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Abstract	*This report presents the scope and details of the work conducted under Task 2.5 regarding SESA's Community of Practice (hereafter CoP), led jointly by UNEP-CCC and UNEP.* *The report will present a status of the CoPs activities and present an overview of the main outputs delivered by each of the CoP partners under the three Communities of Practice, namely:* *The Solar PV CoP, the Waste to Energy (hereafter WtE), and the Electric-mobility CoP (hereafter E-mobility).*

Legal Disclaimer

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List of Acronyms

AFDB	The African Development Bank
AU	African Union
COP	Conference of the Parties
CoP	Communities of Practice
EMS	Energy management systems
ENERGICA	Energy access and green transition collaboratively demonstrated in urban and rural areas in AfrICA
EOL	End of Life
EU	European Union
EV	Electric Vehicle
GA	Grant Agreement
GEF	Global Environmental Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
H2020	European Union's Horizon 2020 research and innovation programme
LEAP-RE	Long-Term Joint European Union - African Union Research and Innovation Partnership on Renewable Energy
MET	Metanogenia
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NMU	Nelson Mandela University
REFFECT AFRICA	Renewable Energies for Africa: Effective Valorization of Agri-Food Wastes
SDG	Sustainable Development Goal
SESA	Sustainable Energy Solutions for Africa; European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037141
SLB	Second-life batteries
SophiA	Sustainable Off-Grid Solutions for Pharmacies and Hospitals in Africa
SteamBioAfrica	Innovative Large-Scale Production of Affordable, Clean-Burning Solid Biofuel and Water in Southern Africa: transforming bush encroachment from a problem into a secure and sustainable energy source
UNEA	United Nations Environmental Assembly
UNEP	United Nations Environment Programme
UNEP-CCC	UNEP Copenhagen Climate Centre
UNFCCC	United Nations Framework Convention on Climate Change
WP	Work Package
WtE	Waste-to-energy

Executive Summary

This report presents an overview of the activities undertaken as part of SESA's task 2.5, which focuses on **Global Training, Communities of Practice (CoPs), and E-Learning**.

Led by the UNEP Copenhagen Climate Centre (UNEP-CCC) and the United Nations Environment Programme (UNEP), the task aims to foster knowledge sharing, collaboration, and capacity-building across Africa in support of sustainable energy solutions, building on the many activities led by the SESA partners throughout the project's duration.

A central component of task 2.5 is the development and coordination of Communities of Practice (CoPs), structured around three thematic areas:

- **Waste to Energy and Clean Cooking**
- **Solar PV**
- **Electric Mobility and E-Batteries**

The report details the structure, operations, and outputs of each Cop. Together, the CoPs and E-Learning efforts made significant contributions to SESA's overarching mission of accelerating the adoption and scalability of sustainable energy innovations across Africa, particularly via the six webinars organized, 3 podcast episodes launched, and 12 knowledge products, which have reached a wide community of experts inside and outside SESA.

These CoPs have served as collaborative platforms where SESA project experts, country partners, and stakeholders can exchange experiences, share technical knowledge, and disseminate best practices emerging from SESA's pilot projects and living labs. Their primary objectives include fostering peer-to-peer learning, promoting thematic dialogue, supporting replication and scaling of sustainable energy solutions, and enabling policy, financial, and business frameworks in the region.

Through the creation of virtual forums and the publication of relevant materials, including research outputs, market insights, and case studies, the CoPs have played a vital role in bridging knowledge gaps, strengthening implementation capacity, and linking projects with regional and global networks. Drawing examples from the living labs and pilot areas, the CoP's activities sought to showcase how the science and practice gap can be bridged across Africa and beyond. Importantly, the Communities are also relevant to ensure the sustainability and long-term impact of SESA's work by encouraging continued collaboration between partners and external stakeholders beyond the project's lifespan.

Complementing these efforts, the E-Learning activities under task 2.5 aim to leverage the comprehensive knowledge base accumulated through SESA. This component offers stakeholders access to case studies and practical, real-life insights from project partners, thus enhancing their ability to implement effective energy solutions in Africa and beyond.

1 Introduction

The transition to sustainable and efficient resource and energy use is a global imperative, even more so in the African context, where the dual challenges of energy access and environmental sustainability are most acute. The European Union, recognizing the critical role of collaborative international efforts in addressing these challenges, has initiated several projects under its Green Deal call. Among these, the EU-funded project **Sustainable Energy Solutions for Africa (SESA)** stands out for its ambitious goal to catalyze sustainable energy solutions across the continent. This initiative is not solitary in its endeavor; it is part of a constellation of EU-funded projects aiming at a similar green transition and energy access in Africa.

SESA is a strategic project jointly implemented by the European Union and nine African partner countries—Ghana, Kenya, Malawi, Morocco, Namibia, Nigeria, Rwanda, South Africa, and Tanzania. The project aims to deliver accessible energy technologies and scalable business models that foster economic development and social cohesion across the African continent (See Figure 1).

Figure 1: Map Representation of SESA's Demonstration, Validation, and Replication Sites[1]

SESA leveraged a wide network of local living labs to co-develop, pilot, and validate innovative energy access solutions, to facilitate their replication and scalability across Africa. The initiative encompassed a range of sustainable technologies, including decentralized renewable energy systems (notably solar photovoltaics), advanced energy storage solutions utilizing second-life electric vehicle batteries, waste-to-energy technologies, smart microgrids, climate resilience and adaptation measures, and improved rural internet connectivity. Running from October 2021 to September 2025, SESA was underpinned by a robust consortium comprising leading universities, research institutions, industry stakeholders, local authorities, and knowledge-based organizations from both Europe and Africa. The project promoted ongoing collaboration through peer-to-peer learning, policy dialogue, and participation in regional and international forums.

[1] Source: SESA's webpage: https://sesa-euafrica.eu/ Accessed 29 June 2025.

SESA's task 2.5 focused on **Global Training, Communities of Practice, and E-Learning**, which is a core component of the project, predominantly as it underpinned the knowledge sharing, capacity building, and outreach component of the project's activities. The UNEP Copenhagen Climate Centre (UNEP-CCC) and UNEP have jointly led the establishment and coordination of the Communities of Practice (CoPs) component of the work package.

The main focus of SESA's CoPs was to provide a robust platform for SESA's project experts working across three main themes that each CoP focuses on (Waste to Energy & Clean cooking, Solar PV and electric mobility, and e-batteries) to create and disseminate knowledge and experiences based on the work done under the project and via SESA's living labs. The CoPs fed into the E-learning component of SESA, particularly by providing opportunities for SESA and non-SESA partners to engage, enhance capacities, and exchange knowledge.

In other words, the purpose of the CoPs was to continuously promote thematic areas, facilitate the sharing of practices among countries and cities, connect projects with experts, provide information through publishing documentation (presentations, research, market insights, and case studies), and provide a virtual forum where consortium members could share project progress insights, lessons learned, and best practices. Such knowledge dissemination efforts have been intentional within each of the Communities of Practice, particularly so that confidence in developing sustainable energy solutions could be further fostered in the region and supplemented by real-life "off-the-shelf" solutions, heavily built on academic research and scientific backing.

