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APPLICABLE DOCUMENTS

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1. Introduction

1.1 Scope of the project

Research has depicted the linkage between environment-oriented activities and gender disparities. In fact, gender equality matters to environmental sustainability with women performing two thirds of global working hours and being more dependent on natural resources in comparison with men (Irish Aid, 2013). However, the agenda promoting the importance of gender equality for the ecosystem still remains unfinished despite all the initiatives taken towards the establishment of eco-friendly activities (UN women, 2014). Therefore, while there is still a high level of gender inequality, women act as half of the world's resource managers, making their role crucial towards safeguarding the environment (Global Environment Facility, 2018). With clothing upcycling being the new trend for green fashion, there has been no concrete initiative promoting women's active participation in upcycling practices, despite EU's endeavor towards environmental sustainability. Therefore, the need for VET trainers and textile professionals (manufacturers, designers, colorists, etc.) to engage in an open dialogue in order to support gender-based training towards buckling down environmental challenges through clothing upcycling activities constitutes a brand new initiative in alignment with EU goals for resource efficiency (Europe 2020 Strategy).

1.2 Purpose of the document

This document aims to provide useful insights of the current needs with regards to the level of awareness among textile professionals about men and women's role and participation in environmental activities towards sustainable development of the industry.

The insights will derive from the thorough research conducted at national level, while the findings will be used in a comparison analysis scrutinizing the best practices applied in other European countries in order to identify the gap between the 'as-is' situation and the 'to-be' situation.

The research focuses on the training needs of textile experts for environmental consciousness in order to identify the main pillars of the training materials to be developed for the purpose of the 'AR4ReClothing Training Guide'.

1.3 Project target groups

The target groups addressed and affected by this research are:

> Directly:

- Textile professionals (manufacturers, designers, colorists, stylists, converters, etc.) interested in or already taking initiatives towards environmental sustainability
- VET & Textile experts willing to actively participate in an open dialogue about green methods that establish the importance of gender equality for the ecosystem
- HEI with Textile departments





- Indirectly:
 - VET training organizations
 - Public bodies
 - NGOs or other organizations/authorities taking initiatives towards renewable resources and energy efficiency
 - AR developers or developers/organizations willing to embrace innovative digital solutions for sustainable training purposes and enhanced learning experiences
 - Policy makers

2. Methodology

In order to efficiently identify the current practices, each partner organization will opt for different case studies applied in the country as indicative examples of the state of the art. The desk research focuses on the following pillars:

- 1. Eco-sustainable practices initiated or implemented by women
- 2. Green practices for safeguarding the environment
- 3. Initiatives for clothing upcycling awareness
- 4. Practices related to gender-based training
- 5. Existing dialogues for the role of gender in environmental sustainability
- 6. Technologies used as innovative sustainable practices

Therefore, the project consortium will cast about for any practices – or the lack of them – among the partner countries with a view to formulate a training solution tailored to the needs of the target group.

The findings of the current research document will be validated directly by the project target group so as to ensure their active involvement in the project activities throughout its implementation. To that end, partners (except ATERMON as an IT company and UNICERT as an accreditation body) will contact at least 25 participants demonstrating the results of this report and involving them in a needs verification survey.





3. National Practices

3.1 Eco-sustainable practices initiated or implemented by women

Name of the organization:	RECELLO
Name of the action:	RECELLO 2.0: Recycling of nonwovens by tearing techniques powered by Renewable Energy
Year of implementation:	2021- (on-going)
Objectives of the action:	Develop and implement an innovative service of tearing nonwoven fabrics for the purpose of the technological recovery of the raw material.
Description of methodology:	With growing needs in the hygiene products market during the COVID-19 pandemic, the company decided to recycle non-perfect batches of nonwovens and textile straps; instead of wasting those imperfect lots, Recello turns them into primary fibre afresh and manufacturers of hygiene products produce new straps or non-woven fabric.
Impact:	The company prevents the loss of raw materials that have become very expensive. Its innovative approach was granted financial aid by the Norway Grants, and, thereby, gained visibility and will hopefully inspire others towards a green, competitive, and inclusive Europe.
Website:	https://recello.pl/en/
Skills required to implement such an action	 Teamwork and collaboration Self-motivation Critical thinking and problem solving Communication Leadership
Potential challenges	 Lack of general awareness Difficulty in reaching out to interested parties Lack of support by bigger stakeholders Lack of infrastructure





