WOMEN 4 GREEN

Women in power for a Green Economy

Project Result 1

Green Profession and Skills Catalogue

PROJECT NUMBER

2021-1-AT01-KA220-YOU-000034217

AUTHOR

Solution Based Training and Consultancy

Co-funded by the European Union

Content

Introduction

The Covid-19 crisis reminded us again of the urgently needed transition to a more sustainable economy addressed in the 2030 Agenda for Sustainable Development, The Paris Agreement On Climate Change and now the GREEN DEAL. Overall sustainable development is based on environmental, economic, and social pillars. In this regard governments agreed that the green economy is a crucial tool for sustainable development. Thus, green economy can be recognized as the economy of the future. Developments in this context are now facilitated and bear an opportunity in the period of crisis recovery. To reach a green economy, on the one hand innovations are crucial and on the other hand the workforce needs to be prepared for future jobs arising. According to the ILO, 24 million new jobs could be created by 2030 in course of the shift towards a greener economy. Related to this, it is proven that gender equality, also anchored in the SDG's has to be taken into consideration.

The traditional gender work division is still recognizable with women still underrepresented in brown, and also in the green economy due to the emphasis on technical and innovational skills required, though these skills are considered an important part for reaching green economy as shown in various studies. Additionally, evidence (Burki, 2020) shows that especially women and young people were severely affected in course of the Covid-19 crisis. It is verified (OECD,2020) that the career choice of women has lifelong implications on their life in regard to the increasing pay gap and related old-age poverty. Green jobs are essential for sustainable development and this offers new opportunities for women. Young women need to be approached already in the phase of career orientation. In this context career orientation has to be adapted accordingly incorporating existing as well as evolving new green jobs and focusing on gender equality in this respect. The project draws on this and aims at inspiring young women to decide for professions in this future-relevant field, providing them with the information and knowledge required to do so.

As indicated, showing close consideration to skills and the occupation necessities of green economy strategies is vital since the shift to greener economies brings about structural changes in national labor markets. The Women4Green project draws on the mentioned aspects and aims at:

- RAISING young women's awareness and INTEREST in future relevant green economy professions and thus contribute to gender equality in this professional field EMPOWERING young women to decide for a green economy job
- INITIATING adaptations in youth career orientation, focusing on job orientation for green economy jobs, taking a gender sensitive approach into account
- PROVIDING a clear understanding and overview of existing/evolving green economy jobs and the required skills/competencies as well as providing information about educational paths in this regard
- INDUCING a gender-sensitive approach in recruiting companies in the field of Sustainable development is essential for the future of Europe, but also the whole world.

This is also coming along with changes in the work environments of tomorrow. This bears a chance, especially for the disadvantaged group of women for long-term employability. The Women4Green consortium is convinced to contribute to gender equality in green jobs with the present project, ensuring the highest possible results and wide dissemination through the strong involvement of the main target groups and thus leading the way to a more sustainable and equal Europe. Green jobs are the jobs of the future that also come along with new opportunities, especially for women. However, preliminary desk research showed that green jobs are not clearly defined and thus lack a clear understanding and categorization. The results of our pre-study show a similar tendency as showing a lack of clear

understanding of green jobs. Accordingly, existing resources are outdated and not state-of-the-art. To equip the workforce of tomorrow with the required skills and knowledge, a common understanding as well as clear outlook on green professions and skills of

the future is essential. Additionally, a gender-equal approach is crucial. Existing green job advertisements are very man-oriented in various aspects, regarding design, description, pictures etc.. Thus, qualitative, clear and gender-equal information and guidance in regard to green economy careers is an essential precondition to enable the adaption of career guidance on the one hand and provide specifically young women with the necessary information/knowledge to decide for a career in this field on the other hand.

In this regard, the aim of this report is the analysis, updating and sharing of all the most important and relevant information within the scope of the project, which will enable to guide, direct and contextualize the following Women4Green Project. The outcomes and information obtained with this report will be exploited for the Result 2 which is a DIDACTIC CONCEPT that ensures a holistic learning experience and a CURRICULUM serving as a basis for the development of the learning material (Result 4) and Guide For Career Counselling And Companies (Result 6) is developed. This report on the data collection and analysis carried out in the 4 partner countries was delivered under the coordination of Solution Based Training and Consultancy -SBTC (Turkey), in the framework of the Result 1 '*Green Professions and Skills Catalogue*' which represents the foundation phase of the project, undertaken at the project start. This report has been prepared based on the analyses carried out in the project countries (Austria, Italy, Sweden and Turkey) under the following three main activities:

- Desk research aimed at acquiring relevant information in regard to green jobs and the overall country-specific situation in this regard (This is the first task of Result 1: Secondary data analysis in regard to green jobs and the overall country-specific situation in this regard. In all partner countries, partners collected data from reliable resources.)

- An online questionnaire carried out by all partners for the further evaluation of the country specific situation regarding skill requirement in green jobs, inquiring specifically the professional field in the green economy (This is the second task of Result 1: National Data Collection and Analysis: In all partner countries, partners collected data by using the developed questionnaire for the further evaluation of the country specific situation regarding skill requirement in green jobs, inquiring specifically the professional field in the green economy. Partners collected 115 answers.).

- Conduction of focus groups with stakeholders, according to the developed methodology by the consortium, aimed at further discussing problems and gaps in the per partner country to reveal the current state of the incorporation of green jobs (This is the third task of Result 1: One focus group with different target group members per partner country, dissemination and collection online questionnaires among target group members and data analysis. Here partners developed their reports which were based on the data collection analysis.).

The participants in the research & review process belong to these main categories:

a) mentors/tutors and the target audience

b) companies and recruiting entities from various areas of activity

c) leaders/representatives of local communities; services and entities acting in terms of employment, capitation and professional integration

d) representatives and actors of the labor sector

e) trainers, teaching / training and personal development professionals

The final report is finalized in paper form which will be extensively distributed into e-libraries, youth education actors, Policy Makers, public authorities, NGOs and CSOs representatives, stakeholders and practitioners.

As indicated above the Task 1 which is *"Green Professions and Skills View of Partner Countries"* is developed giving on the one hand a comprehensive insight in what green economy jobs are in each country and which specific competences/skills are required as well as an evaluation to which extent green economy jobs are already approached in career orientation. On the other hand, it will comprise an outlook on the future development in this field giving an overview about the future skills required and also show the needs in career orientation in this regard. A focus is specifically put on a gender-equal approach focusing on required skills as well, providing the foundation for equal job information as well as job advertisements. The "*Green Professions and Skills Catalogue"* forms the basis for the further work steps in the Women4Green project. Primarily, secondary data analysis was carried out to find available definitions for green jobs and the country-specific situations in this regard. Accordingly, each partner conducted a desktop research analysis and provided further evaluation of the country specific situation regarding skill requirement in green jobs, inquiring specifically the professional field in the green economy.