In sum, the core objectives of the Communities of Practice were the following:

1. Foster partners' peer-to-peer exchange on lessons learned through pilot projects.
2. Facilitate formal and informal dialogues between various living labs to strengthen knowledge sharing and accessible learning among peers.
3. Enable networking between project partners with other related initiatives in the region. This is particularly relevant in the context of the SESA project, where the robustness and number of project partners meant that information sharing was a core component to ensure smooth collaboration and avoid siloed thinking.
4. Facilitate project scaling and replication in other countries across Africa
5. Identify opportunities for the development of policy frameworks, business models, and financial schemes to lift the planning and implementation of sustainable solutions in Africa.
6. Strengthen local capacities for the implementation of sustainable energy projects in Africa.

Moreover, SESA's Communities of Practice have been instrumental in supporting further ongoing collaboration between SESA partners and experts with other experts outside of the SESA project. In this manner, the CoPs have actively worked to ensure the longevity of the prominent SESA project findings and experiences beyond the duration of the project and ensure a continuation of collaboration and relevant work across different technologies, country partners, relevant stakeholders, and experts.

SESA's task 2.5 fits well within the main objectives and activities developed under Work Package 2, Capacity Building.

The focus of the E-learning activities under Task 2.5 was to build on the extensive knowledge gathered under SESA and offer stakeholders the opportunity to learn from the various case studies and inputs from partners on the ground.

This report will first give context to the creation of the CoPs and expand on the thematic focus and "tasks" under the Communities. It will then present the opportunities for cooperation under the CoPs, focusing on the potential and expected synergistic collaboration between SESA CoPs and other initiatives beyond SESA's limit, as well as opportunities to showcase and promote SESA's ongoing efforts under the CoP to project partners (Chapter 2). Section 2.1 will present the ongoing work done under the Waste to Energy and Clean Cooking CoP, Section 2.2. will present the ongoing work done under the Solar PV CoP, and lastly, Section 2.3 will present the ongoing work done under the E-mobility/ Second-life Li-on CoP. Chapter 3 will dive into the developed and expected components of SESA's E-learning activities and provide further details on the E-learning components of the WP. Chapter 4 focuses on the lessons learned under the CoPs. The knowledge products of the CoP are categorized into the development of (1) knowledge products (research papers and reports), (2) capacity building (webinars and podcasts), (3) events and regional engagement, and (4) project development and funding activities.

1.1 Background: The Establishment of the Communities of Practice (CoPs)

SESA's Community of Practice serves as global capacity building for experts, decision-makers, practitioners, academia, and businesses within and beyond SESA. The Community of Practice is a platform where SESA partners can share knowledge and best experiences, identify experts to answer queries, and maintain a community of experts, organizations, and businesses on sustainable energy development within the consortium, and beyond, indicating regional availability and thematic expertise.

Based on an in-depth assessment of knowledge gaps (presented in D 2.1 The SESA capacity building plan), the project team developed a set of eLearning courses unpacking the key solutions tested in the project, namely on **solar energy, clean cooking, and e-mobility**. The self-paced modules are available to anyone, free of charge, on the NUA campus platform. Every course also had a life session for discussion in the form of a webinar, where best practices were presented to trigger conversation between presenters and participants. The creation of content from project partners created a first space for exchange across the different experiences within the project, which were further expanded in the CoPs. The three CoPs were connected and complemented by the variety of capacity-building activities realized by SESA throughout its lifetime, to amplify and spread the knowledge created even further.

Due to the thematic range of topics under SESA, the three CoPs were created. The three thematic fields allowed for a wide coverage of existing living labs and expertise in these three areas and associated technologies (namely **solar energy, clean cooking, and e-mobility)**. It was decided that a global online Community of Practice should be launched and maintained to serve as global capacity building for decision makers, practitioners, and businesses. Its target audience is decision makers, practitioners, and businesses. The objective of the communities of practice was to bring together consortium members and partners working on similar topics regarding sustainable energy development in Africa to enhance knowledge exchange.

The following CoPs were established and connected to the following case studies under SESA:

1. **PV Solar:** Kenya (demonstration), Ghana (validation), South Africa (validation), Morocco (validation), Namibia (replication), Tanzania (replication), Nigeria (replication), Rwanda (replication)
2. **Clean cooking/ Waste to energy:** Kenya (demonstration), Ghana (validation), Malawi (validation), Rwanda (replication)
3. **E-mobility/Second life Li-ion batteries:** Kenya (demonstration), South Africa (validation), Morocco (validation)

The CoPs thus consisted of consortium partners of each of the living labs, as indicated above (core group), in addition to a range of other consortium partners and externals working on the thematic area (wider CoP).

The first task of each CoP was the preparation of a list of core members and choosing a CoP coordinator, which was done in February 2023.

The second task was the development of an expert mapping under each CoP. This consists of an Excel-based living overview of, e.g., technology experts, scientists, academia, finance and policy experts, non-profit organizations, think tanks, local implementation partners (members of the consortium), local authorities (associated partners), and innovators (recruited through the seed-funding call). By having such an active mapping of relevant stakeholders, CoP activities and knowledge of products could be better disseminated.

The third task was to establish partnerships among the wider CoP members identified in the expert database above. Such partnerships aim to provide players in the sustainable energy ecosystem in Africa with fresh and innovative ideas that could be put into practice. This can be done through online meetings, invitations to demonstration sites, workshops, and group discussions.

With this wider WP in mind as the backbone of Task 2.5, this report will dive into the intricacies of SESA's Communities of Practice. Here, they will be presented at length, and focus will be placed on the secured and expected outputs and main activities carried out under the Waste to Energy and Clean Cooking CoP, the Solar PV CoP, and the Electric Mobility and E-batteries CoP. A short mention of other SESA eLearning activities is also included to provide the reader with the full overview of online opportunities for knowledge building and sharing as part of the SESA project.

2 Opportunities for cooperation under the CoPs

Via SESA's website, the Community of Practices' activities were promoted, and all activities related to the CoPs, as well as the engagement of SESA partner organizations and consortium members, have been disseminated. In particular, the CoPs made active use of SESA's toolbox. Information related to the creation and dissemination of knowledge products was actively promoted via SESA's internal, as well as external channels (i.e., via the partners' website and other digital platforms, e.g., LinkedIn, YouTube channels, etc.).

As aforementioned, a key aspect of the three established Communities was to ensure that the findings and extensive collaboration developed under the SESA project could live on via further

regional engagement between different partners and sectors. To deliver on this aim, the CoPs Coordinators and Leads actively sought to collaborate with other similar projects operating in the same thematic areas in Africa. Thus, the engagement with EU Sister Project activities was born. This ongoing partnership, although not formalized by any official document, aimed to secure a future lifeline between SESA outputs and those of other projects similarly funded by the European Union and covering a similar thematic and geographic focus. For a closer in-depth look at the activities developed by the EU Sister Projects, the Deliverable 6.3 "Strategy on Cooperation with Sister Projects[2]" can be a useful and complementary resource.