Name of the organization:	Reno
Name of the action:	Reusing wood that was previously production waste only.
Year of implementation:	2021
Objectives of the action:	Obtain a new, competitive product (eco-handles), reduce the amount of wood-based waste by reusing it (for production purposes), obtain a bio-composite material with minimal environmental impact.
Description of methodology:	Reno is a manufacturer of sliding systems and doors. Thanks to the Norwegian grant for female enterprises, it now transforms wood production waste into designer door handles.
Impact:	With its innovative products, the company has come closer to achieving the status of a "zero-waste organization." In the context of the European Year of the Environment, the organization created training and awareness-raising materials for adult learners. The materials were promoted during a 'Mobile Exhibition for Recycling'.
Website:	https://www.reno-reno.pl
Skills required to implement such an action	 Teamwork Self-motivation Negotiation Communication Decision making
Potential challenges	 Lack of general awareness Difficulty in reaching out to interested parties Lack of support by bigger stakeholders Lack of infrastructure





3.2 Green practices for safeguarding the environment

Name of the organization:	ONET
Name of the action:	#NiechZyjePlaneta – Act Now
Year of implementation:	On-going
Objectives of the action:	Educate and inspire Poles to change their everyday habits; contribute to a sustainable future.
Description of methodology:	This action is the Polish version of the international ACT NOW action organized by the United Nations. It raises awareness through initiatives, trainings, publications, etc. By reaching out to scientists and experts, it collects facts, debunks myths about ecology, looks for solutions, and proposes small changes that can make a great difference in everyday life.
Impact:	This action contributes to choosing sustainable solutions and in acting consciously in a daily basis. Through its initiatives, it promotes collaboration with big stakeholders (for example, IKEA), thus augmenting its outreach and the importance of eco-friendly approaches.
Website:	https://niechzyjeplaneta.onet.pl
Skills required to implement such an action	 Teamwork Communication Leadership Problem solving
Potential challenges	 Difficulty in reaching younger audiences Difficulty in reaching out to interested parties Lack of support by bigger stakeholders

Name of the organization:	Polish Academy of Sciences (PAS)
Name of the action:	'Green' Projects
Year of implementation:	On-going
Objectives of the action:	Promote, facilitate, and foster participation of the entire Polish R&D community in European projects and initiatives responding to the 'EU Green Deal Call'.





Description of methodology:	The academy's various institutes promote collaboration between stakeholders, offer grants and trainings, and actively support synergies for implementing various innovative green projects.
Impact:	The Academy's 'Green' Projects help develop new ways to engage civil society and empower citizens in participating in a greener economy by promoting interdisciplinary approaches and collaboration.
Website:	https://polsca.pan.pl/en/lets-discover-the-green-projects- of-the-polish-academy-of-sciences/
Skills required to implement such an action	 Teamwork Communication Leadership Monitoring Mapping context and stakeholders Strategy designing Problem solving Generating actions
Potential challenges	 Difficulty in engaging stakeholders Difficulty in reaching out to interested parties Difficulty in generating original and attractive actions

Name of the organization:	TESSO
Name of the action:	Environmental protection combined with civic engagement.
Year of implementation:	On-going
Objectives of the action:	Protecting the environment by reducing clothing and textile waste; contributing to society and to a greener economy.
Description of methodology:	The company recycles clothes and textiles in large scales. Its containers are filled with used clothes which are then sorted out to be recycle and reused accordingly.





Impact:	TESSO has created and maintains more than 800 steady job positions for over 20 years. It actively participates in activities within the field of Corporate Social Responsibility and supports local initiatives connected with sports and education. TESSO also closely cooperates with charity organisations to help the poor and to support sick children. In addition, the company exports used clothes to Third World countries and is a member of the National Economic Chamber of Textile Recycling Materials.
Website:	http://tesso.pl/en/home/
Skills required to implement such an action	 Communication Teamwork Adaptability Leadership
Potential challenges	 Lack of general awareness Difficulty in reaching out to interested parties Lack of support by bigger stakeholders Lack of infrastructure

