

CircuWasteVETAfrica



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| Abstract | This report outlines the CircuWasteVETAfrica Train-the-Trainers programme aimed at strengthening TVET trainers' skills in circular economy and sustainable waste management in Ghana, Angola, and São Tomé and Príncipe. Evaluation results show high satisfaction, increased confidence, and strong learning outcomes. Fifty trainers obtained the certificate of Completion following theoretical and practical assessments. The programme enhanced institutional readiness and laid the foundation for scaling circular economy training across partner countries. |
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- * **R:** Document, report (excluding the periodic and final reports)
- DEM:** Demonstrator, pilot, prototype, plan designs
- DEC:** Websites, patents filing, press & media actions, videos, etc.
- DATA:** Data sets, microdata, etc.
- DMP:** Data management plan
- ETHICS:** Deliverables related to ethics issues
- SECURITY:** Deliverables related to security issues
- OTHER:** Software, technical diagram, etc.

EXECUTIVE SUMMARY

The CircuWasteVETAfrica Train-the-Trainers (ToT) Programme successfully fulfilled its mandate to enhance the technical, pedagogical, and facilitation capabilities of selected trainers drawn from Technical and Vocational Education and Training (TVET) institutions across Ghana, Angola, and São Tomé and Príncipe. The initiative was meticulously designed to equip these trainers for the effective delivery of a new curriculum that integrates core principles of circular economy and sustainable waste management. The participants engaged in a comprehensive curriculum structured around six key modules, including Pedagogical Upskilling, Circular Waste Technical Skills, Circular Business Models, Micro-Entrepreneurship, and Frugal and Digital Innovation, with all content appropriately adapted to the respective local contexts.

Evaluation feedback confirmed a high degree of satisfaction and relevance, with overall satisfaction rates recorded at 84.6% in Ghana, 85% in Angola, and 80% in São Tomé, alongside a demonstrable increase in trainer confidence and competency-based training skills. Following a rigorous evaluation process that incorporated both theoretical and practical assessments, **a total of 50 Trainers were formally certified to lead the subsequent learners' programme**: 21 from Ghana, 18 from Angola, and 11 from São Tomé and Príncipe.

Consequently, the ToT programme has significantly bolstered the preparedness of participating TVET institutions to integrate circular economy-oriented training, thus positioning the certified trainers to function as effective knowledge multipliers within their communities. Key recommendations for future optimisation include extending the training duration to allow for more intensive, hands-on practical sessions and country-specific case studies. In conclusion, the ToT activities successfully established a robust, quality-assured network of competent and certified trainers, thereby meeting its core objectives and laying a solid foundation for the widespread adoption of the circular economy curriculum across the three nations.

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ABBREVIATIONS

| | |
|-------------|---------------------------------------|
| TOT | Train-The-Trainers |
| VET | Vocational Education Training |
| TVET | Technical Vocational Education Traini |
| CBET | Competency-Based Education Training |
| ToT | Training of Trainers |
| WP | Work Package |

1. INTRODUCTION

1.1 BACKGROUND OF THE CIRCUWASTEVEAFRICA TOT PROGRAMME

The ToT aimed at strengthening Technical and Vocational Education and Training (TVET) systems in three Sub Saharan countries, through the integration of circular economy principles and sustainable waste management practices. The ToT programme responded to the growing environmental, social, and economic challenges associated with waste generation, resource inefficiency, and limited green skills within the waste management and recycling sectors.

Implemented across Ghana, Angola, and São Tomé and Príncipe, the programme focused on enhancing the relevance, quality, and labour-market alignment of TVET curricula by embedding circular economy concepts such as waste reduction, reuse, recycling, resource recovery, and sustainable production. By doing so, CircuwasteVETAfrica sought to equip learners and practitioners with practical, industry-relevant competencies that support green jobs, environmental sustainability, and inclusive economic growth.

A core pillar of the program was capacity development of TVET institutions and trainers, recognising that skilled and well-prepared trainers are essential for the successful transfer of knowledge and skills to learners. The Train-the-Trainers (ToT) approach was therefore adopted to ensure consistency, quality assurance, and long-term sustainability of the training interventions within participating institutions.

The Train-the-Trainers (ToT) Programme (100 hours) was conducted between August and November 2025, and it was specifically developed to enhance the technical, pedagogical, and facilitation skills of selected trainers. The central goal of this comprehensive training was to equip the participants with the necessary skills to effectively conduct the CircuwasteVETAfrica pilot training with learners (WP3) in 2026, in the short term, but more importantly, integrate acquired competences (pedagogical, digital and technical) in their teaching courses. Specifically, the ToT aimed to:

- Strengthen trainers' understanding of circular economy concepts, sustainable waste management, and green skills development;
- Equip trainers with learner-centred and competency-based training methodologies suitable for TVET delivery;
- Familiarise trainers with digital learning tools to be adopted in their daily teaching tasks
- Familiarise trainers with the CircuwasteVETAfrica curriculum, training materials, and assessment tools;
- Promote consistency and quality in training delivery across the three participating countries.
- Create a pool of certified trainers capable of cascading the training to learners and other trainers within their institutions.

In addition, the ToT programme served as a platform (20 hours) for peer learning, cross-country exchange, and validation of training content, allowing participants to share contextual insights and adapt the curriculum to national realities while maintaining the core objectives of the CircuwasteVETAfrica Programme.

The comprehensive Train-the-Trainers (ToT) programme culminated with the Validation Workshop (MS3), which served the dual purpose of formally assessing the trainers' preparedness for curriculum cascade and providing a dedicated platform for participants to offer detailed feedback on the entire ToT experience. These workshops

were successfully held across the participating countries: Angola on 15th December at CINFOTEC Rangel, Ghana on 17th December at the PRECEVID VTF Hall, and São Tomé and Príncipe on 19th December at CFP-STP Budo Budo.

This structure allowed trainers to meticulously scrutinise the content, structure, and delivery mechanisms of the CircuWasteVETAfrica curriculum. Specific focus was placed on validating the relevance and adaptability of the six training modules (including Pedagogical Upskilling, Circular Waste Technical Skills, and Circular Business Models), the effectiveness of the competency-based delivery approach, and the quality of the supporting materials. Through structured discussions and questionnaires, participants actively contributed to the quality assurance process, offering valuable, contextualised insights for refinement. Feedback gathered during this phase—covering the modules' depth, the balance between theory and practical sessions, and the localisation of case studies—was essential for finalising the training materials and methodology before the subsequent learners' programme. This validation step ensured that the ToT was not only well-received but also formally endorsed by the trainers as relevant, practical, and highly suitable for implementation within their respective TVET institutions and national contexts.

2. TRAINING PROGRAMME

2.1 OVERVIEW OF TRAINING MODULES

The **train-the-trainer programme** was structured into six specialised modules that empowered trainers with pedagogical expertise and technical proficiency. It covers key areas such as **teaching methodologies, circular waste skills, business models, micro-entrepreneurship, innovation, and public-private partnerships**. The curriculum was designed using a modular and competency-based approach, allowing flexibility in delivery while ensuring coherence across learning outcomes. Each module combined theoretical concepts, practical demonstrations, group discussions, case studies, and hands-on activities, enabling trainers to actively engage with the content and reflect on its application in their teaching contexts. The delivery approach emphasised:

- Participatory and experiential learning, encouraging peer exchange and collaborative problem-solving;
- Integration of real-life case studies from the waste and circular economy sectors;
- Continuous assessment through practical exercises, presentations, and reflective discussions;
- Alignment with TVET standards and labour-market needs, ensuring relevance and applicability.