2.1 Cooperation on Waste-to-Energy and Clean Cooking

While UNEP-CCC is the overall coordinator of the CoP dedicated to waste-to-energy (WTE) and clean cooking, RISE and Metanogenia (MET) are the CoP leads. Together, the leads and coordinators have developed a work plan for the implementation of the CoP's knowledge creation and dissemination activities, which was put forward and agreed upon between all the CoP partners. The CoP partners are the following organizations: AAMUSTED, ICLEI World Secretariat, and UN-Habitat.

The CoP has been connected with colleagues from the Long-Term Joint EU-AU Research and Innovation Partnership on Renewable Energy Program (LEAP-RE), who are working extensively on WtE, and UNEP-CCC has facilitated a presentation from LEAP-RE to the CoP partners, as there are several ways the activities under the CoP and LEAP-RE can strengthen each other's objectives, predominantly via future fundraising and research efforts.

Below is a summary of the key knowledge products developed under the SESA CoP for Waste to Energy and Clean Cooking in Africa.

SESA WtE and Clean Cooking Activities under the Community of Practice: Papers, Capacity Building, Events, and Project Initiatives

1. Development of Knowledge Products: Research Papers and Reports

Project partner AAMUSTED has developed a manual providing technical guidance and practical implementation strategies for deploying cookstove technologies developed, building on examples and experiences under the SESA project. It includes specifications, operational considerations, and case examples. The COP has been a fruitful sounding board to finetune and improve the document, thanks to internal reviews by the SESA CoP Partners and the CoP Coordinator and Lead.

2. Capacity Building (Webinars and Podcasts)

The CoP partners have developed a series of capacity-building materials targeting not only experts who are part of the SESA consortium but also experts working with WtE and Clean Cooking in the African region (for example, academics, SMEs, solution providers, policy makers, students, and others). The following capacity-building materials have been developed under the CoP.

[2] This resource was developed in 2024 and is available here: WP6.3_SESA Cooperation with Sister Projects Feb 2024 final.docx

- **UNEP-CCC and Siemens Foundation:** On 15 May 2023, UNEP-CCC and Siemens Foundation conducted a webinar entitled "**Clean Cooking and Waste to Energy: Business Models and Delivery Models for Clean Cooking Solutions".** This webinar covered a key component of scaling clean cooking solutions, namely the bankability component and the business model aspect that SMEs and larger companies can adopt. Webinar Recording Link accessible here: https://www.youtube.com/watch?v=bC0i3lTbc3o
- **RISE:** On 3rd December 2024, Rise, in collaboration with UNEP-CCC, conducted a second webinar entitled "**Clean Cooking with Agricultural Residues**". The webinar brought together a panel to discuss sustainable clean cooking technologies that utilize agricultural residues. It highlights their potential to reduce emissions and protect ecosystems across Africa, focusing on practical applications, field experiences from private actors, and financing aspects. The lead organizations were RISE and the Malawi Living Lab, with support from UNEP-CCC and participation of NEFCO and Women in Energy Sierra Leone Limited. Accessible here: https://youtu.be/2VBe33M2H0Q
- **UN-Habitat:** UN-Habitat led a full-day insightful peer-to-peer exchange on **"Sustainable Waste to Energy: UN-Habitat Peer to Peer Exchange with the Harare team in Nairobi on Waste to Energy projects under SESA. They p**resented lessons learned and best practices from UN-Habitat's Urban Basics Services waste and energy teams in Nairobi, focusing on sustainable approaches to waste-to-energy solutions in the urban African context.
- **MET:** MET, in collaboration with UNEP-CCC, developed podcast episodes. One of them was the following: "**Biogas: Challenges of Microscale – Cases from Kenya, Ghana, and Brazil".** This podcast episode delved into the practical and technical challenges faced in implementing microscale biogas projects, with real-world cases from Kenya, Ghana, and Brazil. Targeted at policymakers and implementers, it presents lessons learned from the three countries, highlighting challenges and the role of innovative solutions to address barriers to adoption. The podcast episode was launched in July 2025 and can be found here: https://www.spreaker.com/episode/unlocking-the-potential-of-biogas--66857203
- **MET:** In a second UNEP-CCC and MET podcast, the episode **"Waste-to-Energy Solutions and Capacity Building in Africa"** was developed, This podcast episode, featured a discussion focused on the current capacity building needs for waste-to-energy deployment across Africa, sharing insights on training gaps, stakeholder involvement, and enabling environments from the SESA project as well as from ReFuse, a Lebanese social enterprise, sharing lessons learnt from their work on Integrated Solid Waste Management. The podcast episode can be found here: https://www.spreaker.com/episode/turning-waste-into-power-waste-to-energy-solutions-in-africa--66857643
- **UNEP-CCC:** UNEP-CCC produced a podcast episode entitled **"Clean Cooking as a Climate Action Agenda: Business Models and Financing"**. This podcast explored clean cooking through the lens of climate action, examining innovative business models and financing approaches needed to scale Tier 4+ cookstove solutions in Africa. Targeted at policymakers and private sector players, it brings together private sector solution providers, a government representative, as well as the Climate and Clean Air Coalition to discuss financing, policy, and innovation for delivering clean cooking solutions. It builds strongly on experiences gained under SESA and the related SOLCO Partnership[3] and will

[3] The Solar-Electric Cooking Partnership for Displacement Contexts. SOLCO is a platform for public-private partnerships to enable solar-electric cooking at scale across several refugee-hosting countries through localized market-based implementation that crowds in private sector solutions and climate financing. For more

shed light on how to scale finance for clean cooking and attract private sector stakeholders. The podcast can be found here

3. Events

- **Metanogenia** has taken part in the scientific conference Brokerage Extremadura 2025, a meeting point for European actors to foster collaborative solutions to Europe's challenges and explore near-future trends. The event also served as a valuable networking platform, supported by tools and space for in-person B2B meetings. Metanogenia participated in representing the SESA project, engaging in insightful conversations about its impact and partnerships. Several organizations showed particular interest in learning more about the role of African SMEs within the SESA framework. Additionally, a panel showcased success stories from EU-funded projects in the region.

- **UNEP-CCC** attended the Global Bioenergy Week in Uganda, 7-11 July 2025, organized by FAO and hosted by the Government of Uganda. UNEP-CCC contributed to the discussions around clean cooking, in its capacity as co-chair of the new activity area on clean cooking under the Global Bioenergy Platform, with a presentation focused on business models and carbon financing. The presentation drew on insights from the SESA project.