3.3 Initiatives for clothing upcycling awareness

Name of the organization:	ZODZYSQ
Name of the action:	Clothing upcycling
Year of implementation:	On-going
Objectives of the action:	Create new garments and accessories from used/damaged garments, textiles, or scraps. Treated as valuable raw materials, discarded clothing products are repurposed with the scope to reduce waste and sustain an environmentally friendly production.
Description of methodology:	With three female entrepreneurs behind this project, the company creates new garments from used ones. Discarded clothes, fabrics, and scraps are collected and sewn into new women apparel items.
Impact:	Promoting conscious consumption and environmentally friendly practices, raising awareness of the value of upcycling. Promoted in Noizz magazine (<u>https://bit.ly/3MJHp6I</u>) as part of the #NiechZyjePlaneta campaign, encouraging Poles to change their habits in their everyday life.



Website:	https://www.zodzysq.pl
Skills required to implement such an action	 Self-motivation Creativity Communication Extroversion Adaptability
Potential challenges	 Lack of general awareness Difficulty in reaching out to interested parties Lack of support by bigger stakeholders Lack of infrastructure

Name of the organization:	HO::LO	
Name of the action:	Upcycling discarded advertising banners and fire hoses.	
Year of implementation:	2004 - On-going	
Objectives of the action:	Produce and trade eco-friendly, original, designer items. Create functional objects from discarded materials.	
Description of methodology: Impact:	In collaboration with advertising agencies. Companies, festival offices and cultural institutions, the company gathers and processes materials (banners, tarpaulins, large-format mesh, advertising flags, roll-ups, block outs, sublimation prints and other advertising materials) to create unique accessories and apparel. By offering its services to multiple companies, HO::LO reduces the overproduction of waste and spreads awareness on the importance of upcycling.	
Website:	https://ho-lo.pl	
Skills required to implement such an action	 Self-motivation Creativity Communication Extroversion Adaptability 	
Potential challenges	Lack of general awarenessDifficulty in reaching out to interested parties	



- Lack of support by bigger stakeholder
 - Lack of infrastructure

Name of the organization:	National Economic Chamber of Textile Recycling Materials	
Name of the action:	Promote collaboration in the field of textile and used clothing recycling, processing, and management of textile waste.	
Year of implementation:	On-going	
Objectives of the action:	Bring together economic entities related to the sector of textile recyclable materials and trade in used clothing, including the processing and management of textile waste; raise awareness and motivate said entities in the fields of recycling and upcycling.	
Description of methodology:	The Chamber functions as a connecting link between economic entities dealing in the field of clothes and textile recycling and processing. It promotes the trade of second-hand clothes, but it also promotes upcycling through such actions like processing of textile waste into factory cleaning agents, interlining, wadding, damping materials, as well as mats and tar paper.	
Impact:	The Polish Chamber of Commerce for Textile Secondary Materials deals, represents and safeguards the interests of the industry towards state and local government administration bodies, as well as other national and foreign organizations and associations. Subsequently, it contributes to the industry's sustainability and outreach.	
Website:	http://www.kigtsw.pl	
Skills required to implement such an action	LeadershipCommunicationAdaptability	
Potential challenges	Lack of general awarenessDifficulty in reaching out to interested parties	





3.4 Practices related to gender-based training

Name of the organization:	Centre for the Advancement of Women	
Name of the action/training:	Workshops	
Year of implementation:	On-going	
Objectives of the action/training:	Prepare and motivate women to succeed in their professional and social lives.	
Description of methodology:	The Centre offers back-up facilities and courses for unemployed women; it supports female professional development; it offers counselling; it organises training sessions and workshops to enhance skills and competences; it organises special activities, such as the 'open door' programme where it acts as an employment agency, or business training courses and summer training camps for single mothers.	
Impact:	The Centre advances research in the domain of female entrepreneurship and contributes to gathering relevant data. Through synergies with European projects and thanks to its proper initiatives, the Centre has helped many women in enhancing their skills and in finding jobs.	
Website:	http://www.promocjakobiet.pl/eng/	
Skills required to implement such an action/training	 Communication Teamwork Adaptability Creativity 	
Potential challenges	 Lack of funding Lack of general awareness Difficulty in reaching out to interested parties 	

Name of the organization:	Perspektywy Education Foundation+Partners
Name of the action/training:	Perspektywy Women in Tech Summit
Year of implementation:	2022
Objectives of the action/training:	Boost women's career in the tech world' help women expand their knowledge, skills, and networking; inspire and empower women to succeed in their goals.