1. Green Professions and Skills View of Partner Countries

The foundation of the concept of green jobs in the European Union (EU) is underpinned by the Renewable Energy Roadmap and the European State and European Energy Action Plan of January 2007. The action plan added two further targets to the overall 20 percent renewable energy target (10 percent biofuel use in the transport sector, including in each Member State): a 20 percent reduction in greenhouse gas emissions (relative to 1990 levels) and a 20 percent improvement in overall energy efficiency. These three 20 percent targets make up the EU's current 2020 targets. The 2020 targets became part of EU legislation with the entry into force of the 2009 Renewable Energy Directive, which replaced the previous renewable energy and biofuels directives. This was a significant step forward from the moment when legally binding renewable energy targets were published for Member States. The 2020 targets were also included in the "Europe 2020" growth strategy formally adopted by the European Council in June 2010. In 2014, a total of 7.7 million jobs (direct and indirect) globally were related to renewable energies.

In Europe, the largest employers in renewable energy are still the wind, solar and solid biomass industries. With more than one-third of global annual revenues from eco-industries generated in the EU, Europe's growing eco-industry has great potential as a driver of employment. The Union accounts for more than 40 percent of the global market share in renewable energy production. In waste management and recycling technologies, Europe accounts for 50 percent of the global market (Renner, *et al*, 2022). Although the European Union is a global leader in green technologies, the Union's eco-industry still has to deal with serious obstacles. Despite major efforts to reduce barriers in this area and the significant increase in the mobility of people in the market, the regulation of the labor market is still a complex issue for states.

By keeping in mind this Pan European projection, the partners from **Austria, Italy, Sweden and Turkey** conducted the desktop research by answering 11 questions and issues (see Annex I). First of all, each partner indicated the environmental agenda in the last 5 years in their countries. Although there are some similarities between the countries this report will present the main differences. More specifically, in addition to the environmental agenda the partners presented the main pillars of green growth such as greening business and markets; sustainable consumption and production (demand-side management); green tax and budget reform; sustainable infrastructure; investment in natural capital; eco-efficiency indicators etc.. After presenting the general view, the partners indicated the green job-related policies and mechanisms that support green jobs in their country. Also, this report presents a quantitative evaluation of total environment-related employment; and "green" jobs, generated via development of a set of new skill development strategies and the gender specific issues and strategies for the green jobs in **Austria, Italy, Sweden and Turkey.**

1.1 AUSTRIA

Austria is putting high emphasis on sustainable development and environmental protection. Furthermore, Austria is considered to be a leader in green technologies. Supporting green jobs is a common interest in Austria though a common definition on the term is still lacking. At the moment 1 in 20 jobs is considered to be a green job and the number of employees in the sector is rising. In this regard training and continual education are promoted through diverse programs and projects. What is still lacking though is the specific focus on attracting women for this new prosperous job opportunities.

1.1.1. Environmental Agenda of Austria

Environmental protection is a major topic in the Austrian social and economic policy agenda. The country itself is considered a pioneer in the field of environmental policy (Embassy of Austria, 2022). Austria has been developing and working on several strategies for sustainable development since the conference of the UN about Environment and Development in Rio de Janeiro in 1992. One of these strategies is ÖSTRAT among others like Federal Waste Management Plan 2017 (2017), Austrian Strategy for Adaptation to Climate Change (2017), Climate and Energy Strategy Austria - Mission 2030 (2018), Monitoring the UN Agenda 20230 in Austria (2020) (Amt der Steiermärkischen Landesregierung, 2022). In 2010 the sustainability strategy (ÖSTRAT), supported by the state and federal state governments, was agreed on which is primarily aiming at politics and administration (BMK, 2022).

Moreover, Austria aims to contribute to the implementation of the 2030 Agenda for Sustainable Development as well as the 17 SDGs on national as well as global level. The main foundation for the implementation was laid by the decision of the Austrian Council of Ministers that all Federal Ministries should incorporate the SDGs in all relevant strategies and programs and additionally develop further relevant action plans and measures. In this regard the Inter-Ministerial Working Group on the 2030 Agenda (IMAG) was formed to coordinate all measures in terms of a multi-stakeholder approach. On the one hand Austria is focusing on nationwide strategies such as the Climate and Energy Strategy #mission2030, the Austrian Foreign Trade Strategy, Three-Year Program on Austrian Development Policy 2019-2021, the Austrian Health Targets, the Austrian Federal Guidelines for Building Culture and the Austrian youth Strategy (incorporating the SDG's via the European Youth Goals). On the other hand, the federal states in Austria are also referring to the SDG's in their own strategies (e.g. Climate

and Energy Strategy Salzburg). Moreover, sustainable development is emphasized in projects of the Austrian Development Cooperation and in Austria's seat activities in the EU and the IO's.

Three main areas were identified that require particular attention and action: (1) Digitalization, (2) Women, youth and "leaving no one behind", (3) Climate action and adaptation to climate change. Since 2017 the implementation of the SDGs is thoroughly monitored each year according to data from Statistics Austria taking all indicators into consideration.

In 2020 a voluntary report on the implementation of the SDG's in Austria was released (Republic of Austria,2020). Specifically, in regard to the green transition, Austria is referring to the Paris Climate agreement in the National Energy and Climate Plan (NECP) and its Climate and Energy Strategy (#mission2030) (European Union, 2019). Austria's main goal is to be climate-neutral by 2050 (Federal Ministry for Sustainability and Tourism, 2019).

Some key decision indicators in the last five years :

On the 28th.September **2021** the first "SDG digital forum Austria: Building forward with the agenda 2030" took place in Vienna. Members of the government and experts discussed current opportunities and challenges of sustainable development according to COVID-19. The successful start of the annually planned event lays the foundation for even more intensive cooperation between civil society, administration, politics, business and science for the implementation of the 2030 Agenda in and by Austria (Bundeskanzleramt, 2022).

In **2020**, investments totaling just under EUR 1.1 billion were triggered in the areas of domestic environmental promotion, the cleanup offensive with the "Get out of oil and gas" bonus, the e-mobility offensive, remediation of contaminated sites and international climate protection measures. Around 400,000 metric tons of greenhouse gas emissions are thus saved each year in around 20,000 projects. The investments create or safeguard around 5,600 jobs (BMK, 2022).

Greenhouse gas emissions in Austria increased by 1.5% from **2018** to **2019**, amounting to 79.8 million metric tons of CO2 equivalent. Climate Protection Minister Leonore Gewessler sees this as a warning and a starting signal for the energy turnaround, the mobility turnaround, and climate-friendly industry and infrastructure (Umweltbundesamt, 2021).