Table 1: Summary of the knowledge product outputs of the WtE and Clean Cooking Community of Practice

Lead Organization(s)	Title	Type	Date	Key Focus	Access/Status
UNEP-CCC & Siemens Foundation	Clean Cooking and Waste to Energy: Business Models and Delivery Models for Clean Cooking Solutions	Webinar	May 23	Bankability and business models for scaling clean cooking; SME and company strategies.	YouTube Recording
RISE, UNEP-CCC, Malawi Living Lab	Clean Cooking with Agricultural Residues	Webinar	Dec 24	Clean cooking with agricultural residues; emissions reduction; field experience and financing; NEFCO and Women in Energy Sierra Leone participation.	YouTube Recording

information, please visit SOLCO's webpage here: https://www.humanitarianenergy.org/thematic-working-areas/the-solar-electric-cooking-partnership-for-displacement-contexts/

UN-Habitat	Sustainable Waste to Energy	Peer-to-peer learning		Waste-to-energy in urban African contexts: case studies and best practices shared with the Harare Sustainable Cities Initiative by the UN-Habitat Nairobi Office.	Recording finished and upcoming.
MET (Metanogenia)	Biogas: Challenges of Microscale – Cases from Kenya, Ghana, and Brazil	Podcast	July 2025	Technical/practical microscale biogas challenges; country cases; targeted at policymakers.	Podcast available here (82 accesses to date until the 15th of September 2025)
MET (Metanogenia)	Waste-to-Energy Solutions and Capacity Building in Africa	Podcast	July 2025	Capacity building needs; SESA insights; stakeholder engagement; lessons from a ReFuse, a Lebanese social enterprise on Integrated Solid Waste Management.	Podcast available here (84 accesses to date until the 15th of September 2025)
UNEP-CCC	Clean Cooking as a Climate Action Agenda: Business Models and Financing	Podcast	July 2025	Climate action, business models, and financing for Tier 4+ clean cooking; SESA and SOLCO experiences; private sector and government insights.	Podcast available here (140 accesses to date until the 15th of September 2025)

4. Project Development and Funding Initiatives

The diverse knowledge products developed—ranging from expert-led webinars to in-depth podcasts and technical manuals—reflect the growing commitment to advancing clean energy and WtE solutions in Africa. These tools aim to support stakeholders across policy, research, and implementation sectors in making informed, impactful decisions for sustainable energy development.

- The SESA project team at UNEP-CCC works closely with the SOLCO Partnership, which works with four countries in Africa (Uganda, Kenya, Rwanda, and Nigeria) to expand the market for PV-supported Tier 4+ clean cooking technologies. Various SOLCO partners, including the World Food Programme, are developing project proposals to secure investment (both public and private) in these technologies for their operations and/or

mandated populations. Hence, key insights and learnings from SESA will be fed into new initiatives, indicating an impact pathway beyond the life of the project.

- The developments and key findings under the SESA project have been particularly relevant for Metanogenia as it engaged in the EU-funded SUNNY project. In this project, different technologies will be implemented in Rwanda and Uganda. Metanogenia will be the biogas solution provider for its implementation in the Bidibidi settlement (Uganda) with the aim of providing the refugees with clean cooking alternatives, reducing the need for wood. Several lessons under SESA will be promoted in this project, ensuring the continuity of the project as well as the project's network in Africa.

2.2 Cooperation on Solar PV

While UNEP-CCC is the overall coordinator of the CoP, ICLEI World Secretariat and Nelson Mandela University (NMU) are the CoP leaders and have developed a work plan for the implementation of the CoP's knowledge creation and dissemination activities, which was put forward and agreed upon between all the CoP partners. The CoP partners are the following: Wuppertal Institute, AAMUSTED, WETU, ICLEI Europe, and the University of Rwanda. Similar to the WtE CoP, the Solar PV CoP has been connected with colleagues from LEAP-RE, who are working extensively on Solar PV, and UNEP-CCC has facilitated a presentation from LEAP-RE to the CoP partners, as there are several ways the activities under the CoP and LEAP-RE can strengthen each other's objectives, particularly via research and funding opportunities.

SESA Solar PV Community of Practice: Papers, Capacity Building, Events, and Project Initiatives

1. Development of Knowledge Products: Research Papers and Reports

The SESA project has prioritized the creation and dissemination of practical, evidence-based knowledge to support sustainable energy transitions in Africa. A variety of research papers, manuals, and fact sheets have been produced by different consortium partners, offering technical guidance and policy-relevant insights.

- **UYILO** has authored a paper on Africa's readiness for the deployment of microgrids that support charging infrastructure for micro-electric vehicles. These microgrids included the use of renewable energy from Solar PV, together with stationary energy storage supported by second-life electric vehicle batteries. The paper was submitted for the IEEE AFRICON 2025. This conference will take place in Polokwane, South Africa, from 10-12 December 2025. The paper is expected to be published at https://2025.ieee-africon.org/ in October 2025. The paper will be made available on the toolbox once it has been published by IEEE Africon 2025.
- **AMMUSTED** has developed the SESA Practical Guide to Energy Efficiency and Cost-Effective PV System Design, a comprehensive manual aimed at technicians, energy managers, policymakers, and end-users. Under the CoP process, partners had the opportunity to review and comment on the document and provide technical review.

- **ICLEI World Secretariat** produced an article titled "Accelerating Urban Energy Transitions: The Critical Role of Solar PV in Achieving 100% Renewables". This article highlights the role of Solar PV in enabling cities to transition to renewable energy systems. It has already been uploaded to the SESA Toolbox and is available to all types of stakeholders, especially urban planners and policy decision-makers across Africa. The article can be accessed here: https://toolbox.sesa-euafrica.eu/projects/accelerating-urban-energy-transitions-the-critical-role-of-solar-pv-in-achieving-100-renewables/
- **The University of Rwanda** compiled a document on Solar Powered Irrigation Practice in Rwanda, capturing best practices and lessons learned from implementing Solar irrigation systems in the country, and a practical guide on solar-powered irrigation technology and its maintenance. CoP members had a reviewer's role and contributed to its improvement before publication.
- **The Wuppertal Institute** developed a Factsheet on Solar-Powered Irrigation Systems summarizing key insights into the deployment and benefits of solar irrigation. The document is complete and has already been uploaded to the SESA Toolbox for stakeholder access. The factsheet can be accessed here: https://toolbox.sesa-euafrica.eu/projects/discussion-paper-on-solar-powered-irrigation-systems/

2. Capacity Building (Webinars and Podcasts)

In parallel with the development of research outputs, SESA's Solar PV CoP has implemented a range of capacity-building activities, including webinars, technical sessions, and peer-to-peer exchanges. These sessions aim to equip stakeholders with practical knowledge, encourage regional collaboration, and foster innovation in clean energy deployment.

- **Wuppertal Institute:** On 11 February 2025, a webinar titled "**Tackling Barriers to Solar Irrigation in sub-Saharan Africa: Regional Insights from Entrepreneurs**" was held. This webinar facilitated a peer-to-peer exchange during which entrepreneurs involved in solar irrigation discussed their specific challenges and how they deal with them in an innovative way as part of the 2023 SESA Incubator Programme[4]. The insights from this session can support SMEs and entrepreneurs already involved in or aiming to enter the solar irrigation market, as well as provide other stakeholders such as cooperatives, NGOs, researchers, and policy makers with practical takeaways to apply in their respective areas of work, contributing to the wider promotion of sustainable irrigation solutions. The webinar has been added to SESA's toolbox and is available for the wider public here: Tackling barriers to solar irrigation in sub-Saharan Africa: Regional insights from entrepreneurs – SESA Toolbox. A total of 163 people registered for the webinar, of whom 66% were male and 33% were female. The breakdown of registrants by region was as follows: Africa (52.76%), Europe (23.93%), the Americas (15.34%), Asia (6.75%), and Oceania (1.23%). The breakdown based on sector was as follows: academia (10.43%), business (15.34%), consultancy (22.09%), government (19.63%), local government (3.07%), NGOs (18.04%), and other (10.43%). In the end, 59 people participated in the webinar, of whom 34% were female and 64% male. In addition, the platform YouTube counted 100 views of the webinar recording as of 30 July 2025.