The ToT methodology also focused on enabling trainers to cascade the training within their institutions, thereby multiplying the impact of the program.

Deliverable D2.1 Train the Trainers Materials provides further information regarding the Train the Trainers Materials. All the Training materials (in English and Portuguese) are publicly available on the Smart Step (<https://smartstep-community.com/en>) elearning platform, and linked from the CircuWasteVETAfrica website (<https://circuwastevetafrika.eu/vet-training-programmes>).

2.3 ADAPTATION OF MATERIALS ACROSS GHANA, ANGOLA AND SÃO TOMÉ

While maintaining a common curriculum framework, training materials were adapted to reflect the national contexts of Ghana, Angola, and São Tomé and Príncipe. Adaptation considered differences in waste management systems, institutional capacities, regulatory environments, and market opportunities. This contextual approach ensured that the training remained relevant, practical, and scalable, while preserving the core objectives and quality standards of the CircuwasteVETAfrica programme across all participating countries. The success of this adaptation process was heavily reliant on close collaboration with national stakeholders, including government bodies responsible for waste management, vocational training institutions, and private sector representatives. This collaborative effort helped to validate the adapted content and secured buy-in for the subsequent phases of the CircuwasteVETAfrica programme, ensuring long-term sustainability and uptake of the new curriculum.

3 TRAINERS PARTICIPANTS

3.1 PARTICIPANT DEMOGRAPHICS

The CircuwasteVETAfrica Train-the-Trainers (ToT) programme brought together a diverse group of participants from Ghana, Angola, and São Tomé and Príncipe, with strong representation from TVET institutions and training centres across the three countries. A total of 68 participants were selected to the ToT programme, distributed as follows:

- Ghana: 24 participants, including 8 females
- São Tomé and Príncipe: 20 participants, including 6 females
- Angola: 24 participants, including 7 females

Across all three countries, the participants were teachers, instructors, or trainers actively involved in vocational and technical education delivery. Their fields of specialisation included areas such as technical trades, applied sciences, construction, fashion, catering, and related vocational disciplines, reflecting the multidisciplinary nature of circular economy and waste management training. Participants also demonstrated a range of academic and professional qualifications, from higher national diplomas to bachelor's and postgraduate degrees, indicating a solid foundation for advanced capacity building and knowledge transfer. The male participation remained higher in the programme reflecting the demographics of the TVET schools' training staff.

3.2 ATTENDANCE RECORDS AND PARTICIPATION RATES

Attendance records for the CircuwasteVETAfrica Train-the-Trainers (ToT) programme demonstrated a satisfactory participation across the three participating countries—Ghana, Angola, and São Tomé and Príncipe. Overall attendance trends indicate the commitment from both individual trainers and their respective institutions. Based on attendance sheets during the live sessions online, the analysis of the login on the Smart Step elearning platform and training modules completion rates recorded on the same platform, the average attendance rate across the training modules was good in all three countries, with Ghana and Angola recording slightly higher average attendance compared to São Tomé and Príncipe. This variation can be attributed mainly to contextual factors such as institutional schedules, connectivity challenges, and competing professional responsibilities.

The ToT programme was successfully completed by 50 trainers (79%) that received the Certificate of Completion (21 Ghana, 11 Sao Tomé, 18 Angola) from the VET schools across the four countries. The Certificate of Completion was recognised to the trainers who: attended over 80% of the live sessions and completed **97% of the online self-learning modules** (some of them completed 67% or 83% of the training contents but managed to complete the quizzes at the end of training modules and were nevertheless considered eligible).

- Ghana: Participants demonstrated a high average attendance (99%), with most trainers attending most sessions across all modules.
- Angola: Attendance levels were similarly strong (95%), with consistent participation observed throughout the programme.
- São Tomé and Príncipe: While overall attendance remained positive (98%), a small number of participants recorded moderate attendance levels, mainly due to logistical and scheduling constraints.

The integration of the Smart Step digital learning platform played a significant role in supporting attendance and participation. Trainers used the platform to access learning materials, complete assignments, and follow

up on sessions they were unable to attend physically. This blended learning approach helped to minimise learning gaps and supported continuity across the programme. Nevertheless, for most of the trainer, it was the first time using a digital learning platform and the programme showed in some cases: a) limited basic digital skills b) difficulties in connecting due to slow internet connection c) limited hardware (several trainers used their mobile phones to connect to the live sessions and to access the learning contents). In terms of programme completion, the majority of participants across all three countries were able to complete the ToT programme, having met the required attendance thresholds and participation criteria. A small number of participants were unable to complete the programme in full, primarily due to:

- Inconsistent attendance across multiple modules;
- Competing institutional or professional obligations;
- Limited engagement with the Smart Step platform.

Despite these challenges, overall completion rates were strong, reinforcing the effectiveness of the ToT structure and delivery approach. The high proportion of completed participants provides a solid foundation for the cascade training model, ensuring that a critical mass of trained trainers is available to replicate and scale CircuwasteVETAfrica training activities within their institutions.

4 TRAINERS' FEEDBACK

Feedback from the trainers was collected using a mixed-methods approach. A structured questionnaire was developed and administered to gather their feedback quantitatively (Annex C). Additionally, qualitative feedback was collected during a validation session held at the end of the Training of Trainers (ToT) Validation Workshop, which allowed for in-depth discussion and insights. The general feedback received from all trainers across the participating countries was overwhelmingly positive. Trainers expressed satisfaction with the content, structure, and delivery of the training. More specific feedback, including areas for minor refinement, is broken down by country in the subsequent subtopics.

4.1 VALIDATION WORKSHOP

The Validation Workshop (MS3) served the dual purpose of formally assessing the trainers' preparedness for curriculum cascade and providing a dedicated platform for participants to offer detailed feedback on the entire ToT experience. These workshops were successfully held across the participating countries: Angola on 15th December at CINFOTEC Rangel, Ghana on 17th December at the PRECEVID VTF Hall, and São Tomé and Príncipe on 19th December at CFP-STP Budo Budo. This structure allowed trainers to meticulously scrutinise the content, structure, and delivery mechanisms of the CircuWasteVETAfrica curriculum. Specific focus was placed on validating the relevance and adaptability of the six training modules (including Pedagogical Upskilling, Circular Waste Technical Skills, and Circular Business Models), the effectiveness of the competency-based delivery approach, and the quality of the supporting materials. Through structured discussions and questionnaires, participants actively contributed to the quality assurance process, offering valuable, contextualised insights for refinement. Feedback gathered during this phase—covering the modules' depth, the balance between theory and practical sessions, and the localisation of case studies—was essential for finalising the training materials and methodology before the subsequent learners' programme. This validation step ensured that the ToT was not only well-received but also formally endorsed by the trainers as relevant, practical, and highly suitable for implementation within their respective TVET institutions and national contexts. More Details are provided in Annex G.