In **2017**, in addition to the study from 2016, an additional fossil propulsion system - the CNG (Compressed Natural Gas) vehicle - was accounted for, as well as a biogas-powered passenger car and fuel cell vehicles (FC-BEV) (Umweltbundesamt, 2017).

1.1.2. The main pillars of green growth in Austria

According to the Environmental Implementation Review (European Union, 2019) Austria is on a good way developing towards a circular economy, especially regarding the area of reuse. Here one good practice example was mentioned, specifically in regard to the reuse of construction waste. The country is further on advanced in green public procurement and companies are increasingly relying on exploiting their markets for green products and services. Furthermore, green infrastructure initiatives have been increasingly targeted. Some progress was also made in nature conservation.

Furthermore, Austrian's Greentech sector is one of the main pillars of green growth providing innovations in climate and environmental protection (Advantage Austria Copenhagen, 2021). In 2017,

Austria was even described as a global leader in green technologies by the Federal Ministry of Science, Research and Economy (Federal Ministry of Science, Research and Economy, 2017).

1.1.3. Green Job Policies in Austria

The "green jobs master plan" was drawn up in 2010, involving stakeholders of various different fields, with the aim of increasing the number of green jobs in Austria. The focus is on the areas of agriculture and forestry, environmental technology and renewable energy tourism and leisure industry. For the development of the measures, existing initiatives were considered as well. The strategy is divided into six main fields of action:

- Ensuring a high level of qualification
- Continuous improvement and innovation
- Promotion of networking and Cooperation
- Support and promotion of internationalization
- Stimulating business investment and private consumption with reference to sustainability
- Awareness raising (BMK, 2022)

1.1.4. The Existing Green Jobs Mechanisms

Supporting green jobs is a common interest in Austria. However, it can only be achieved through a joint effort of ministries, federal states, social partners, interest groups, companies, other institutions and cluster organizations. The Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) has already actively promoted a positive development with regard to green jobs through subsidies, trainings, networking activities, educational and legal measures as well as cooperation (e.g. klima:aktiv project) before the creation of the "green jobs master plan"(BMLFUW, 2010).

1.1.5. Environment Related Economic Sectors and Activities

There are various sectors in which green jobs are offered which are for example renewable energy and energy-efficient buildings, soil and groundwater protection, Waste treatment, prevention and wastewater disposal, recycling and other environmental areas such as noise protection, air pollution control, climate protection, environmental monitoring, public sector services, organic farming, forestry, horticulture, landscape planning, regional development, transport planning (mobility) nature and landscape conservation(including nature and nature parks) and environmental education (BMLFUW, 2016; Jugend-Umwelt-Plattform JUMP, 2011). The renewable energies sector is not only proving to be particularly innovative, but also has the highest number of green jobs in the energy-efficient buildings sector. But the green economy is also booming outside the environmental technology industry: more and more green jobs are being created through waste treatment and prevention, wastewater disposal and recycling. There is also great growth potential in the sustainable building and refurbishment and water and wastewater management sectors (Stadt-wien.at., 2022).

According to the Federal Ministry for Sustainability and Tourism, the environmental technology industry in Austria is one of the most innovative markets in the world including diverse subject areas divided in Energy, Waste and Material Resource Management, Air Pollution Control, Water and Wastewater, and Green Big Data by ecotechnology Austria (Stadt-wien.at., 2022). Additionally, tourism in Austria places a great deal of emphasis on sustainability. In its development, it considers the following three pillars: economic sustainability, socio-cultural sustainability and ecological sustainability (BMLRT, 2022).

1.1.6. Core Environment-related jobs in Austria

In 2010, the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) published a master plan on the topic of green jobs. This master plan contains strategies and measures to promote specific areas: Agriculture and forestry, environmental technology and renewable energy, as well as tourism and the leisure industry. Furthermore, the environmental accounts of the Federal Ministry of Agriculture, Forestry, Environment and Water Management show that most people are currently employed in the environmental services sector. This sector also includes, for example, organic farming (BMK, 2022).

Furthermore, according to the European system for recording environment-related economic data, the data on environmental employees in the Statistics Austria survey are broken down as follows into environmental goods, environmental technologies and environmental services. This results in a split into the areas: Environmental services, related goods, end-of-pipe technologies and integrated technologies. As already mentioned above, according to Statistics Austria, most employees are also to be found in the area of environmental services. This includes, for example, activities such as the assembly of solar plants or waste management (Statistik Austria, 2021; Statistik Austria, 2022). What should be mentioned here as well is that environmental jobs can be found in various areas of economy, technologies, chemistry and farming just as jobs in office and administration, management, law, energy and electricity (Mosberger, Denkmayr & Hochpöchler, 2013).

1.1.7. Green Jobs in Austria

The Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology Austria refers to the definition of the EU that states that green jobs are jobs in the production of goods, technologies and services that avoid environmental damage and conserve natural resources (BMK, 2022). Austria is here mainly referring to the internationally comparable EGSS (The Environmental Goods and Service Sector). This comprises activities to measure, prevent, reduce, limit or remedy environmental damage including also environmentally friendly or less polluting technologies, processes and products that reduce environmental risks and keep pollution to a minimum. Additionally, the focus is on conscious use of natural resources (resource-efficient goods, technologies and services). It comprises jobs at diverse qualification levels (Statistik Austria, 2022)

The environment and energy technology sector in Austria experienced growth in the last year, which also led to new employment opportunities.

According to BMK (2022), today 1 in 20 jobs in Austria is a green job. The number of employees in the sector of environmental economy increased steadily in the period under review from 2008 until 2015 (from 167.700 employees in 2008 to 183.378 employees in 2015, corresponding to an increase of 4,4%). Taking the sector of public transport into account for green jobs, there was even an increase to 207.951 employees. The main area of green jobs in the environmental economy sector is the management of

energy resources, including a broad field of activities like production of renewable energy or energy saving measures.

1.1.8. New skill development strategies for green jobs in Austria

Education and training is essential for the growth and further development in green jobs. Thus, in 2010 the Federal Ministry of Sustainability and Tourism (BMNT) has launched the "Masterplan green jobs" fostering education and training as well as further measures, projects and programs in this field (Stadt-wien.at, 2022).

The BMLFUW implements measures to promote skill development at a high level. Programs like klima:aktiv, klima:aktiv mobil and the competence center Umwelt- und Energietechnologie ACT support this plan. For example, the climate protection initiative klima:aktiv by the BMLFUW ensures high quality of training and further education in the areas of renewable energy, energy efficiency, construction & renovation and alternative mobility. Additionally, competence development of green workforce is supported through cooperation with schools, universities, diverse educational institutes and associations, Agricultural and forestry VET schools, technical schools, adult educational institutions and higher educational institutions as well as the university of agricultural and environmental education support and promoting education in this regard. Also further actors are offering education and training programs in the green job field. Existing programs are continuously evaluated on their topicality, standardized and continued. Together with the inevitable actors, new educational offers are developed as well (BMLFUW, 2016).