Description of methodology:	A summit about women in Tech & IT, this event is the biggest even of its kind in Europe, bringing together thousands of participants form over 100 countries. With multiple workshops, the summit covers various challenges and needs in an effort to bridge the existing gender gap in Tech & IT.
Impact:	Thanks to the Perspektywy Education Foundation, the summit brings forth the work and contributions of women in Tech, IT, and AI. The valuable workshops bridge gaps in knowledge and skills, and successful speakers serve as role-model to increase female confidence.
Website:	https://womenintechsummit.pl
Skills required to implement such an action/training	 Communication Teamwork Adaptability Creativity
Potential challenges	Lack of general awarenessDifficulty in reaching out to interested parties

3.5 Existing dialogues for the role of gender in environmental sustainability

Name of the association/synergy:	INCREASE project
Year of implementation:	On-going
Objectives of the action:	Involve various social groups in the management and preservation of biodiversity; increase gender representation in the development of crop management systems.
Description of methodology:	The project combines cutting-edge approaches in plant genetics and genomics with recent advances in information technology and artificial intelligence, with the scope to boost the conservation of European crop genetic resources and promote their use and valorisation. Through its 'Citizen Science Experiment', INCREASE will investigate gender-related predisposition in managing and preserving biodiversity.





Impact:	By engaging citizens in testing genetic resources and sharing their preferences and main uses, the project provides them with quick and easy access to information and data exchange. Moreover, through the cooperation with the Cultural Anthropology team from the University of Perugia, the project will transfer knowledge about women's preferences, gender norms and stereotypes with regards to standards and reference models in the management of genetic resources.
Website:	https://www.pulsesincrease.eu/experiment
Skills required to	Teamwork
implement such an action	Communication
Potential challenges	 Difficulty in engaging citizens Lack of general awareness Lack of infrastructure

Name of the association/synergy:	Small Grant Scheme for female enterprises
Year of implementation:	On-going
Objectives of the action:	Financially support companies owned by women or where women have a decisive management voice; raise awareness of the role of women in making the Polish economy greener, more sustainable, and innovative.
Description of methodology:	The Polish Agency for Enterprise Development has selected 56 projects to be funded under the Small Grant Scheme for female enterprises financed by the Norwegian Financial Mechanism (Norway Grants). Implemented under the 'Business Development and Innovation' programme, the Grant Scheme supports and promotes female entrepreneurship in such fields as green industry innovation, welfare technologies, and blue growth.
Impact:	The role of women in making the Polish economy greener is discussed and promoted during various events in Poland. Furthermore, female-offered solutions that contribute to environmental protection and prevent wasting resources are put forth in joint meetings and magazines (e.g. Forbes Women) under the slogan "Green innovations and entrepreneurial women," thus raising awareness and combating gender-related stereotypes.
Website:	https://en.parp.gov.pl/component/site/site/small-grants- schemes-for-female-enterprises



Skills required to implement such an action	TeamworkCommunication
Potential challenges	Difficulty in engaging citizensLack of general awarenessLack of infrastructure

3.6 Technologies used as innovative sustainable practices

Name of the organization:	Polish Ministry of Climate and Environment
Name of the tool/technolo gy:	GreenEvo Green Technology Accelerator
Year of implementati on:	2008-(On-going)
Objectives of the tool:	Support the development of environmental technologies in Poland and abroad; increase Polish small and medium-sized enterprises' networking capabilities and provide them with the necessary tools for their dynamic development.
Description of methodology:	In line with the Poznań Technology Transfer Strategy, this program, delves into technology transfer possibilities and conduction of environmental practices; it promotes the sustainable development of companies and green technologies, and strengthens their business activities at an international level.
Impact:	The GreenEvo program is one of the key tools used by the Polish Government to support the transition process towards a sustainable economy and to raise awareness of responsible business practices. GreenEvo also modernizes company and management approaches, by replacing traditional models with modern and effective ones that are focused on. Corporate social responsibility.
Website:	https://greenevo.gov.pl/en/?doing_wp_cron=1655361119.6330800056457 519531250
Skills required to use the tool:	LeadershipCommunicationAdaptability
Potential challenges	 Lack of general awareness Difficulty in reaching out to international partners Lack of infrastructure