4.2 INSIGHTS FROM GHANAIAN TRAINERS

The "Train the Trainers" program in Ghana was a significant success, receiving overwhelmingly positive feedback from 24 participants and leading to **notable professional growth**. The Training of Trainers (ToT) programme was well-received, with high satisfaction and engagement reported by participants; specifically, 84.6% of trainers rated their overall satisfaction as "Excellent" or "Good," largely driven by the clear objectives and coherent structure. The training was highly effective in boosting self-efficacy, as 95% reported an improved ability to facilitate learning, and 84.6% are now prepared to integrate their new competencies into the upcoming Learners Programme (WP3). Content and delivery were also highly valued, with 88.5% agreeing that the training methodologies would directly benefit their professional activities, and all six modules performed consistently well, with **Module B (Circular Waste Technical Skills) being the highest-rated**. Major strengths highlighted included the interactive nature, the relevance of the circular economy content, and the focus on digital and frugal innovation. For future iterations, participants strongly recommended a **shift from theory to more hands-on, practical sessions and the incorporation of local case studies**. Trainers also suggested extending the duration for more in-depth discussion and expressed a preference for supplementing online components with physical, in-person meetings. Finally, suggestions for additional content and support included

adding material on renewable energy integration and providing start-up capital to help trainers launch their own waste management initiatives.

4.3 INSIGHTS FROM ANGOLAN TRAINERS

The "Train the Trainers" program in Angola was highly successful, with 85% of the participants rating their satisfaction as "Excellent" or "Good." The training had a demonstrably positive impact, as 85% of participants reported **increased confidence**. Furthermore, the content was **praised for its strong alignment with Angola's national "learning by doing" (APC) VET philosophy**. A particular highlight of the curriculum was Module C, focusing on **Circular Business Models**, which was the highest-rated module (4.60/5). The content on the Circular Economy was singled out by participants as the most "impressive" and "pertinent" material. In terms of delivery, trainers highly valued the live and face-to-face sessions, noting their importance for effectively clarifying complex topics. Despite the overwhelmingly positive feedback, several key challenges and corresponding recommendations emerged. Significant **infrastructure barriers were identified, primarily stemming from poor digital connectivity and a complete lack of hardware or data stipends for trainers**. To address this, trainers explicitly requested that all training materials be provided in downloadable or audio formats. In addition to technical challenges, participants expressed a desire for a more hands-on approach. They strongly urged an increase in **practical sessions** focusing on "transformation of waste" and "creation of artisanal tools," and requested more in-person training dedicated to Artificial Intelligence and various digital tools. To ensure the continued success and broader implementation of the programme's objectives, financial and logistical support were highlighted as a critical need. This support is viewed as essential for overcoming the identified challenges, facilitating the execution of practical sessions, and ultimately allowing for wider participation across the Angolan VET system. Addressing these infrastructure and practical needs, coupled with financial assistance, will be crucial for maximising the long-term impact of the training.

4.4 INSIGHTS FROM SÃO TOMÉ TRAINERS

The training program in São Tomé and Príncipe (STP) was highly successful and strategically relevant, with 80% of trainers rating the course as "Excellent" or "Good." Participants highlighted the programme's critical importance for **generating employment and protecting the environment** through the circular economy and waste management. The training significantly boosted participant confidence, with 80% feeling more prepared to apply the methodologies and 73.3% **ready to integrate new tools into their teaching**. The high commitment level was evidenced by 73.3% expressing readiness to contribute to the upcoming Learners Programme. Module C (Circular Business Models) and Module E (Frugal and Digital Innovation) were the most highly rated, suggesting strong relevance. The **local adaptation of case studies was particularly praised** for making "green entrepreneurship" initiatives tangible. While general satisfaction was high, some areas for improvement were identified. Module F (Public-Private Partnerships) scored lower (2.97/5), indicating a need for simpler delivery. Trainers also found the 45-minute online sessions too short for the extensive content and suggested more interactive methodologies for initial modules. To enhance future editions, trainers strongly recommended **more hands-on and field experience, including visits to waste management facilities**. They also proposed creating a **permanent digital library/resource repository for all materials and providing practical business tools, such as templates for real business plans for green ventures**. Finally, exploring tailored incentives to maintain high engagement and motivation was recommended.

5 TOT PROGRAMME EVALUATION

The evaluation phase was critical to ensuring that the trainers possessed both the technical knowledge and the pedagogical skills required to facilitate the learners' program effectively. The assessment focused on mastery of the course content and the ability to transfer that knowledge to diverse audiences.

5.1 TRAINERS' PERFORMANCE ASSESSMENT

The assessment process was rigorous, combining theoretical examinations with practical demonstrations. Across all three participating countries, the trainers demonstrated a high level of competence and dedication. A critical phase in trainers' preparation involved intensive sessions where trainers collaboratively prepared to deliver and present specific topics from the training modules. These preparatory workshops were vital, as they provided a safe environment for practice, with constructive feedback offered by both their fellow trainers and invited subject matter experts and guests. A key component of the evaluation was a practicum, where trainers were required to deliver short presentations on specific portions of the course. This allowed the evaluators to observe their communication style, clarity of explanation, and ability to handle technical questions. The final evaluation criteria for the practicum focused on: (1) **Subject Matter Mastery:** Depth of understanding of the module content; (2) **Pedagogical Skill:** Clarity of presentation, logical flow, and use of effective teaching aids; and (3) **Engagement and Q&A Handling:** Ability to maintain peer interest and provide accurate, concise answers to challenging technical queries. Matrix for the Evaluation is provided in Annex E. The results were overwhelmingly positive, with trainers displaying a strong grasp of the curriculum and an impressive ability to engage their peers during the presentations, **confirming their readiness to lead future training sessions.**

5.2 CROSS-COUNTRY COMPARISON OF TRAINER COMPETENCIES

While all three countries met the required standards for the program, the specific outcomes of the selection process varied based on regional performance metrics:

- Ghana: The trainers showed consistent performance throughout the sessions. Following the final assessment, **21 trainers were successfully selected to lead the upcoming learners' programme.**
- São Tomé and Príncipe: This cohort demonstrated exceptional academic results. Notably, 5 trainers achieved a perfect score of 30/30 on their evaluations. Based on the overall results, **11 trainers were selected to proceed to the learners' training phase.**
- Angola: The trainers in Angola exhibited strong practical skills and a commitment to the course objectives. After the evaluation, **18 trainers were selected to facilitate the training for the learners.**

5.4 FACILITATORS' EVALUATION

The facilitators for the Train-the-Trainers (ToT) programme demonstrated a high level of professional expertise, with backgrounds ranging from chemical engineering and labour law to communication and circular economy. Their roles focused on transforming theoretical knowledge into practical, accessible teaching methods.

Preparations were extensive, often involving context analysis to adapt content for African Vocational Education and Training (VET) systems and the collection of real-life case studies from participating countries to foster debate. Facilitators generally rated their own performance positively, often citing the use of blended learning and "learning-by-doing" principles as key drivers for successful delivery. While the training materials were mostly regarded as adequate, several facilitators highlighted significant challenges regarding participants active participation in the live sessions and technical barriers. Common obstacles included language barriers, inconsistent internet connectivity, particularly frequent power outages in regions like São Tomé and Príncipe, and a lack of prior preparation by some trainees. Despite these issues, highlights of the programme included the genuine motivation and gratitude shown by active participants, as well as the successful use of digital tools like the Smart Step Platform and virtual whiteboards for co-creation activities. To improve future editions, facilitators suggested transitioning to in-person sessions to maintain attention, creating ongoing online communities for material exchange, and setting clearer professional expectations for trainees from the start.