- **ICLEI World Secretariat:** A knowledge-sharing webinar was developed and held on 12 February 2025. The title of the webinar was "**Powering smart energy solutions in Africa: Unlocking the SESA toolbox for impact"**. During this session, as part of introducing

[4] For more information about SESA's Incubator Programme, please visit: https://sesa-euafrica.eu/call-for-entrepreneurs-2023/ to read about it.

shared knowledge in the SESA toolbox, the plan and content developed within the Solar PV community of practice, including the upcoming release of the knowledge product titled Accelerating Urban Energy Transitions: The Critical Role of Solar PV in Achieving 100% Renewables"," were shared with the audience. The webinar is available here.

3. Events

SESA Solar PV CoP partners have engaged in outreach events where SESA's findings have been actively promoted and referred to. More events are expected to take place beyond 2025.

- **uYilo** participated in Nelson Mandela University's Research Week[5] Held under the theme of Advancing the International Decade of Sciences for Sustainable Development on Thursday, 12 September 2024. uYilo participated as a speaker and panelist on the topic of Innovation for UN SDG 7: Affordable, Clean Energy, where the SESA project and the South Africa Living Lab were presented and discussed as an example of a case study for affordable clean energy solutions that can be replicated across different regions in Africa. The link to the panel discussion and presentation can be found here, at the 2:36:29 time stamp.
- **uYilo** intends to participate in the IEEE AFRICON 2025, taking place from 10-12 December 2025, to present the paper submitted for the Conference on Africa's Readiness for Microgrids.

Table 2: Summary of the knowledge product outputs of the Solar PV Community of Practice

Lead Organization	Title	Type	Status / Date	Key Focus	Access/Link
uYilo	Africa's Readiness for Microgrid Deployment Supporting Micro-Electric Vehicles Charging	Conference Paper	Under review (Expected in October 2025)	Microgrid deployment for e-mobility; submitted to IEEE AFRICON 2025	IEEE AFRICON 2025
AMMUSTED	SESA Practical Guide to Energy Efficiency and Cost-Effective PV System Design	Practical Guide	Under review (2025)	PV system design and energy efficiency; audience includes technicians, policymakers, and end-users	Link incoming
ICLEI World Secretariat	Accelerating Urban Energy Transitions: The Critical Role of Solar PV	Article	Published	Role of Solar PV in urban renewable transitions: for planners and policymakers	Available on SESA's Toolbox (View: 207, updated on 14 July 2025)

[5] For a complete overview of the activities organized at the University during this event, please visit: https://research.mandela.ac.za/Research-Week-en

University of Rwanda	Solar-Powered Irrigation Practice in Rwanda	Report / Document	Under review	Best practices and lessons from implementing solar-powered irrigation	Link incoming
Wuppertal Institute	Solar-Powered Irrigation Systems (Factsheet)	Discussion Paper	Published	Key insights into solar irrigation deployment	Available on SESA Toolbox (85 views, updated on 30 July 2025)
Wuppertal Institute	Tackling Barriers to Solar Irrigation in Sub-Saharan Africa: Regional Insights from Entrepreneurs	Webinar	11 Feb 2025	Peer-to-peer exchange among solar irrigation entrepreneurs: practical solutions for SMEs and other stakeholders	Available on SESA Toolbox (100 views on YouTube, updated on July 30, 2025)
ICLEI World Secretariat	Powering Smart Energy Solutions in Africa: Unlocking the SESA Toolbox for Impact	Webinar	12 Feb 2025	Introduction to the SESA toolbox and community knowledge; preview of "Tripling of renewables" knowledge product	Webinar available online (52 views on YouTube, updated on 23 September 2025)

4. Project Development and Funding Initiatives

While no new, large-scale funding proposals were developed directly within this CoP, the knowledge products created are intended to support partners' future fundraising activities in the solar PV sector., To date, SESA's Solar PV CoP work in both knowledge development and capacity building reflects a commitment to enabling Africa's energy transition through high-impact research, accessible tools, and collaborative learning. Each partner has made targeted contributions that respond to real-world implementation challenges and opportunities, ensuring the project delivers lasting value. All completed knowledge products are being made accessible via the SESA Toolbox, helping to build a shared foundation of expertise for the future of sustainable energy in Africa.

2.3 Cooperation on E-mobility/Second-life Li-ion batteries

UNEP's Sustainable Mobility Unit is the overall coordinator of the CoP on E-mobility/Second-life Li-ion batteries. The key consortium partners contributing to the CoP are AAMUSTED, ICLEI WS, Nelson Mandela University, UN-Habitat, UEMI, Wuppertal Institute, and the University of Rwanda. Other SESA partners in the CoP who have not allocated time but were strongly interested in the

topic are WETU, CENEX NL, Elico Foundation, and Basic Internet Foundation. The CoP members have agreed to focus on the following subtopics:

- Electric Mobility, with a focus on 2 and 3 wheelers
- Charging Infrastructure, including repurposed batteries
- Lithium-Ion Batteries (reuse and recycling)

SESA CoP E-Mobility Developments in Africa: Papers, Capacity Building, Events, and Project Initiatives

1. Development of Knowledge Products: Research Papers and Reports

Significant progress has been made in documenting and analyzing the development of e-mobility in Africa through various papers and reports, which add value to activities developed under SESA. These are listed below:

- **UN-Habitat** published two peer-reviewed papers: 1. African e-mobility startups' perceptions and use of information systems, challenges, and opportunities, published in August in the journal Sustainable Earth reviews; 2. EV charging infrastructure and urban planning, published on the UN-Habitat website by September 2025.
- **UNEP** has released a comprehensive report on used electric vehicles (EVs) and retrofitting, featuring case studies from SESA countries, including Kenya. A related webinar is available here.
- **UNEP** is also finalizing a white paper addressing the end-of-life (EOL) management of EV batteries, focusing on Africa-specific contexts. The paper serves to inform UNEP's Global Partnership on the end-of-life of EV batteries funded by the Global Environmental Facility (GEF).
- **Guide on Second Life Lithium Batteries**: This is available here: https://toolbox.sesa-euafrica.eu/projects/test-test/
- **E-mobility Factsheet**: The Factsheet link is available here: https://toolbox.sesa-euafrica.eu/projects/test-test/
- A collection of good practices for capacity building in e-mobility was developed under the project. This includes case studies on electric motorcycles in Rwanda, electric two and three-wheelers in Nigeria, and e-bike charging in Portugal. A Study visit to the case study in the portal was also organized (SESA Study Visit).