Further effort is taken through other initiatives like:

- "Umwelt-Projekt-Praxis" is an educational focus of the youth-environment-platform JUMP. The program offers job orientation in the field of environment and sustainability and gives an insight into potential training opportunities in this regard.

- A platform was developed for the presentation of education and training in the field of energy and environmental technology (kursfinder.at) (BMLFUW, 2016)

1.1.9. Integration of Sustainable Development and Environmental Solutions into Existing Qualifications

The "green jobs master plan" of the Federal Ministry of Sustainability and Tourism is designed to promote training and continuing education. In addition, this sector is to implement projects and programs. In Vienna, for example, there is now a master's degree program in Green Care. At higher federal colleges for agriculture and forestry, the specialty of environment and resource management is offered. Also, very climate-active are the trainings and continuing education courses offered by Danube University Krems and the Austrian Biomass Association.

Two quite green professions are wind energy technician and solar technician: both deal with the use of environmentally friendly energy, thus contributing to the reduction of pollutant emissions. In order to be able to practice the profession, an education must be completed in which wind energy or solar technology/photovoltaics is one component of many; wind energy technology is integrated, for example, into education programs for electrical engineering, mechatronics or installation and building technology. However, there are also professions that meet a need that has only emerged in recent years, e.g.

environmental consultants or environmental educators. Aspiring environmental educators find an education that covers the field in its entirety ("environmental education" at teacher training colleges). And with courses such as sustainable energy systems, environmental management, environmental engineering or environmental consulting, to name just a few, there are a number of suitable courses at universities of applied sciences and universities for environmental consultants as well. In general, courses with a focus on environmental technology and sustainability are easy to find at universities and colleges (Stadt-wien.at, 2022; Ecotechnology Austria, 2021).

Thus, it can be recognized that the topics of the green economy and green jobs have been already taken into consideration in regard to education and training. However, a focus can be recognized on academic education and training (AMS Österreich, 2020). Moreover, the study "Green Jobs for Green Girls – Berufsorientierungsmaßnahme für Mädchen mit dem Fokus Umweltberuf MIN" (Szalai, Picher & Erhard, 2019) evaluating how young girls could be interested in green jobs revealed that there is still room for improvement in job orientation in this regard as well.

1.1.10. Women in Green Jobs

The Global Women's Network for the Energy Transition (GWNET) is supporting the empowerment of women to start their jobs in the energy sector. Studies show that involving women and young people in future relevant fields such as the renewable energy system comes along with diverse benefits (UNIDO, 2021). GWNET (2022). Targets the empowerment of women to start their career in the energy sector through networking, advocacy, training and mentoring. Moreover, there are efforts by the Austrian Government:

- Girls' Day: this is an annual action day to interest young women for STEM jobs in general.
- FEMtech: this initiative, including different activities, aims at supporting women in research and technology to exploit the female innovation potential and at the same time contribute to gender equality. (GWNT, 2021; BMK, 2022).

However, as mentioned above job, orientation in green jobs specifically for women is still lacking. It can be concluded that there are initiatives to interest young women in particular in STEM professions in general, and that initial measures are already discernible to enable them specifically for green professions. Nevertheless, there is still room for improvement.

1.1.11. Women in Green Jobs Statistics in Austria

Unfortunately, the good "green jobs" are hardly ever women's jobs because they are primarily found in technical fields such as energy technology. In our latitudes, training in these areas is traditionally done by men. To circumvent this problem, it would also be important to promote women even more in MINT professions (ORF.at, 2013). Not a lot has changed in the last years about this fact. The United National Industrial Development Organization (2021) mentioned that there is still need for change in regard to the number of women working in the field of renewable energy.

1.2. ITALY

Investigating the green economy professions and the national policies that support them has not been easy in Italy. In the last 5 years Italy has lacked political stability and as a result, strategic plans are fragmented and difficult to synthesize. However, thanks to this research work, we were able to verify some preliminary hypotheses: the language and the professions of the green economy are exclusively male-dominated at all public and private levels. This has a negative impact on young women's ability to think about their future selves. According to ISTAT data, the segregation of education by gender in Italy is still very high.

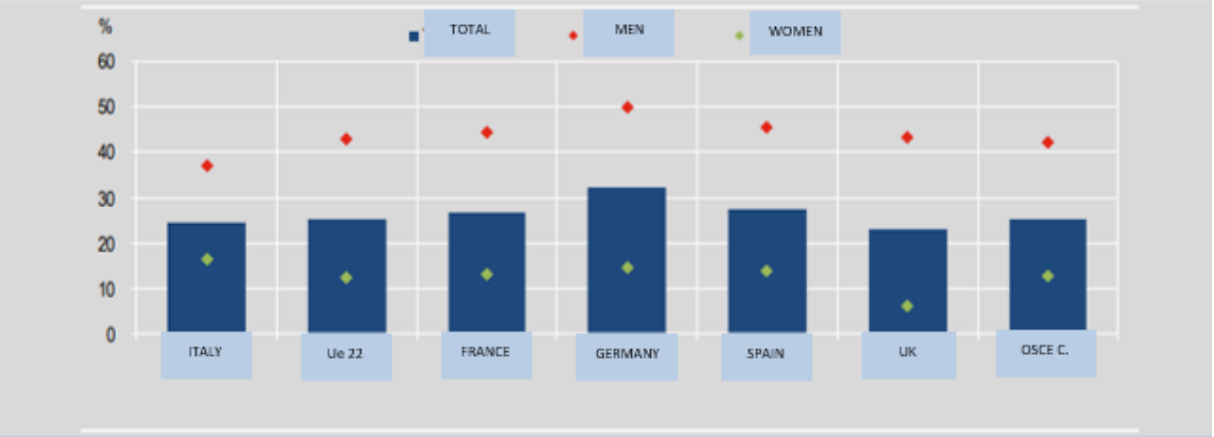

Figure 1. 25-34 aged young people with tertiary education in STEM disciplines in Italy, UE average and biggest UE countries, divided per gender (2018)

1.2.1. Environmental Agenda of Italy

In Italy environmental policies have been late with respect to other European countries due to the lack of specific national law and 'guide' reference on it. Actions have been led by Regional and local institutions for many years till 1986 when the Environmental Ministry has been created.