6 PROGRAMME OUTCOME AND RECOMMENDATION

6.1 IMPACT ASSESSMENT OF THE TOT PROGRAMME

The Training of Trainers (ToT) programme generated a **strong and consistent positive impact** across Ghana, Angola and São Tomé and Príncipe. Overall, trainers reported significant improvements in their knowledge, skills, and confidence to deliver training on circular economy–related topics, particularly within the TVET context. When comparing their knowledge levels before and after the programme, **respondents across all three countries indicated clear learning gains, especially in areas related to circular waste management, circular business models, entrepreneurship, and innovative pedagogical approaches.** Participants consistently described the training as highly relevant to their professional roles. The combination of technical content and pedagogical upskilling enabled trainers to better understand how to translate circular economy concepts into practical teaching and learning activities. Many respondents emphasised that the ToT strengthened their ability to deliver learner-centred, interactive sessions and to integrate sustainability principles into existing curricula. This has increased trainers' readiness to act as multipliers within their institutions and communities.

The quality of training delivery was rated very positively across the three countries. Facilitators were widely recognised for their technical expertise, clarity, and ability to engage participants through interactive methods. Trainers valued the participatory learning environment, which encouraged peer exchange and the sharing of experiences from different institutional and national contexts. Despite differences in country settings and institutional capacities, the programme achieved a high level of consistency in outcomes, demonstrating the adaptability and robustness of the ToT design.

At the institutional level, the ToT contributed to improved readiness of TVET institutions to introduce or strengthen circular economy–oriented training. Trainers reported increased motivation to apply the knowledge they had acquired in classrooms, workshops, and community-based training settings. The programme, therefore, not only enhanced individual competencies but also laid the groundwork for longer-term institutional change.

6.2 KEY RECOMMENDATIONS FOR IMPROVEMENT

Although the ToT programme was widely regarded as effective, trainers identified several areas where future editions could be strengthened. One of the most common recommendations was the need for a **longer training duration**. Participants felt that **some modules were content-heavy and would benefit from additional time to allow for deeper discussion, reflection, and hands-on practice. There was also a strong call for increased practical application** of the training content. Trainers expressed interest in more case studies, demonstrations, and exercises linked to real-life circular economy and waste management challenges within their local contexts. This would further enhance understanding and support the practical transfer of knowledge to teaching and training environments. In addition, participants recommended stronger localisation of training materials. While the overall content was considered relevant, trainers suggested that future programmes include more country-specific examples, references to national policies, and case studies drawn from local industries and communities. Access to additional learning resources, such as facilitator guides, digital materials, and practical toolkits, was also highlighted as a crucial factor in sustaining impact after the training.

6.3 IDENTIFIED FURTHER TRAINING NEEDS ACROSS THE THREE COUNTRIES

The evaluation responses revealed a clear demand for continued capacity-building beyond the initial ToT. Trainers across all three countries expressed interest in more advanced training on circular economy and waste management, including specialised topics such as waste segregation, recycling technologies, organic waste management, and environmental health and safety practices.

There was also a strong need for further training on digital and innovative teaching methods. Trainers highlighted the importance of strengthening their skills in digital tools, blended learning approaches, and online training delivery, particularly to enhance accessibility and modernise TVET systems. Entrepreneurship and business development emerged as another priority area, with trainers requesting deeper support in business planning, market access, and financial literacy to better prepare learners for self-employment and green enterprise development.

Finally, many respondents emphasised the importance of **ongoing mentorship and follow-up support**. Suggestions included refresher training, peer learning platforms, and cross-country communities of practice that would allow trainers to share experiences, challenges, and best practices over time. Such mechanisms were seen as essential for maintaining momentum, ensuring continuous improvement, and maximising the long-term impact of the ToT programme.

7 CONCLUSIONS

7.1 SUMMARY OF KEY FINDINGS

This report has demonstrated that the Training of Trainers (ToT) component of the CircuWasteVETAfrica project has been highly effective in strengthening trainer capacity and institutional readiness across Ghana, Angola, and São Tomé and Príncipe. The programme successfully enhanced trainers' technical knowledge of circular economy and waste management concepts while simultaneously improving their pedagogical skills and confidence to deliver learner-centred training. Across all three countries, trainers reported clear improvements in their understanding of circular waste management, circular business models, entrepreneurship, and innovative teaching methodologies. **The strong alignment of the training content with trainers' professional roles contributed significantly to its perceived relevance and practical value.** Participants were able to directly link the acquired knowledge and skills to their teaching responsibilities and institutional mandates, reinforcing the multiplier effect that is central to the project's design. The quality of training delivery emerged as a key strength of the programme. Facilitators were consistently rated highly for their expertise, clarity, and ability to create interactive and inclusive learning environments. Despite differences in national contexts, institutional capacities, and local challenges, the ToT programme achieved a high level of consistency in outcomes across the three countries, demonstrating the adaptability and robustness of the CircuWasteVETAfrica training approach. Overall, the findings confirm that the ToT programme has laid a solid foundation for the integration of circular economy principles into TVET systems. By **building both individual competencies and institutional capacity**, the programme has positioned participating institutions and trainers to play an active role in promoting sustainable waste management practices and green skills development.

7.2 NEXT STEPS FOR THE CIRCUWASTEVEAFRICA PROGRAMME IMPLEMENTATION

Building on the positive outcomes of the ToT programme, the next phase of CircuWasteVETAfrica implementation is the learners pilot programme (WP3) which will start in each participating TVET institution in the three countries in early 2025. The trainers will in should focus on **consolidation, scaling, and sustainability**. A key priority will be supporting trained trainers to effectively cascade the acquired knowledge within their institutions and to TVET learners. This includes providing structured guidance, teaching resources, and ongoing technical support to ensure consistent and high-quality delivery of the adapted curricula. Further efforts should be made to strengthen the practical application of training content. This can be achieved through increased collaboration with local industries, waste management actors, and community initiatives, enabling learners to engage with real-life circular economy challenges. Such partnerships will enhance the relevance of training programmes and improve employment and entrepreneurship pathways for TVET graduates. Continued capacity-building is also essential. Refresher trainings, advanced modules, and targeted support in areas such as digital teaching methods, entrepreneurship, and specialised waste management technologies will help sustain momentum and address emerging needs identified during the evaluation. **Establishing trainer networks and cross-country communities of practice will further promote peer learning, experience sharing, and continuous improvement. Finally, ongoing monitoring, evaluation, and learning should remain central to the project's implementation.** Systematic feedback from trainers and institutions will allow CircuWasteVETAfrica to adapt its approaches over time, strengthen its impact, and ensure alignment with national TVET priorities and circular economy strategies.