2. Capacity Building and Webinars

Capacity development continues to play a vital role in accelerating Africa's e-mobility transition. A notable hybrid event took place on 11 February 2025 in South Africa, as part of the SESA Capacity Building initiative (event link, summary).

A range of courses and webinars have been developed and made available through the SESA Toolbox, including:

- **UN-Habitat organized a webinar titled Highlighting Gender Inclusive E-Mobility** Innovations across Africa on the 4th of June 2025 in partnership with GIZ and Flone Initiative. The webinar featured SESA case studies and the SESA partners Uyilo Mobility South Africa (Edem Foli) and WeTu Victoria Limited, Kenya (Brian Andanje). webinar link

Collaborations with the EU's Solutions Plus project have further expanded online learning opportunities, now accessible via the e-Mobility Toolbox, a platform featuring resources on vehicles, finance, policy, and more: e-Mobility Toolbox.

3. In-Person Events and Regional Engagement

There have been several regional and impactful in-person events to advance e-mobility, which built and gathered SESA experts and the wider community beyond the SESA EV CoP, notably:

- **Africa E-Mobility Forum**, Tanzania (2023): Event link
- **Second Africa E-Mobility Forum,** Senegal (2024): Event link
- **Africa EV Battery EOL Workshop** (2024): Included participants from Kenya, Rwanda, Tanzania, Ghana, and South Africa. Workshop link
- **UNEP-Wetu Women's E-Mobility Training**, Kisumu (March 2025): Post link

These events were organized by COP members and fostered the engagement of SESA partners to engage as participants.

Table 3: Summary of the knowledge product outputs of the E-Mobility Community of Practice

Lead Organization	Title	Type	Status / Date	Key Focus	Access/Link
UN-Habitat	African E-Mobility Startups' Perceptions and Use of Information Systems	Peer-reviewed Paper	August 2025 (Planned)	Startups' challenges and use of information systems in e-mobility	To be published in *Sustainable Earth Reviews*
UN-Habitat	EV Charging Infrastructure and Urban Planning	Internal Publication	September 2025 (Planned)	Urban planning integration of EV infrastructure	To be published on the UN-Habitat website
UNEP	Used EVs and Retrofitting: Case Studies from SESA Countries	Report	Published	EV reuse and retrofitting; includes a case study from Kenya	Webinar link
Wuppertal Institute	Business Model & Validation Plan for E-Mobility in South Africa	Business Model Plan	Draft (Access pending)	Strategic planning for validating e-mobility approaches	Access pending
UNEP	End-of-Life Management of EV Batteries in Africa	White Paper	Finalizing	Battery EOL issues in Africa; supports GEF-funded	Forthcoming

				UNEP Global Partnership	
SESA Consortium	Guide on Second Life Lithium Batteries	Guide	Published	Technical guidance on SLBs, integration in EV and renewable systems	Guide Link
SESA Consortium	E-Mobility Factsheet	Factsheet	Published	Quick reference on e-mobility deployment insights	Factsheet Link
UN-Habitat, GIZ, Flone Initiative	Highlighting Gender Inclusive E-Mobility Innovations Across Africa	Webinar	June 2025	Gender inclusion in e-mobility: SESA case studies (Uyilo, WeTu)	Webinar link
SESA / EU Solutions+	e-Mobility Toolbox Platform	Online Platform	Available	Vehicles, policy, finance, capacity building	e-Mobility Toolbox

4. Project Development and Funding Initiatives

Several proposals and projects have been initiated or submitted to scale up e-mobility in Africa, which are aligned with efforts developed under the SESA project and continue to engage with partners in the region:

- **UN-Habitat & UNEP** submitted a proposal to the African Development Bank (AfDB) focused on integrating climate resilience into Tanzanian infrastructure, leveraging insights from the SESA Living Lab. AfDB Proposal
- **UN-Habitat** submitted a proposal to IKI for Rwanda, targeting EOL EV battery management.
- A separate **GEF-8 proposal** for Kenya on sustainable cities, with strong e-mobility elements, has been submitted by UNEP and UN-Habitat.
- **UNEP's GEF Proposal** on EV battery EOL management in Rwanda has been endorsed and is currently in the detailed preparation stage. Project link
- An **EU-funded scale-up project** on e-mobility in Tanzania, jointly developed by UN-Habitat and UNEP, was approved and will begin implementation shortly. The announcement and project description are available.

3 E-Learning & Global Training

E-learning took central stage in SESA capacity building activities, as a means to fill knowledge gaps for a wide and diverse audience with straightforward, scientifically solid, and easy-to-access resources on the technologies that the project focused on. A set of 7 modules was developed, each one with lessons devoted to unpacking different technical aspects, whilst also providing hands-on experience via best cases. For each module, a webinar has also been organized to allow for live exchange and discussion between the different stakeholders invited to present and participate. The overview of the modules and respective courses is below, and more details on how the approach taken by partners in developing this content can be found in D 2.2 Capacity building tools and updates, and D 2.6 Collection of good practices from the SESA capacity building activities

Table 4: Overview of SESA capacity building programme

Solar Energy	• Basics for solar energy and PV systems • Sizing of solar electrification systems • Installation and operation of solar systems • Maintenance and Safety • Solar energy application (productive use) • Suitable conditions for PV installations • Solar PV system design exercise • Open discussion on potential PVs
Clean Cooking/Waste to Energy	• Overview Clean Cooking • Treatment of organic waste: Anaerobic digestion • Sourcing and production of waste into energy systems • Technology Options for Clean Cooking Solutions • Installations, Operations, Maintenance for Biogas systems • Installation, Operation and Maintenance for Cook Stoves • Safety conditions for clean cooking solutions • Suitable conditions for waste-to-energy installations • Open discussion on business models and delivery models for clean cooking solutions in Africa
Electric mobility	• Introduction to e-mobility. E-mobility in the sustainable development paradigm • E-mobility planning and implementation • Productive use cases in EV: Rural and Urban context

	• Retrofitting of fuel-based vehicles to EV and other • Maintenance and safety of EVs and batteries • Cost-effective and suitable EV charging management • Open discussion on electric mobility business models and exploitation pathways.
Rural internet access	• Rural access to information • Digital inclusion and sustainable development in rural regions • Competence center for connectivity and regional information • Establishing village information spot (InfoSpot) • Providing information on energy • Open discussion on Rural Internet Access - Solving the Challenge
Second life electric vehicle batteries	• Basics for second life batteries (SLB) • Circular design and the value chain • Second life batteries use, in less demanding applications • Second life battery management, maintenance and safety • Second life repurpose and recycling of Lithium-ion EV batteries • Safe e-waste handling: Collection and disposal of e-waste • Open discussion on exploring the potential of 2nd life batteries in the African countries
Smart microgrids	• Introduction to smart microgrid systems • Technologies and smart microgrid integration • Smart grid integration models: The role of smart meters • Climate-proofing, resilience, and adaptation • Energy management systems (EMS) for the optimization of the profitability of PV electricity self-consumption • Tools for Optimizing and Sizing Storage Systems • Existing examples of smart microgrids • Open discussion on harnessing the potential of Smart Microgrid Systems in African countries