So, a multiplicity of social and cultural institutional positions have rapidly established themselves on the environmental issue. In fact, in addition to the official programs of central and peripheral institutions, one must consider the programs of political parties, economic forces and environmental associations, etc. which together have contributed to the development of a widespread but differentiated environmental culture. In a sense, it can be said that there is not just one, but many environmental policies in society today. As for the last 5 years agenda, the government worked on environmental policies to be in line with European environmental agenda. And for consequence national policies have been affected on European funds or European penalties for not reaching specific objectives underlined in Convention or Treat etc.

Starting from 2015 Paris Convention on climate change; EU plastic free strategy set on 2018, CITES convention on international commerce and risk of extinction of flora and fauna 2020; Green deal and 2030 Agenda on Sustainable Development, there have been a lot of policies applied at country level, that reached totally or partially the settled objectives. Here is a list of the most important application of the policies done mainly through The Budget Law for 2020 (2020 – 2023) and 'Climate Law'2019:

- Financed all projects presented by the regions for the hydrogeological instability prevention,
- #ClimateDecree: the first European law focused solely on combating climate change (-not totally pursued-),
- Creation of a directorate-general dealing exclusively with land reclamation,
- Creation of a directorate-general dealing exclusively with the sea,
- Greenhouse gas emissions reduction,
- Plastic use reduction and replacing plastic with alternative materials,
- Ecological transition of the country,
- Created the zea, the environmental economic zones, to enhance the parks, repopulate them, and make them extraordinary tools for development and environmental protection,
- Set up a task force of super-investigators for the 'terra dei fuochi', to tackle forest fire and waste crimes,
- Signed air quality agreements with many regions, and launched the national clean air plan, giving priority to those under smog infringement.

Particularly important in the National context was and is the National Strategy for Sustainable Development (NSSD). It turns out to be an implementation of the European indications in this regard. The Ministry of Ecological Transition (MITE) elaborated the Strategy in 2017 (CIPE Resolution 108 of 22.12.2017) and through the principle of state-region subsidiarity it is the basis for the elaboration of Regional and Provincial Strategies for Sustainable Development. The strategy, drawn up in close collaboration between the Ministry for the Environment, the Prime Minister's Office, the Ministry for Foreign Affairs and the Ministry for the Economy, is reviewed every three years through a broad and participatory institutional process coordinated by the Prime Minister's Office and the Forum for Sustainable Development (for a broader involvement of civil society).

The SNSvS (in English: National Strategy for Sustainable Development) is structured around the 5Ps of the 2030 Agenda: People, Planet, Prosperity, Peace and Partnership. In addition, there is a sixth area dedicated to vectors for sustainability (policy coherence, culture for sustainability, actors and networks). For the sake of synthesis, we report below the national strategic choices for each of the 5Ps (see Table 1). Please refer to the full text for the objectives/sub-objectives.

In particular there are six main challenges for the future underlined by Italian Environmental Ministry after the last Council of Environment Ministers of the European Union, held on 25 June in Luxembourg, certainly not exclusive, that the global community poses at national level:

- To continue and make the fight against climate change more ambitious, through the leverage of a different development, based on a reduction - up to the elimination - of polluting factors, especially in the mobility sector;
- Safeguarding nature, combating the loss of biodiversity, valuing water as a common good;
- Preventing the consumption of soil and preventing hydrogeological risk;
- Ensuring the safety of the territory by preventing and combating environmental damage and fighting the many firelands in our country;

- Govern the transition towards a circular economy and zero waste;
- Reducing the number of infringements inflicted on our country by the European Union to zero.

AREA	NATIONAL STRATEGIC CHOICE
PEOPLE	I. Fighting poverty and social exclusion by eliminating territorial gaps
	II. Ensuring conditions for the development of human potential
	III. Promoting health and well-being
PLANET	I. Halting the loss of biodiversity
	II. Ensuring sustainable management of natural resources
	III. Creating resilient communities and territories
PROSPERITY	I. Funding and promoting research and innovation
	II. Ensuring full employment and quality training
	III. Affirming sustainable patterns of production and consumption
	IV. De-carbonisation of the economy
PEACE	I. Promoting a non-violent and inclusive society
	II. Eliminating all forms of discrimination
	III. Ensuring legality and justice
PARTNERSHIP	I. Governance, rights and the fight against inequalities
	II. Migration and development
	III. Health
	IV. Formal education
	V. Agriculture sustainability and food security
	VI. Environment, climate change and energy for development
	VII. Protection of cultural and natural heritage
	VIII. Private sector
VECTORS	I. Common knowledge
	II. Monitoring and evaluation
	III. Institutions, participation and partnerships
	IV. Education, awareness, communication

	V. PA (Public Administrations) efficiency and public financial resources management

Table 1: 5Ps of the 2030 Agenda: People, Planet, Prosperity Peace and Partnership

1.2.2. The main pillars of green growth in Italy

The green economy plays an important role in the new policies adopted to achieve the ecological transition. In particular, ecological transition, health, tax reform, digitalization and education are the cornerstones on which the Italian National Recovery and Resilience Plan (NRP) is based.

This strategy, also known as the Recovery Plan, aims to boost the economy after the Covid-19 emergency. However, environmental protection is also an important issue, the aim is to match as much as possible green growth and NRP).

Concretely, the Italian government aims at promoting green growth for example through actions that go from technological innovations for the production of green hydrogen to incentives for plastic waste recycling technologies. From increasing the amount of protected land and sea up to 30% to reducing the Italian private motorization rate to below 500 cars per 1,000 inhabitants by 2030. The increase of organic farming, application of circular economy models in food processing sectors, the cutting of chemical fertilizers and a gradual carbon tax.

1.2.3. Green Job Policies in Italy

Most green job places since 2017 – 2018 increased thanks to investment done by private entities (not much nowadays due to the economical crisis) with support or not by National funds for specific production areas. These job places increased also thanks to investments done by public entities. Some examples of policies actions that have an impact on employment in green jobs in Italy:

- Green procurement mandatory for Public Administrations (GPP EU regulations)
- Tenders (increased urban waste management services, increased energy management, public green management, cleaning services and hygiene products, office furniture)
- Promotion of eco-label and enterprises' certification
- Companies have invested in the last five years in 'green' products and technologies. I.e. energy efficiency, renewable sources, reduction of water and waste consumption, reduction of pollutants
- European funding (energy and climate plan)

Additionally there are some subsides for enterprises foreseen for 2021-2022:

- Young people recruitment
- Women recruitment
- De-contribution (lower taxes) for South Italy
- Apprenticeship incentives

- Under 30 students' incentives
- South Italians recruitment incentives

And many other measures or subsides related to specific category of people (unoccupied, over 50, disables, NEET, etc.)