ANNEX A - LIST OF TRAINERS ENROLLED IN THE TOT PROGRAMME

| GHANA | | | | | | |
|-------|-------------|--------------------|--------|--------------------------|-----------------------|-------------------------|
| s/n | Surname | Name | Gender | Organization/Institution | Highest Qualification | Field of teaching |
| 1 | Darko | Augustina | F | PRSD/Ramseyer TI | BSc | Fashion |
| 2 | Additey | Richmond | M | PRSD/Ramseyer TI | Advanced Fashion | Fashion |
| 3 | Adu-Gyamfi | Yaa Anima | F | PRSD/Ramseyer TI | HND | Catering |
| 4 | Boamah | Philip | M | PRSD/Ramseyer TI | MPhil | Building Construction |
| 5 | Woyo | Cynthia | F | PRSD/Ramseyer TI | HND | Statistics |
| 6 | Dwomoh | Isaac Kwabena | M | PRSD/Ramseyer TI | Diploma | Building Construction |
| 7 | Nincheama | Muftawu | M | PRSD/Ramseyer TI | BTech | Plumbing & Gas |
| 8 | Assuah | Obed | M | PRSD/Ramseyer TI | HND | Plumbing & Gas |
| 9 | Arthur | Edward Benjamin | M | PRSD/Ramseyer TI | BSc | Electricals |
| 10 | Twum | Paul | M | PRSD/Ramseyer TI | BSc | Electricals |
| 11 | Akyea | Enock | M | PRSD/Ramseyer TI | BSc | Electricals |
| 12 | Bimpeh | Emmanuel Atta | M | PRSD/Ramseyer TI | BSc | Electricals |
| 13 | Bonsu | Kwabena | M | PRSD/Ramseyer TI | BA | Automotive |
| 14 | Nomibesig | Mathias | M | PRSD/Ramseyer TI | Diploma | Automotive |
| 15 | Owuani | Simon | M | PRSD/Ramseyer TI | BSc | Wood Construction |
| 16 | Addo | Felicia | F | PRSD/Ramseyer TI | BSc | Administration |
| 17 | Ameyaw | Olivia Animah | F | PRSD/Ramseyer TI | BTech | Computerised Accounting |
| 18 | Gyan | Armstrong Kwaku | M | PRSD/Ramseyer TI | BSc | ICT |
| 19 | Asenso | Collins Opoku | M | PRSD/Ramseyer TI | BSc | ICT |
| 20 | Amoah | Cecilia | F | PRSD/Ramseyer TI | HND | Fashion |
| 21 | Abeam Danso | Anita | F | PRSD/Ramseyer TI | BBA | HR |
| 22 | Asare | Daniel Atta | M | PRSD/Ramseyer TI | BSc | Science |
| 23 | Kesse | Samuel | M | PRSD/Ramseyer TI | Diploma | Mathematics |
| 24 | Marfo | Sethlina Boakyewaa | F | PRSD/Ramseyer TI | BA | English |

| SAO TOME | | | | | | |
|----------|-----------------|----------------------|--------|----------------------------------|--|----------------------------------|
| s/n | Name | Surname | Gender | Organization/Institution | Highest Qualification | Field of teaching |
| 1 | Aicha | Espirito Santo | Female | CFP-STP | Lic. em Economia | Administração |
| 2 | Ajourney | Tiny | Male | Centro Brasil STP | lic em Gestão Informatica | Inst. Eletrica Resid |
| 3 | Alizete | da Costa | Female | CFP-STP | Lic em Relações Internacional | Administração |
| 4 | Antonia Alariza | Mendes Luiz | Female | Ministerio de Economia | Lic em Gestão Ambiental | Ambiente |
| 5 | Antonio Silva | Ferreira d' Assunção | Male | CFP-STP | Eng Informatico | Informatica |
| 6 | Aurelio | Silva | Male | Ministerio da Agricultura | Lic em Economia de Trabalho | Higiene e Segurança |
| 7 | Baltazar | Garcia | Male | Ministerio de Justiça | Lic. em Economia | Contabilidade |
| 8 | Braulia Costa | do Nascimento | Female | Camara Distrital Agua Grande | Lic em Sociologia | Desenv, Pessoal, Prof e Social |
| 9 | Breyner | Lopes | Male | Serv. Proteção Civil e Bombeiros | Lic em Gestão de Empresas | Higiene e Segurança no Trabalho |
| 10 | Eanes Lima | dos Anjos Gravid | Male | Inspeção Geral Trabalho | Tecn Higiene e Segurança | Higiene e Segurança no Trabalho |
| 11 | Emidio | Pereira | Male | REINA | Lic em Economia e Gestão | Empreendedorismo |
| 12 | Ernestino | da Costa Gomes | Male | ENAPORT | Mestre em Adm e Gestão | Contabilidade |
| 13 | Grinauldina | Ramos | Female | CFP-STP | Tecnica de Formação | Administração |
| 14 | Hulda | Nascimento | Female | Inspeção Geral Trabalho | Tecn Higiene e Segurança | Higiene e Segurança no Trabalho |
| 15 | Jerry | da Conceição Neto | Male | Instituto Habitação Imobiliaria | Lic em Gestão | Empreendedorismo |
| 16 | Josias | Barreto | Male | CFP-STP | Eng Informatico | Informatica |
| 17 | Kiakisiki | do Nascimento | Male | PNUD-STP | Mestre em Econ. e Gestão | Higiene e Segurança no Trabalho |
| 18 | Miguel | Gomes | Male | Universidade de STP | Lic em Sociologia | Etica e deontologia profissional |
| 19 | Salustino | Andrade | Male | Assembleia da Republica | Doutoramento em Ciencias Juridicas | Empreendedorismo |
| 20 | Sequeira | Bonfim Miguel | Male | Ministerio de Educação | Lic. em Cienas Politica e Adm. Publica | Ingles |

| ANGOLA | | | | | | |
|--------|--------------------------|-----------------------|--------|---|----------------------------------|---|
| s/n | Surname | Name | Gender | Organization/Institution | Highest Qualification | Field of teaching |
| 1 | Kangaji | Monique | F | VTC Dom Bosco - Dondo (Cuanza Norte) | Teacher | Pastry and Cooking |
| 2 | Tunguno | Adérito Dos Santos | M | VTC Dom Bosco - Dondo (Cuanza Norte) | Teacher | Electricity |
| 3 | Lopes | António | M | VTC Dom Bosco - Dondo (Cuanza Norte) | Teacher | ICT |
| 4 | Fausto | António | M | VTC Dom Bosco - Dondo (Cuanza Norte) | Teacher | Cutting and Sewing |
| 5 | Cabanga | Genilson | M | VTC Dom Bosco - Dondo (Cuanza Norte) | Teacher | HVAC Technician |
| 6 | Sabino | Bartolomeu Lourenço | M | VCT Dom Bosco - Benguela (Benguela) | Teacher | Metalwork |
| 7 | De Carvalho Sabino | Lourenço | M | VCT Dom Bosco - Benguela (Benguela) | Teacher | Plumbing |
| 8 | Manuel Viava | Cicílio João | M | VCT Dom Bosco - Benguela (Benguela) | Teacher | Mechanic/Plumbing |
| 9 | Chipenhe | Francisco Manjolo | M | VCT Dom Bosco - Benguela (Benguela) | Teacher | Electricity and Photovoltaics |
| 10 | Da Costa | João Segunda | M | VCT Dom Bosco - Benguela (Benguela) | Teacher | Computer Science |
| 11 | Brinco | Daniel Quaresma | M | VCT Dom Bosco - Benguela (Benguela) | Teacher and Pedagogical Director | Employment training |
| 12 | Gonçalves | Maria Graciana | F | VCT Dom Bosco - Benguela (Benguela) | Secretary of the Center | N/A |
| 13 | Quianica | Ilda | F | VCT INEFOP General management (Luanda) | Teacher | Technician |
| 14 | De Oliveira | Isabel | F | VCT INEFOP General management (Luanda) | Coordinator | Vocational training department |
| 15 | Da Casta | Márcio Rosário Camilo | M | VCT INEFOP - CENFOCC (Luanda) | Teacher | HST Trainer (Hygiene and safety at work) |
| 16 | M.do N. Daniel | Adjany Manuela | F | VCT INEFOP - Centro Femenino do Rangel (Luanda) | Teacher | Event designer and decorator |
| 17 | de Carvalho Simões | Lázaro Bráulio | M | VCT INEFOP - CINFOTEC Talatona (Luanda) | Teacher | HST Trainer |
| 18 | Cristovão | Sara | F | VCT INEFOP - CINFOTEC Rangel (Luanda) | Teacher | HST Trainer |
| 19 | Joao da Silva Dos Santos | Ceni | F | VCT INEFOP - CINFOTEC Rangel (Luanda) | Teacher | HST Trainer |
| 20 | De Rosario | Bernardo | M | VCT INEFOP - Morro da Luz (Luanda) | Teacher | Master Mason |
| 21 | Paulo | Eduardo Munto | M | VCT INEFOP - CEFOPROF (Benguela) | Teacher | HST Trainer |
| 22 | Chiquina | Manuel | M | VCT INEFOP - CINFOTEC HUAMBO | Teacher | Quality Control - Metrology Division |
| 23 | Dumbo | Bernabé | M | VCT INEFOP - CINFOTEC HUAMBO | Teacher | Quality Control - Metrology Division |
| 24 | Lage | Helder Fernando | M | VCT INEFOP - CIDAELA JOVEM DE SUCESSO DA MATALA - Huila | Teacher | Basic Management and Entrepreneurship Trainer |