Name of the organization:	Ogarniamprad
Name of the tool/technology:	e-Commerce platform
Year of implementation:	On-going
Objectives of the tool:	The platform helps households and SMEs execute bulk- buying power and shop around for best real-time energy deals by urging them to switch to cheapest retailers offering green energy.
Description of methodology:	After opening a free online account, customers can choose among the lowest prices and switch to new retailers offering green energy.
Impact:	The platform influences consumer behaviour, by raising awareness of the energy market and supporting responsible choices. It also empowers energy consumers to make conscious choices and to discover the complex ecosystem of the energy market.
Website:	https://ogarniamprad.pl
Skills required to use the tool:	LeadershipCommunicationAdaptability
Potential challenges	 Lack of general awareness Difficulty in reaching out to interested parties Lack of infrastructure

Name of the organization:	Bin-e
Name of the tool/technology:	Bin-e Smart Waste Bin
Year of implementation:	On-going
Objectives of the tool:	Provide public spaces with an AI-based smart waste bin for sustainable waste management and circular economy purposes.
Description of methodology:	Bin-e is an AI-based smart waste bin designed for public spaces. It sorts and compresses the waste automatically, controls the fill level and processes data convenient waste management, thanks to an AI recognition system and an integrated IoT Platform.





Impact:	Bin-e ensures simplifies recycling in smart city spaces and buildings, thanks to an easy and resource-efficient solution. It reduces the waste of high-quality raw materials and reduces CO2 emissions from waste transport, thus helping the transition to a circular economy where green strategy goals can be met.
Website:	https://bine.world/
Skills required to use the tool:	LeadershipCommunicationAdaptability
Potential challenges	Lack of general awarenessDifficulty in reaching out to interested partiesLack of infrastructure

Name of the organization:	FibriTech
Name of the tool/technology:	Environmentally friendly biomaterials from plant fibres
Year of implementation:	2018- (On-going)
Objectives of the tool:	Fight against plastic pollution, create unique biodegradable materials from plant fibres and additives of natural origin.
Description of methodology:	FibriTech has developed an innovative process of forming 3D porous and barrier materials from plant fibres without using deep chemistry processing.
Impact:	FibriTech's technology can be applied in various sectors: agriculture, packaging, constructions, and many more. Its projects are in line with the implementation of the Sustainable Development Goals (UN).
Website:	http://fibri.tech
Skills required to use the tool:	 Leadership Communication Adaptability Creativity
Potential challenges	Lack of general awarenessDifficulty in reaching out to interested partiesLack of infrastructure





4. Conclusions

Poland presents an upward trend in women entrepreneurship with a focus on ecological awareness. This trend is supported by some funding programs and training schemes and has led to the development and implementation of innovative solutions proposed by female entrepreneurs (Skolimowska, 2022). Gender mainstreaming in Poland has been significantly influenced by the EU requirements for funding (EIGE, 2019). However, it has been noted that the country lacks a government authority exclusively responsible for gender equality policies; it also lacks resources and **structured training and awareness-raising actions** against gender discrimination (ibid.).

As research shows (EC, 2015, F6S, 2021, Kostrzewski et al., 2020, Kulczycka& Lelek, 2014, PARP, 2022, PoISCA, 2020, Wysocki, 2021), Poland is increasingly active in green initiatives and shows medium levels of awareness in matters of sustainability and green economy. Actions like the 'Small Grant Scheme for female enterprises' (financed, however, from the Norwegian Financial Mechanism-Norway Grants) help combat gender-based stereotypes and promote female innovative entrepreneurship (PARP, 2022). Nevertheless, **research and promotional actions towards civic engagement against gender bias** seem insufficient. Since no government authority is responsible exclusively for gender equality policies, gender-based training is not a priority in Poland. Existing training schemes rely on private institutions, like the Centre for the Advancement of Women (http://www.promocjakobiet.pl/eng/) and Perspektywy (https://womenintechsummit.pl). Accordingly, implemented training lacks width, sources, and responses adapted to the needs of the Polish society.





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