4 Lessons Learned

~~The Communities of Practice and E-Learning initiatives under SESA's Task 2.5 have proven to be a very valuable and relevant component related to SESA's wider presence in the wider ecosystem of sustainable solutions, innovation, and research in Africa. Supported by concrete case studies and experiences from the living labs, SESA's outputs and the knowledge disseminated via the e-learning and CoP activities spoke to real-life challenges and opportunities to scale action, involve the private sector, explore technology domains with research institutions, and ultimately improve lives and livelihoods. A main lesson learned from the overall experience and process has been the appetite for the products that came out of the D.2.5. Essentially, given the interest from various stakeholders in consuming the knowledge precuts developed, it proves that there is an opportunity to be seized in ensuring that this knowledge reaches policy makers. Policy makers have the power and mandate to lift existing regulatory and policy barriers that can boost the already perceived shifts in the innovative low-carbon technology developers in the SESA project countries.~~

The Communities of Practice and E-Learning initiatives under SESA Task 2.5 have proven to be a highly valuable and strategically relevant part of SESA's broader engagement within Africa's ecosystem of sustainable innovation, applied research, and clean energy solutions. Grounded in real-world insights from the Living Labs, the outputs developed and disseminated—ranging from curated knowledge products to interactive learning modules—responded directly to practical challenges and opportunities to scale action, engage the private sector, foster collaboration with research institutions, and ultimately improve livelihoods.

One of the most important lessons from this process has been the clear appetite for the knowledge products developed under Deliverable 2.5. The strong and diverse interest among stakeholders highlights the need to ensure these resources are more effectively channeled toward policymakers, who have the mandate to address regulatory and policy barriers. Doing so could help unlock the potential of low-carbon technologies and support the scaling of locally appropriate solutions across SESA project countries. A key lesson learned for the E-learning and Community of Practice initiative under SESA would be the inclusion of an appropriate exit strategy for the continuation of the work beyond the termination of the project. As such, in future initiatives, attention to this component can ensure the allocated resources necessary to carry some of the work past the project's completion date, particularly so that key climate-related forums could be strategically seized as opportune platforms where SESA's work could be promoted (e.g., Conference of the Parties).

A challenge identified by the CoP Leads and Coordinators was how to ensure that the outputs of SESA's Communities of Practice and E-Learning initiatives did not double-count what project partners were doing in other corners and work packages of the SESA consortium. To mitigate this risk, the CoP Leads and Coordinators highlighted the value added of developing new content under the CoPs, focusing on the outward expert and peer-to-peer DNA of the Communities of Practice. From a CoP partner perspective, the development of webinars and podcast episodes was fruitful in their aim to interact with various stakeholders inside and outside the SESA project. Webinars, for example, allow for a degree of engagement with participants, while podcast episodes are interesting ways to foster a discussion with experts from different sectors and countries.

Moreover, the overall SESA experience also revealed several additional insights that underscore the strength of the approach taken under the Communities and E-learning activities. In particular, the hybrid model of the Communities of Practice—bringing together core SESA consortium

members with a wider external network—proved particularly effective in maintaining quality control while expanding reach and impact. At the same time, diversifying the formats of outputs, from academic publications and practical toolkits to podcasts and multimedia content, was instrumental in engaging different audience segments, from technical experts to policymakers and grassroots practitioners. The diversification of outputs was a conscious effort by the CoP Leads and Coordinators, particularly to ensure the livability and "shelf-life" of each product (for example, podcast episodes have been chosen as viable SESA CoP mediums for knowledge dissemination, as they have a longer shelf life, and can keep on attacking a steady listener base given it's accessible format and more informal tone. Crucially, anchoring knowledge production in the real-world experimentation of the Living Labs enhanced the relevance, credibility, and usability of the materials produced—deepening stakeholder trust and fostering broader uptake.

Together, these lessons affirm the value of the mechanisms established under Task 2.5 and point to the importance of sustaining and expanding them. Moving forward, strategic dissemination and continued collaboration will be key to ensuring that the knowledge generated not only informs but actively shapes policy, accelerates innovation, and supports just, inclusive energy transitions across the continent.

5 Conclusion

The Communities of Practice and E-Learning initiatives implemented under SESA Task 2.5 have underscored the vital role of structured knowledge exchange, regional dialogue, and peer-to-peer learning in advancing climate mitigation efforts across the African continent. Amid growing energy demand and the pressing need to reduce greenhouse gas emissions, these platforms serve as key enablers for the development and dissemination of low-emission, sustainable energy solutions that are both contextually appropriate and scalable.

These initiatives are closely aligned with Africa's broader climate goals under the United Nations Framework Convention on Climate Change (UNFCCC), addressing both mitigation and adaptation priorities. They contribute meaningfully to strengthening institutional capacity, fostering innovation, and enhancing regional cooperation in support of Africa's transition to low-carbon, climate-resilient development pathways.

The year 2025 marks a significant milestone—the 10th anniversary of the Paris Agreement—and offers African countries a timely opportunity to assess progress, strengthen climate commitments, and reinforce their leadership in the global climate agenda. Continued investment in collaborative mechanisms such as the Communities of Practice will be critical to deliver enhanced Nationally Determined Contributions (NDCs), particularly within the energy sector.

To fully realize the long-term potential of these efforts, collaboration must extend beyond the SESA project's duration. The expert databases, curated Toolbox resources, and formalized partnerships with initiatives such as LEAP-RE and sister projects, as detailed in this report, provide the foundational infrastructure for this continued collaboration. These assets not only support knowledge sharing and capacity-building but also serve as practical tools for scaling clean energy innovation and informing policy and regulatory frameworks across the continent.

Sustained commitment to shared learning, cross-sector partnerships, and alignment with complementary national, regional, and international initiatives will be indispensable to accelerating Africa's clean energy transition. By leveraging the mechanisms established through

Task 2.5, African stakeholders are well-positioned to advance a just, inclusive, and sustainable energy future—fully aligned with the objectives of the Paris Agreement.

6 Annex

The Community of Practice Expert Mapping database includes a total of **56 experts from the SESA consortium and beyond** (Table 1), representing various areas of expertise (see Figure 1: SESA CoP experts by thematic area. Experts were able to select several thematic areas (n=77).Figure 1) and backgrounds, including academia, research, and international organizations.

Figure 2 and Figure 3 present the geographic distribution of the expert/institution and their regional or country interests.

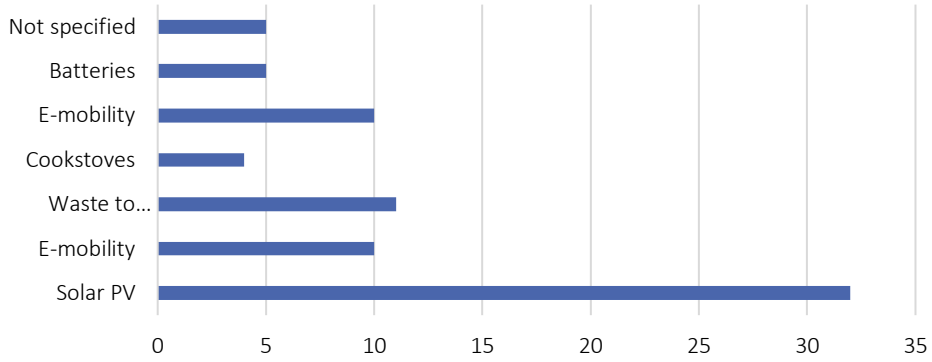

Figure 1: SESA CoP experts by thematic area. Experts were able to select several thematic areas (n=77).