ANNEX B- LIST OF TRAINERS WHO OBTAINED THE CERTIFICATES

| LIST OF TRAINERS FOR CERTIFICATE CWA TOT Programme GHANA | | | | | | | | | |
|--|-------------|--------------------|----------|----------|---------|---------|----------|----------|------|
| s/n | Surname | Name | Module A | Module B | Modul C | Modul D | Module E | Module F | |
| 1 | Abeam Danso | Anita | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 3 | Addo | Felicia | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5 | Akyea | Enock | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 6 | Ameyaw | Olivia Animah | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 7 | Amoah | Cecilia | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 8 | Arthur | Edward Benjamin | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 9 | Asare | Daniel Atta | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 10 | Asenso | Collins Opoku | 1 | 1 | | 1 | 1 | 1 | 83% |
| 12 | Bimpeh | Emmanuel Atta | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 14 | Bonsu | Kwabena | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 15 | Darko | Augustina | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 16 | Dwomoh | Isaac Kwabena | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 17 | Gyan | Armstrong Kwaku | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 18 | Kesse | Samuel | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 19 | Marfo | Sethlina Boakyewaa | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 20 | Nincheama | Muftawu | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 21 | Nomibesig | Mathias | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 22 | Owuani | Simon | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 23 | Twum | Paul | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 24 | Woyo | Cynthia | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| | | | 20 | 20 | 19 | 20 | 20 | 20 | |

| LIST OF TRAINERS FOR CERTIFICATE CWA TOT Programme SAO TOME | | | | | | | | | |
|---|-----------------|----------------------|----------|----------|----------|----------|----------|----------|------|
| s/n | Name | Surname | Module A | Module B | Module C | Module D | Module E | Module F | |
| 1 | Aicha | Espirito Santo | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 4 | Antonia Alariza | Mendes Luiz | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5 | Antonio Silva | Ferreira d' Assunção | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 12 | Ernestino | da Costa Gomes | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 13 | Grinauldina | Ramos | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 14 | Hulda | Nascimento | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 15 | Jerry | da Conceição Neto | 1 | 1 | 1 | 1 | 1 | | 83% |
| 16 | Josias | Barreto | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 17 | Kiakisiki | do Nascimento | 1 | 1 | 1 | 1 | | | 67% |
| 18 | Miguel | Gomes | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 20 | Sequeira | Bonfim Miguel | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| | | | 11 | 11 | 11 | 11 | 10 | 9 | |

| LIST OF TRAINERS FOR CERTIFICATE CWA TOT Programme ANGOLA | | | | | | | | | | |
|---|--------------------------|-----------------------|---------------------------------|----------|----------|----------|----------|----------|----------|------------|
| s/n | Surname | Name | Email Address | Module A | Module B | Module C | Module D | Module E | Module F | Percentage |
| 1 | Kangaij | Monique | monicameury314@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 2 | Tunguno | Adérito Dos Santos | aderitotunguno10@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 3 | Lopes | António | lmanuel273@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 4 | Fausto | António | antoniofaustoantonio1@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 5 | Cabanga | Genilson | genilsoncabanga94@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 8 | Manuel | Ciclio João | pinduca003@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 9 | Chipenhe | Francisco Manjolo | chipenhefm@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 10 | Da Costa | João Segunda | joaosdacostadacosta@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 11 | Brinco | Daniel Quaresma | danielquaresmabrinco@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 12 | Gonçalves | Maria Graciana | meurygraciana44@Gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 14 | De Oliveira | Isabel | isabeldeoliveira@live.com.pt | 1 | 1 | 1 | | | 1 | 67% |
| 15 | Da Casta | Márcio Rosário Camilo | marciocamilo.db@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 16 | M.do N. Daniel | Adjany Manuela | adjanydaniel1992@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 19 | Joao da Silva Dos Santos | Ceni | cenisantos55@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 21 | Paulo | Eduardo Munto | sinceromuntu@hotmail.com | 1 | 1 | | 1 | 1 | 1 | 100% |
| 22 | Chiquina | Manuel | manuelchiquina@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 23 | Dumbo | Bernabé | bernabemendes@live.com.pt | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| 24 | Lage | Helder Fernando | helderfernandolage@gmail.com | 1 | 1 | 1 | 1 | 1 | 1 | 100% |
| | | | | 18 | 18 | 17 | 17 | 17 | 18 | |

ANNEX C- TRAINERS’ EVALUATION QUESTIONNAIRE

TRAIN THE TRAINERS – EVALUATION QUESTIONNAIRE (for Trainers)

General Information

- Country: _____
- Trainer’s Name (*Write your initials only*) : _____

SECTION 1 – Overall Course Evaluation

1. How would you describe your general level of satisfaction with the training course?
 Excellent Good Average Fair Poor
2. The objectives of the training programme were clear and well communicated.
 Excellent Good Average Fair Poor
3. The structure of the course (6 modules) was coherent and logically sequenced.
 Excellent Good Average Fair Poor
4. The duration and pace of the training were appropriate.
 Excellent Good Average Fair Poor
5. The methodologies and approaches used during the course will help me in my professional activity.
 Excellent Good Average Fair Poor
6. The training materials and resources supported learning effectively.
 Excellent Good Average Fair Poor

SECTION 2 – Trainer Self-Assessment

1. How would you rate your level of knowledge and skills before and after the course?

| | Excellent | Good | Average | Fair | Poor |
|-------------------|-----------|------|---------|------|------|
| Before the course | | | | | |
| After the course | | | | | |

2. I feel more confident in applying the methodologies presented during the course.
 Strongly agree Agree Neutral Disagree Strongly disagree
3. The training improved my ability to facilitate learning and engage students effectively.