1.2.4. The Existing Green Jobs Mechanisms

Defiscalization of expenditure directly related to investment and employment in the eco-innovation sector. Such as; green purchasing bonus (bicycles, electric cars....), establishment of a National Fund for Sustainable Mobility, facilitations for the start-up of agricultural enterprises for young people, promotion and support of organic farming and short supply chain projects, sustainable finance and credit, economic support for green public procurement, creation of a National Agency for the efficient use and management of materials and natural resources (ENEA), activation of participatory processes for the development of smart and sustainable cities (SMART CITY), active policies in the NRP (New Skills Fund; funds to strengthen and modernize the network of public employment services to implement active labour market policies), agriculture entrepreneur incentives. These are distributed mainly at regional and local level.

1.2.5. Environment Related Economic Sectors and Activities

According to the collected data, the environment related sectors are organic and agriculture, urban regeneration, water system , waste management, mobility and transports, energy system and furniture. The most pointed main sectors are energy, transport, goods productions, food and agriculture.

1.2.6. Core Environment-related jobs in Italy

According to the Italian National Report on Green Professions and Skills the core environment related jobs in Italy are forest ranger, biologist, geologist, seismologist, meteorologist, environmental engineer, landscape architect.

1.2.7. Green Jobs in Italy

According to the collected data the 10 most popular green jobs which are always stated everywhere in the masculine form in Italy:

1 - Designer or Installer of photovoltaic solar systems

2 - Energy Manager

3 - Environmental Impact Assessor

4 - Expert in Bio-Architecture and Bio-Building

5 - Energy certifier

6 - Eco Lawyer

7 - Environmental Chemist

8 - Green Designer

9 - Designers or Installers of wind power plants

10 - Eco Chef

1.2.8. New skill development strategies for green jobs in Italy

MITE (Ministry of Ecological Transition) held a seminar on September 27th ,2021 and underline the need to promote 'sustainable culture' in all sectors and in long life learning perspective too. Education and Training are key levers for sustainable change in the country. Particularly, it has been emerged that 'vector's training' in SNSvS for ecological transition and development of environmental sustainability are urgent. They are not funded or sustained but discussion has been open to set concrete strategies. Within the framework of the National Recovery (plus integrating funds from REACT-EU Programme will concern both Active Policies and Training Reform and New Skills Fund). Besides (not for specific skills) national employability guarantee programme (Fund for the implementation of active policy measures among those eligible by the European Commission under the React EU programme).

1.2.9. Integration of Sustainable Development and Environmental Solutions into Existing Qualifications

Recently there was a National Conference named "The Nature of Italy-Biodiversity and Protected Areas: the Green Economy for the country's relaunch", organised by Federparchi, Rome's Sapienza University, the Foundation for Sustainable Development and Unioncamere, with the patronage of the Ministry of the Environment. One of the four thematic sessions of the conference focused specifically on green professions, youth employment and new entrepreneurship, with particular reference to the role of training in the development of innovative skills to support the Green Economy and the development of territories. Fortunately there are:

- Private professional organization recognized to offer specific trainings (like 'ISE Italia')
- Other vocational Training (VET) opportunities in the field of environment, agriculture and green jobs are offered by some Schools and Agencies accredited for some Italian Region, and can be for free for specific target groups or to be payed (for example we can find basic or highly specialized courses on Energy and security sectors, food and agriculture, land monitoring and management…)

1.2.10. Women in Green Jobs

There is no specific strategy at the moment to attract women and/or young women to green jobs, just incentives about women employment or promotion of professional courses on green jobs, in general.

1.2.11. Women in Green Jobs Statistics in Italy

For the research conducted, just in some schools or thanks to some project founded by private entities (foundations) or public one (Youth policies - Municipalities) some educational organization are actively working in 'career orientation. Even if there is not a specific focus on women within green jobs; such

career orientation measures have at least the potential to promote jobs (e.g. within the STEM area) without gender prejudices and labels.

1.3. SWEDEN

Swedish environmental policies aiming to reduce greenhouse gas emissions for climate protection have been shaped by a partial expansion of past environmental protection measures. The commitments of Swedish public authorities to environmental protection were made public in the several policies. In the framework of supporting job growth through investments in the green economy, the country aims to create new additional jobs in environmental protection. In this regard, by conducting this research the project team explores the recent developments within the green job sector in Sweden.

1.3.1. Environmental Agenda of Sweden

Sweden was the first country in the world to pass an environmental protection act in 1967, Sweden also hosted the first UN conference on the global environment in 1972. Since then, Sweden's economy has grown substantially while reducing carbon emissions and limiting pollution. More than half of Sweden's national energy supply comes from renewables and a thorough legislation aims at further reducing greenhouse gas emissions. As a result of these policies and applications in 2017 Sweden ranked third in the Global Cleantech Innovation Index. In 2018, Sweden's renewable share of the total energy consumption was nearly 55 per cent. In 2020, Sweden ranked second in the Global Innovation Index and topped the Global Sustainable Competitiveness Index. And finally in 2021, Sweden ranked second in the UN Sustainable Development Report and the Global Innovation Index, and topped the Global Sustainable Competitiveness Index. Briefly for more than a decade, Sweden has been in the top ten of the globally respected Environmental Performance Index produced by Columbia and Yale universities, with exceptionally clean air and clean water alongside its low emissions. In line with this the Swedish environmental agenda contains the following dimensions:

- **Climate-smart cities:** Several old industrial areas have been and are being redeveloped as efficient low-energy housing, and the city has extended its tram routes.
- **Sustainable housing: S**wedish houses are designed to make the most of the natural light available on short winter days. The construction technology includes triple-glazing as standard, to capture heat and fill interiors with light. With such low heating requirements, homes built according to passive house standards deliver lifetime savings in energy costs.
- **Future transport:** In Stockholm around 850,000 people use public transport on a normal day (Approximately 980,000 people live in the municipality, with 1.6 million in the urban area, and 2.4 million in the metropolitan area.) The entire underground system runs on green electricity, and since 2017 all buses have been running on renewable fuels, which was actually the target for 2025.
- **The green innovation generation:** Education & trainings of younger people to raise their awareness of climate change and climate solutions.
- **Towards a circular economy**
- **Turning wood into textiles:** The innovation project 'Establish locally grown textiles in Sweden' aims at enabling textile production of raw material from the pulp industry.

1.3.2. The Main Pillars of Green Growth In Sweden

Eco-innovation is a key component in Sweden's national environmental policy strategy and the country is in the forefront in developing new technologies in areas like bioenergy, smart grids, green building, waste and recycling, green vehicle technologies, water resource management, ocean energy and solar power. Sweden has also shown that it is possible to combine economic growth with a decreased carbon footprint. Emissions of carbon dioxide (CO2) have been declining in Sweden over the years and the country is the EU28 leader in renewable energy in gross final energy use as well as the first Member State to meet the renewable energy targets for 2020 set by the European Union, eight years ahead of schedule. As a new long-term climate goal, Sweden intends to have no net emissions of greenhouse gases into the atmosphere by 2045.
Sweden's environmental policy has relied on fiscal instruments since the early 1990s to promote sustainable development and green growth. Sweden was among the pioneers of carbon taxation with the adoption of a CO2, SO2 tax and a NO2 tax.

