 1) will be carried out in close collaboration with WP5, Task 5.2. "Dialogue with policymakers and other stakeholderse for research uptake.

Annex 1: WP10 GANTT Chart

WP10: PURAMS

		Lead	2020			2021												2022												2023												2024		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
10,1	**Resource assessment and business model development**	**LNEG**																	**D1**															**D2**											
10.1.1	Action 1: Data collection	SU																																											
10.1.1.1	Sub- action 1: Review of existing information	LNEG																																											
10.1.1.2	Sub-action 2: Data collection in Kenya	SU																																											
10.1.1.3	Sub-action 3: Data collection in Rwanda	AESG																																											
10.1.1.4	Sub-action 4: Data collection in Mozambique	UEM																																											
10.1.2	Action 2: Demand assessment and development of load profiles	LNEG																	**D1**																										
10.1.2.1	Sub action 1: Data analysis and processing	LNEG																																											
10.1.2.2	Sub- action 2: Development of typical load profiles for the different countries	LNEG																																											
10.1.2.3	Sub action 3: Time of use and resource availability assessment	LNEG																																											
10.1.2.4	Sub-action 4: Sizing of PV system to satisfy the load profiles	LNEG																	**D1**																										
10.1.3	Action 3: Development of business model	LNEG																																**D2**											
10.1.3.1	Sub action 1: Cost assessments	LNEG																																											
10.1.3.2	Sub action 2: Assessment of consumer ability to pay.	LNEG																																											
10.1.3.3	Sub action 3: Development of the business model	LNEG																																**D2**											
10,2	**Productive use: Standalone solar cooking and piloting**	**SU**																	**D3**									**D4**									**D5**							
10.2.1	Action 1: Design of the cooker	SU																	**D3**																										
10.2.1.1	Sub-action 1: Selection of suitable cooker technology	SU																																											
10.2.1.2	Sub-action 2: Design of cooker	SU																	**D3**																										
10.2.2	Action 2: Development of the cooker	SU																										**D4**																	
10.2.2.1	Sub-action 1: Development of cooker prototype	SU																																											
10.2.2.2	Sub-action 2: Testing of cooker	SU																										**D4**																	
10.2.3	Action 3: Piloting of cooker	SU																																				**D5**							
10.2.3.1	Sub-action 1: Laboratory based pilots	SU																																											
10.2.3.2	Sub-action 2: Market pilots	SU																																											
10.2.3.3	Sub-action 3: Final Report Preparation	SU																																				**D5**							
10,3	**Market, capacity assessment and policy environment**	**AESG**																								**D6**						**D7**												
10.3.1	Action 1: Mapping of product value chain and capacity needs assessment	AESG																								**D6**																		
10.3.1.1	Sub-action 1: Identification and engagement of policy stakeholders	AESG																																											
10.3.1.2	Sub-action 2: Policy Analysis	REREC																								**D6**																		
10.3.2	Action 2: Marketing methods for the developed appliances	AESG																								**D6**																		
10.3.2.1	Sub-action 1: Mapping of product value chain	AESG																																											
10.3.2.2	Sub-action 2: Marketing methods for the developed cooker	AESG																								**D6**																		
10.3.3	Action 3: Capacity needs assessment	AESG																														**D7**												
10.3.3.1	Sub-action 1: Cooker ecosystem capacity needs	AESG																																											
10.3.3.1	Sub-action 2: Capacity development strategies	AESG																														**D7**												
10,4	**Solar photovoltaics technology**	**UCO**																		**D8**												**D9**												
10.4.1	Action 1: Existing solar PV technologies	SU																																											
10.4.1.1	Sub-action 1: Assessment of existing PV technologies	SU																																											
10.4.1.2	Sub-action 2: Selection of PV technology	SU																																											
10.4.2	Action 2: Fabrication or improvement of selected PV technology	UCO																		**D8**																										
10.4.2.1	Sub-action 1: Component sourcing for the selected PV technology	UCO																		**D8**																										
10.4.2.1	Sub-action 2: Fabrication of the selected PV technology	UCO																		**D8**																										
10.4.3	Action 3: Assessment of the performance of the modules	UCO																														**D9**												
10.4.3.1	Sub-action 1: Laboratory testing of the PV modules	UCO																																											
10.4.3.2	Sub-action 2: Field testing of the PV modules	SU																														**D9**												
10,5	**Project management and dissemination**	**SU**																																											
10.5.1	Action 1: Administrative and financial management	SU																																											
10.5.2	Action 2: Coordinate project activities	SU																																											
10.5.3	Action 3: Monitor quality and timing of results' delivery	SU																																										
10.5.4	Action 4: Disseminate the obtained results	SU																																										
10.5.5	Action 5: Liaise with Pillar 2 Leadership	SU																																										

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