Strongly agree Agree Neutral Disagree Strongly disagree

4. I can integrate the acquired competences and tools into my teaching practice.

Strongly agree Agree Neutral Disagree Strongly disagree

5. I am prepared to contribute to the Learners Programme elaboration (WP3).

Strongly agree Agree Neutral Disagree Strongly disagree

SECTION 3 – Evaluation by Module

For each of the six modules, please evaluate the following aspects (1 = Very low / negative — 5 = Very high / positive):

Module A: Pedagogical upskilling & Training transfer to learners’ methodology

| Criteria | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Clarity of module objectives | | | | | |
| Relevance and adequacy of content | | | | | |
| Appropriateness of methodologies used | | | | | |
| Usefulness for my professional activity | | | | | |
| Quality of proposed activities | | | | | |
| Quality of materials and resources | | | | | |
| Participant motivation and engagement | | | | | |
| Overall module satisfaction | | | | | |

11. How would you rate your level of knowledge and skills before and after the course?

| | Excellent | Good | Average | Fair | Poor |
|-------------------|-----------|------|---------|------|------|
| Before the course | | | | | |
| After the course | | | | | |

How would you rate the preparation and clarity of Module A facilitators?

| Criteria | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Subject knowledge and expertise | | | | | |
| Clarity and communication | | | | | |
| Ability to motivate and engage participants | | | | | |
| Use of examples and practical applications | | | | | |
| Overall facilitator performance | | | | | |

Module B: Circular Waste Technical Skills

Module C: Circular Business Model

Module D: Micro-Entrepreneurship

Module E: Frugal and Digital Innovation for Circular Waste and Circular Economy Module F: Public-Private Partnerships for VET managers

SECTION 5 – Open Feedback

1. What aspects of the training did you find most useful or effective?

2. What aspects could be improved or developed further?

3. What additional support or materials would you have found helpful?

4. Please provide any other comments or recommendations for future editions of this training.

ANNEX D- FACILITATORS' QUESTIONNAIRE

Facilitators Self-Assessment Questionnaire administered through EU Survey.

Thank you for taking the time to complete this self-assessment questionnaire. Its purpose is to gather your reflections after facilitating the Train-the-Trainers program. Your feedback is essential for understanding your experience, assessing the effectiveness of the training delivery, and identifying areas for improvement in future editions. Your responses will remain confidential and will be used solely for programme enhancement.

General information:

1. Your Name and Surname:
2. Gender:
3. Your Maximum educational level:
4. Experience in teaching (years)
5. Field of expertise:
6. Module Imparted:.....
1. How would you describe your role as a facilitator in this Train-the-Trainers program?
2. What preparations did you make before the program to ensure its success?
3. How would you rate your performance as facilitator (1–10)?
4. How would you rate the adequacy and usefulness of the provided training materials and resources? (1–10)
5. How would you rate participants' engagement in your module (1–10)?
6. How effective do you think the content was for supporting participants' competence development? (1–10)
7. How did you engage participants and encourage active participation during the sessions?
8. Did you encounter any challenges during the facilitation process? (Yes/No) If yes: Please briefly describe how you addressed them.
9. What suggestion would you give to improve future editions of the Train-the-Trainers program? (Open-ended)
10. What were some of the highlights or achievements you experienced as a facilitator during this program?

ANNEX E – VALIDATION WORKSHOP REPORT

The TOT Validation Workshops of the **CircuWasteVETAfrica Train-the-Trainers (ToT) Programme** were held respectively in **Angola** (December 15th), **Ghana** (December 17th), and **São Tomé and Príncipe** (December 19th), marking the successful conclusion of a 100-hour capacity-building programme aimed at strengthening circular economy skills within Vocational Education and Training (VET) systems. The workshops represented a key milestone (MS3) of the project, serving both as a celebratory moment and as a structured opportunity to assess results, gather feedback, and prepare for the next phase of implementation. The events brought together **VET trainers who participated in the ToT programme**, alongside **project partners, relevant stakeholders, and local authorities**, fostering dialogue between education, policy, and the circular waste sector. Through a hybrid format combining in-person and online participation, the workshops ensured broad engagement and inclusiveness across the three target countries.

Beyond the delivery of certificates, the workshops focused on **presenting evaluation results**, reflecting on learning outcomes, and assessing trainers' readiness to act as multipliers in the forthcoming **Learners Programme (Work Package 3)**. The evaluation process confirmed a high level of preparedness among participating trainers, who demonstrated solid technical knowledge, effective pedagogical skills, and strong motivation to apply and cascade the acquired competences within their institutions and local communities. Overall, the final workshops validated the relevance and effectiveness of the CircuWasteVETAfrica Train-the-Trainers model, reinforced collaboration among key stakeholders, and laid a solid foundation for the sustainable rollout of circular economy training in VET systems across the participating countries.

The final workshops represented the **conclusive milestone of the ToT Programme**, providing a structured space to reflect on the learning progress, assess results, and recognise participants' achievements by delivering a Certificate of completion. Beyond their celebratory dimension, these events were designed to **validate trainers' readiness to function as multipliers**, gather feedback to inform future improvements, and ensure a coherent transition toward the **Learners Programme under Work Package 3 (WP3)**. By bringing together trainers, project partners, stakeholders, and local authorities, the workshops reinforced the project's collaborative approach and strengthened the foundations for the sustainable integration of circular economy skills within national VET systems.

Objectives of the Validation Workshops

The Validation Workshops and Certificate ceremonies were designed as a hybrid closing workshop (online and in-person) with the following objectives:

1. Celebrate the successful completion of the *Train the Trainers* (ToT) programme and acknowledge the achievements of the participating educators.
2. Present the results of the ToT evaluation, including participants' satisfaction, trainers' performance self-assessment, and feedback on learning outcomes.
3. Facilitate feedback and future planning, linking the ToT experience to the design of the *Learners Programme* under Work Package 3.
4. Strengthen visibility of the CircuWasteVETAfrica project through engagement with local authorities, media, and stakeholders.
5. Promote sustainability by encouraging trainers to act as multipliers within their institutions, ensuring long-term impact and continuity of circular skills development.

Event Overview

- **Angola:** 15 December 2025
- **Ghana:** 17 December 2025
- **São Tomé and Príncipe:** 19 December 2025
- **Format:** Hybrid (in-person + online participation of international partners)

Agenda and Methodology for the event

CNOS-FAP, as leading partner of this WP2, provided partners from the three targeted countries with a common agenda and an evaluation methodology proposal, which was slightly readapted by each partner in each country, according to specific needs and context. The validation workshops were structured as **2.5-hour hybrid events**, carefully designed to combine reflection, evaluation, dialogue, and celebration. The programme followed a coherent flow that allowed participants to revisit the learning journey of the Train-the-Trainers Programme while looking ahead to its future implementation phase.

Each event opened with a **welcome and introductory session** by the hosting partner, during which project representatives presented the objectives of the workshop, framed it as the concluding milestone of the ToT Programme, and outlined the agenda. This initial moment helped set a shared understanding of the event's purpose, emphasising both the recognition of achievements and the importance of feedback and sustainability.

The programme then moved into a **presentation of the ToT evaluation results**, focusing on participants' satisfaction levels, learning outcomes, and trainers' self-assessment of their performance. This session provided an evidence-based overview of the programme's impact, based on the qualitative questionnaires filled in by trainers, highlighting strengths, areas for improvement, and the overall readiness of trainers to apply the acquired knowledge and methodologies in real training contexts.

A dedicated **feedback session from trainers** followed, creating space for open dialogue between trainers and project partners. Participants were invited to share their experiences, reflect on how the training influenced their professional practice, and discuss expectations and recommendations for the forthcoming Learners Programme under Work Package 3. This participatory moment strengthened ownership and ensured that trainers' insights directly informed the next phase of the project.