1.3.3. Green Job Policies in Sweden

Green Jobs programme (Gröna Jobb) targeted long term unemployed people.
The Green Jobs programme was the result of a Collaboration/agreement between the Swedish Forest Agency the Labour Market Authority and the Swedish ESF council. Around 3 000 long term unemployed (with at least an unemployment spell of 18 months) took part in the scheme. The scheme implied that the participant worked in environmental activities (60% of the time) and attended training courses related to the green jobs (mainly preservation of the environment forest, parks etc). According to the Swedish Forest Agency (http://www.skogsstyrelsen.se/episerver4/templates/SNormalPage.aspx?id=18060&epslanguage=SV) around 47% of the participants found a job in the regular labour market after the completion of the programme or were enrolled in training programmes.

1.3.4. The Existing Green Jobs Mechanisms

The Government has decided how the Green jobs initiative is to be implemented in July 2020. The initiative covers the entire country and during autumn 608 placements are planned for people who are far from the labor market. One aim of the Green jobs initiative is to alleviate unemployment linked to the ongoing outbreak of COVID-19.

In the spring amending budget, a total of SEK 150 million was set aside for the Green jobs initiative in 2020 for people who are far from the labour market. The Government has now instructed the Swedish Forest Agency, the Geological Survey of Sweden, the Swedish Environmental Protection Agency, the county administrative boards and the Swedish Public Employment Service to contribute to the creation of jobs for nature. The Swedish Forest Agency is to coordinate the work and the agencies involved have made a preliminary plan for how the places are to be distributed across the country.

"This is a concrete initiative that opens opportunities for unemployed people across the country. I am pleased that the agencies involved have so quickly organized so that we can now offer unemployed people training in shortage occupations in the green industries and at the same time carry out important nature conservation and forest management activities," says Minister for Rural Affairs Jennie Nilsson.

The Green jobs initiative aims to improve integration, develop the skills and employability of newly arrived immigrants and long-term unemployed people, alleviate the skills deficit in the green industries, strengthen nature conservation and forest management, as well as promote outdoor activities, cultural sites, recreation and tourism. This will then provide added value for many people.

1.3.5. Environment Related Economic Sectors and Activities

Energy, agriculture, design, tourism and transportation are the most common environment related sectors in Sweden. Besides; alternative fuels; bioenergy; carbon capture and storage; energy efficient lighting; energy efficient products; energy monitoring, saving or control systems; fuel cells and energy storage systems; hydropower; low carbon financial and advisory services; low emission vehicles and infrastructure; nuclear power; offshore wind; onshore wind; other renewable electricity; renewable combined heat and power; renewable heat; and solar photovoltaic are the most common environment related jobs in Sweden.

1.3.6. Core Environment-related Jobs in Sweden

According to the desk research conducted by the partners the core environment related jobs in Sweden are Conservation Scientist and Forester, Energy Auditor, Environmental Engineer, Environmental Lawyer, Environment Protection Technician, Environmental Scientist, Hydrologist, Landscape Architect, Solar Photovoltaic Installers, Urban and Regional Planner, Wildlife Biologist, Wind Turbine Technician.

1.3.7. Green Jobs in Sweden

According to the collected data by the partners the most popular green jobs in Sweden are recycling worker,
refuse collector, agricultural equipment technician, environmental technician, solar installer, wind turbine technician, farm manager, environmental specialist, water resources engineer, landscape architect, environmental scientist, air quality engineer, compliance officer, environmental manager, environmental engineer, environmental health and safety officer, energy manager, sustainability engineer, nuclear engineer, civil engineer, urban planner, landscape architect, environmental geologist, environmental consultant, sustainability consultant, ecologist.

1.3.8. New skill development strategies for green jobs in Sweden

The Swedish Government has decided how the Green jobs initiative is to be implemented. The initiative covers the entire country and during 2020, 608 placements are planned for people who are far from the labor market. One aim of the Green jobs initiative is to alleviate unemployment linked to the ongoing outbreak of COVID-19. In the spring amending budget, a total of SEK 150 million was set aside for the Green jobs initiative in 2020 for people who are far from the labor market. The Government has now instructed the Swedish Forest Agency, the Geological Survey of Sweden, the Swedish Environmental Protection Agency, the county administrative boards and the Swedish Public Employment Service to contribute to the creation of jobs for nature. The Swedish Forest Agency is to coordinate the work and the agencies involved have made a preliminary plan for how the places are to be distributed across the country.

According to Minister for Rural Affairs Jennie Nilsson this was a concrete initiative that opens opportunities for unemployed people across the country. She was pleased that the agencies involved have so quickly organized so that we can now offer unemployed people training in shortage occupations in the green industries and at the same time carry out important nature conservation and forest management activities.

The Green jobs initiative aims to improve integration, develop the skills and employability of newly arrived immigrants and long-term unemployed people, alleviate the skills deficit in the green industries, strengthen nature conservation and forest management, as well as promote outdoor activities, cultural sites, recreation and tourism. This will then provide added value for many people. Forest management can, for example, contribute to reducing the spread of pests such as European spruce bark beetle. The remit includes developing methods for skills development with a focus on clearing and planting in production forests, with the aim of increasing the participants' employability so they can more easily be matched with potential employers in shortage occupations in the green sector.

1.3.9. Integration of Sustainable Development and Environmental Solutions into Existing Qualifications

The general purpose of Swedish environmental policy is to hand on to the future generation a society in which the main environmental problems have been solved. To this end, the government has drawn up 15 environmental quality objectives. These identify future environmental goals and define the direction of Sweden's environmental work at national, EU and international level. Three basic environmental strategies have been adopted and integrated from the SDGs. These are based on the need for greater energy efficiency and more efficient transport systems, non-toxic, resource saving ecocycles, environmentally sound products, efficient management of land and water resources and a sound built environment.

1.3.10. Women in Green Jobs

The Swedish government is trying to be in line with the EU level strategies and there is no specific strategy at the moment to attract women and/or young women to green jobs, just incentives about women employment or promotion of professional courses on green jobs, in general.

1.3.11. Women in Green Jobs Statistics in Sweden

There are some examples of women in green Jobs in Sweden. The forest sector is one of them, accordingly about 38 percent of the country's more than 350,000 individual forest owners are women 125,000. This makes forestry the largest enterprise group among women in Sweden. Females possess more forestry real estate (20%) than males do, and they together own roughly 3.5 million hectares of productive forest property worth about 65 billion Swedish kronor.