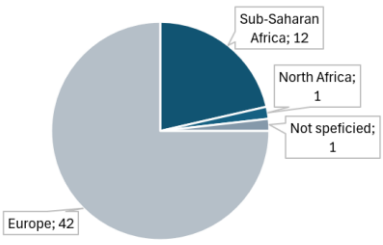

Figure 2: SESA CoP experts (n=56) by country region.

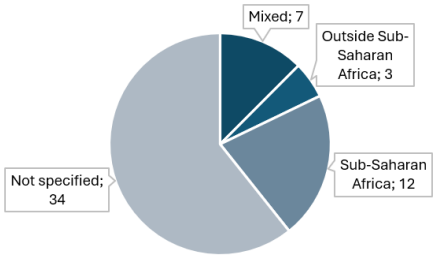

Figure 3: SESA CoP experts (n=56) by regional interest.

Table 1: Anonymized overview of SESA CoP Experts.

	Institution	Country	Thematic area	Area of Expertise	Regional or Country Interest
1	Marrakech University	Morocco	Solar PV	Full professor UM6P/GEP	
2	ICLEI WS	Germany	Solar PV	Solr PV technology (Solar irrigation, solar cooling)	
3	TU-Berlin/Wuppertal Institute	Germany	Solar PV	Technical Coordination	
4	UEMI	Germany	Solar PV	Technical Coordination	
5	TU-Berlin	Germany	Solar PV	Senior Researcher	
6	Leitat Technological center	Spain	Solar PV	Main technical contact	
7	Leitat Technological center	Spain	Solar PV	Main technical contact	
8	Leitat Technological center	Spain	Solar PV	technical contact	
9	Leitat Technological center	Spain	Solar PV	technical contact	
10	Leitat Technological center	Spain	Solar PV	technical contact	
11	Nelson Mandela University	South Africa	Solar PV	Microgrids, off-grid solar hubs, energy storage solutions, EV	South Africa - living lab
12	Nelson Mandela University	South Africa	Solar PV	Microgrids, off-grid solar hubs, energy storage solutions, EV	South Africa - living lab
13	Smart Innovation Norway	Norway	Solar PV	Junior Researcher	
14	Smart Innovation Norway	Norway	Solar PV	Junior Researcher	
15	Tecnalia	Spain	Solar PV	Smart Grids Mngr	
16	Tecnalia	Spain	Solar PV	PV technology	
17	Tecnalia	Spain	Solar PV	PV technology	
18	Tecnalia	Spain	Solar PV	PV technology	
19	Tecnalia	Spain	Solar PV	Smart microgrids Technology	
20	Tecnalia	Spain	Solar PV	PV technology	
21	Tecnalia	Spain	Solar PV	Smart microgrids Technology	
22	Tecnalia	Spain	Solar PV	Smart microgrids Technology	
23		Rwanda	Solar PV	Senior Researcher	
24	UNEP	Kenya	Solar PV	sustainable mobility	
25	United Nations (UN-Habitat)	Kenya	Solar PV	smart and electric mobility	
26	United Nations (UN-Habitat)	Kenya	Solar PV	UN-Habitat, Lead	
27	United Nations (UN-Habitat)	Kenya	Solar PV	lead, urban energy team	
28	United Nations	Kenya	Solar PV	urban energy advisor	
29	WI	Germany	Solar PV	Senior Researcher	Nigeria, Ghana
30	WeTu	Kenya	Solar PV, E-mobility		
31	UNEP-CCC	Denmark	Solar PV, Waste to Energy , Cookstoves, E-mobility	solar irrigation, cooling, microgrids, off-grid hubs, storage solutions, Cooking techs, clean/biofuels, two- and three wheelers, BM	Nigeria, Ghana, Uganda, Kenya

32	UNEP-CCC	Denmark	Solar PV, Cookstoves	Minigrids, solar PV business models, cookstoves value chains	Africa-wide
33	Inderen	Spain	Waste to Energy	biofuels	
34	RISE	Sweden	Cookstoves, Waste to Energy	cooking technology and biomass	Malawi
35	Metanogenia	Spain	Waste to Energy	biomass-waste to energy, biogas	Spain, Malawi, Ghana, Morocco
36	UNEP-CCC	Denmark	Cookstoves	cooking technology	Africa-wide
37	UNEP-CCC	Denmark	Waste to Energy	transparency and MRV in the waste management sector. Energy initiatives under a humanitarian crisis context	Latin America
38	UNEP-CCC	Denmark	Waste to Energy	Integrated Energy Systems, District Heating, District Cooling, Renewable, Low Carbon, Buildings Energy Efficiency, Digitalization	Mostly Europe, Asia and Latin America
39	UNEP-CCC	Denmark	Waste to Energy	Integration of WtE into the grid through responding to end-users' need.	Asia
40	Leitat	Spain	Waste to Energy	biomass-waste to energy, biogas	Ghana
41	Leitat	Spain	Waste to Energy	biomass-waste to energy, biogas	Ghana
42	Leitat	Spain	Waste to Energy	biomass-waste to energy, biogas	Ghana
43	GTA	Spain	Waste to Energy	Circular Economy - Waste Treatment	
44	UNEP	Kenya	E-mobility , Batteries	emobility, batteries, gender, E2Ws	Sub-Saharan Africa
45	Basic Internet Foundation	Norway	Not specified		
46	ICLEI World Secretariat	Germany	Not specified		
47	NMU uYilo	South Africa	E-mobility , Batteries	e-mobility, batteries, 2nd life battery applications, EV charging infrastructure, e-mobility training programmes, applied e-mobility research and development to support industry, accredited battery testing facility in accordance with the recognized international standard ISO/IEC: 17025,	South Africa: Living Lab
48	UN-Habitat	Kenya	Not specified		
49	UEMI	Germany	Not specified		
50	Green Energy Park	Not specified	Not specified		
51	Cenex NL	Netherlands	E-mobility , Batteries	Circular economy (2nd life, LCA)	Europe and Africa mostly
52	Cenex NL	Netherlands	E-mobility	E-busses & infra	Europe and Africa mostly
53	Cenex NL	Netherlands	E-mobility	circular economy (2nd life, LCA)	Europe and Africa mostly
54	Cenex NL	Netherlands	E-mobility , Batteries	Charging innovations (smart charging), integrations with PV & batteries	Europe and Africa mostly
55	Cenex NL	Netherlands	E-mobility	Shared mobility, mobility hubs, TCO for ZE vehicles (incl light & heavy duty)	Europe and Africa mostly
56	Cenex NL	Netherlands	E-mobility , Batteries	Charging innovations (smart charging), integrations with PV & batteries, battery swapping	Europe and Africa mostly

Project partners

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