A key component of the final workshops was the **validation of trainers' performance and the effective transfer of knowledge** achieved through the Train-the-Trainers Programme. Throughout the events, trainers actively demonstrated the competences acquired during the course, showcasing their understanding of circular economy and waste management concepts, as well as their ability to apply **learner-centered and participatory pedagogical approaches**. To validate the trainers' knowledge, the trainers from each country that complete the training programme, selected and presented a topic of their choice among the topics covered in the 6 training modules. These trainers were selected on a voluntary basis, according to their interest in continuing their commitment to the student programme (WP3), and by their school principals for distinguishing themselves through their commitment during the training programme. At the end of their presentations, an evaluation grid was completed for each of them, assigning a score that defined them as suitable for replicating the training to students.

The validation process confirmed that most trainers possess the necessary **technical expertise, pedagogical confidence, and facilitation skills** to act as multipliers in the upcoming Learners Programme under Work Package 3. Trainers showed strong motivation to cascade knowledge within their VET institutions and local communities, contributing to the sustainability and scalability of the project's impact. Overall, the workshops validated not only individual learning outcomes but also the

effectiveness of the Train-the-Trainers model in enabling meaningful and sustainable knowledge transfer within the VET ecosystem.

The workshops also included **contributions from local authorities and institutional representatives**, who underlined the relevance of circular economy skills for national VET systems, employment, and sustainable development. Their participation reinforced the institutional dimension of the project and highlighted opportunities for alignment with public policies and sectoral strategies.

A central and highly symbolic part of the programme was the **certificate award ceremony**, during which trainers who successfully completed the 100-hour ToT Programme were formally recognised. This session celebrated individual and collective achievements and reinforced trainers' role as future multipliers of circular waste skills within their institutions and communities. The trainers who completed the course and received their certificates in each country are: 21 in Ghana, 11 in Sao Tome and 18 in Angola.

The events concluded with a **wrap-up and final acknowledgements**, summarising key messages and next steps, followed by informal moments such as **group photos and interviews by the local media**. These closing activities fostered networking, visibility, and storytelling, contributing to the dissemination of the project's impact and the consolidation of a shared CircuWasteVETAfrica community.

| TIME | SESSION |
|------|---|
| 10' | Welcome and Introduction (PRSD/STFP/VIS ANGOLA) |
| 15' | Presentation of evaluation results: level of satisfaction at the end of the training programme; Trainers performance through a self assessment report (CNOS-FAP) |
| 30' | Feedback session & future perspective (PRSD/STFP/VIS ANGOLA) |
| 30' | Validation of trainers performance and knowledge transfer (PRSD/STFP/VIS ANGOLA) |
| 10' | Local authority contribution |
| 20' | Certificate delivery |
| 10' | Wrap-up and Final Acknowledgements (PRSD/STFP/VIS ANGOLA) |
| 15' | Group picture & Personal interviews with participants |

Ghana

In Ghana the event involved 35 participants, of which 21 trainers and 10 students from Ramseyer Vocational Technical Institute (RVTI) and including representatives from the Ashanti Regional Director for Ghana TVET services. The event was also supported by the online participation of partners AREA, CNOS-FAP and MQ. The trainers' involvement confirmed strong engagement and continuity from the Train-the-Trainers Programme to the Learners' programme and the involvement of **key relevant stakeholders**, such as the **Ashanti Regional Director for Ghana TVET Services** ensured a direct link between policy, training provision, and learners.

In addition, the programme featured a dedicated **ToT validation session**, during which the trainers presented and validated a specific chosen topic and were evaluated by the project staff and the principle of the TVET Centre, through the evaluation grid provided by CNOS-FAP. In general, the feedback collected during this session confirmed the **high relevance of the ToT Programme to local training needs** and generated valuable inputs to further strengthen and scale the programme within the **RVTI/PRSD framework**, supporting its future implementation and sustainability.



Sao Tomé

A total of **38 participants** attended the event in person in Sao Tomé, including **11 trainees** and a broad representation of institutional and socio-economic stakeholders. Participants included a **representative of the Chamber of Commerce, Industry, Agriculture and Services**, the **Secretary-General of the Trade Union Centre ONTSTP (National Organisation of Workers of São Tomé and Príncipe)**, **Mr João Tavares**, a **representative of the Labour Directorate**, the body responsible for accrediting and validating certificates, **Dr Nicolau**, a **representative of SPAUT**, and a **representative of the Minister of Labour, Solidarity and Social Security, Dr Didier Castelo David**.

The event was led by the **TVET centre Director**, who officially opened the proceedings and delivered an introductory address, and was further supported by the online participation of partners AREA, CNOS-FAP and MQ. During the programme, **the trainers delivered presentations on selected training modules**, demonstrating a prominent level of technical knowledge and pedagogical competence. All presenters performed very well, with the **five trainees who were evaluated obtaining the maximum score of 30 points** of evaluation criteria established. Furthermore, **all 11 trainers that completed the TOT programme and obtained the Certificate of Completion, confirmed their availability and willingness to engage in the second phase of the project**, denoting strong motivation and readiness to contribute to the implementation of the Learners Programme (WP3).



Angola

In Angola, the final workshop recorded a total of **160 participants**, reflecting strong interest and wide institutional engagement. The event was attended by **representatives of INEFOP, DUE-Angola**, and the **European Union Delegation in Angola** represented by the **Project Manager, Dr Alba Valle Basanta**, highlighting the strategic relevance of the CircuWasteAfrica project at national and international levels.

In total, **18 trainers were awarded the certificate of completion**, confirming their successful participation in the 100-hour training course and their readiness to contribute to the subsequent implementation phase. As part of the validation workshop the assessment of trainers' performance and readiness to transfer knowledge was conducted on 18 trainers. They actively participated in the validation session, demonstrating **excellent mastery of the course content** and strong pedagogical capacity, and were **evaluated positively** across all assessed criteria. Furthermore, **all 18 trainers who obtained the certificate of completion expressed their interest and availability to be involved in the Learners Programme**, confirming a high level of motivation and commitment to support the next phase of the project.

The high level of attendance and the presence of key institutional stakeholders reinforced the visibility of the initiative and underscored its potential for scaling circular economy skills within Angola's VET system.



Evaluation criteria

To validate trainers' knowledge acquired in the TOT programme and to assess trainers' preparedness for knowledge transfer to students within the **Learners Programme (WP3)**, a structured evaluation framework was established and applied during the final workshops. The evaluation criteria were designed to measure both **technical competence and pedagogical readiness**, in line with the objectives of the Train-the-Trainers Programme. Trainers were assessed on their **mastery of circular economy and waste management content**, their ability to **apply learner-centred and participatory teaching methodologies**, and their **communication and facilitation skills**, including clarity of explanation, engagement with learners, and management of group dynamics. Additional criteria focused on trainers' **capacity to contextualise content to local VET and labour market needs**, as well as their **motivation, commitment, and availability** to act as multipliers within their institutions. The evaluation grid allowed for a transparent and consistent scoring process, providing a comprehensive picture of each trainer's readiness to deliver high-quality training under WP3 and to ensure effective, sustainable knowledge transfer to learners. The maximum score was calculated on 30 points, each criterion was worth a maximum of 10 points and consisted of two sub-criteria worth a maximum of 5 points each. According to the final score obtained each trainer could be recommended for knowledge transfer to trainers, or not recommended or standby. The success of the programme is also determined by the fact that all the trainers evaluated were considered suitable for the second phase of the project.