.

1.4. TURKEY

Since the UN Conference on Environment and Development held in Rio in 1992, Turkey has reflected the concept of sustainable development in its National Development Plans (NDPs), which represent the

highest level of political framework. With this long-term experience, Turkey has strong ground and infrastructure to set a course in line with SDGs. To fight climate change effects and Environmental Solutions are the main topics among these goals. In the framework of supporting job growth through investments in the green economy, Turkey aims to create new additional jobs in environmental protection. In this regard, by conducting this research the project team explores the current developments of green jobs in Turkey.

1.4.1. Environmental Agenda of Turkey

National Climate Change Strategy Document (IDES), which is the basic policy document on climate change, was prepared through an efficient period of work with the participation of public institutions, private sector representatives, NGOs and universities and was approved by the then Prime Ministry State Planning Organization Supreme Planning Board in May 2010.

IDEP, which is foreseen to be prepared in line with National Climate Change Strategy and the objectives of Ninth Development Plan, involves policies and measures for greenhouse gas emission mitigation and climate change. IDEP basically comprises two main action plans, these are: Greenhouse Gas Emission Control Action Plan and Climate Change Adaptation Action Plan. IDEP included various sub-actions for the targets included in the National Climate Change Strategy and the institutions/ organizations responsible for putting these into life and the timing have been identified.

The Green Deal Action Plan prepared by the Ministry of Trade and approved with the Presidential Circular numbered 2021/15 ("Action Plan"), is a roadmap aiming to support green transformation in all relevant policy areas. Action Plans mainly aims to establish Turkey's compliance with the European Green Deal ("European Green Deal") issued by the European Union ("EU"). The Action Plan aims harmonization with the regulations and principles adopted under the European Green Deal, in order to contribute to Turkey's transition to a more sustainable, resource-efficient and green economy, in a way that will preserve and carry forward the existing integration of Turkey within the scope of the EU Customs Union.

Main actions under the Action Plan to reach the related goals have been determined as (1) limiting carbon emissions, (2) a green and circular economy, (3) green financing, (4) a clean, economic and safe energy supply, (5) sustainable agriculture (6) sustainable smart travels, (7) combatting against climate change (8) establishing diplomacy principles and (9) raising awareness regarding European Green Deal.

For instance, the Zero Waste project which was launched in 2017. Within this framework, Turkey wants to increase the rate of recycling at home to at least 35% in 2023, the 100th anniversary of the founding of the republic. This also means that at least 13 million tons of waste will be recycled and presented to the industry and economy as raw materials, instead of being taken to storage areas.

1.4.2. The Main Pillars of Green Growth in Turkey

In Turkey the green growth idea and mechanisms have play important role in the government's agenda since 2001. For instance, the sustainability goal has been an integral part of the 8th (2001-05), 9th (2007-13), 10th (2014-18) and 11th (2019-23) National Development Plans. In the 9th NDP the protection of the environment and improving urban infrastructure was associated with the objective of increasing the competitiveness of the Turkish economy. Besides, the stated goal of the National Action Plan for Climate Change is to integrate climate-change objectives into national development policies and

promote renewable and energy efficiency. With Energy Efficiency Law, Energy Efficiency Coordination Board was established to carry out energy efficiency studies within all relevant organizations all over the country, monitor the results and coordinate efforts. Renewable Energy Law provides a Renewable Energy Support Mechanism, which covers different incentives and benefits for renewable energy projects including feed-in tariffs. Besides, the 11thPlan states that "due to its geographical location, Turkey is among the countries that will be most affected by climate change, and it contributes to the efforts to combat climate change with an understanding that considers the realities of the country". In line with Turkey's position as a developing country, a policy is followed to limit the green growth and emission increase trend, and efforts to adapt to climate change maintain their importance. Also, the 11th plan points some green pillar which are:

- Establishment of the National Green Building Certification System.
- The main objective is to provide energy supply continuously, with high quality, sustainable, safe and bearable costs.
- In order to meet the increasing demand in energy, a competitive investment environment will be developed and the sustainability of an energy market that is financially strong, stable, transparent, predictable, protecting the consumer and considering sustainability will be observed.
- Medium and long-term energy supply-demand plans will be made.
- Cost-based pricing practices will be adopted to establish competition in electricity and natural gas markets.
- A market infrastructure will be established to ensure demand-side participation.
- Rehabilitation of publicly operated power plants will be completed.

In a nutshell as a candidate state of Eu and member of the G20 countries Turkey provides a Renewable Energy Support Mechanism, which covers different incentives and benefits for renewable energy projects including feed-in tariffs. The renewable energy law provides different feed-in tariffs (fixed minimum electricity sale prices) depending on the type of the renewable energy.

1.4.3. Green Job Policies in Turkey

The "Project Decent Work in the Green Economy", funded by the Flemish Government, aimed at contributing to the creation of green jobs for women and men as a means to poverty reduction and social inclusion through the strengthening of national green economy initiatives. Its objective was to improve the ability of governments and social partners to assess the scope for green jobs and to formulate, monitor and review relevant gender sensitive strategies, policies and programmes.

Project activities initiated with a first national workshop on green jobs , held from 24 to 26 June in Ankara 2013. This capacity building event targeted government, workers' and employers' representatives and introduced the concept of green and decent jobs and ILO's green jobs development strategies. This included a focus on green entrepreneurship and green enterprises , skills development , social dialogue and sector strategies. The workshop concluded with a discussion about policy options and possible core elements of a green jobs strategy for Turkey. The outcomes of the workshop were taken up and further developed by the National Task Force on Decent Work in the Green Economy created under the framework of the project.

Tax reform: In our country, with the Regulation on the Monitoring of Greenhouse Gas Emissions published in the Official Gazette dated 17.05.2014 and numbered 29003, greenhouse gas emissions will

be calculated on a plant basis as of 2016. Again, within the scope of the Partnership for Carbon Market Readiness (PMR) project, it is aimed to analyze the carbon market mechanism tools, including emission trading, on a national scale and to share the findings for decision makers. It is important to continue to closely follow the developments in the world in this field and to act in the light of analytical studies planned to be carried out in cooperation with other Ministries

Eco-labelling: Beginning in June 2017 and finalized in 6 months, the "Establishment of National Environmental Label System in Turkey" Project's most important activities, is to build capacity for the Eco-label system, trainings on the EU Eco-label legislation and implementation, alignment of Eco-label legislation with EU legislation in collaboration with stakeholders, gap analysis to determine the readiness of the three selected sectors for Eco-label, and preparation of draft Eco-label legislation.

Subsidies and tenders: There are too many governmental funds and subsidies in order to improve the capacity of public and private institutions regarding environmental and green transition.

R & D: There are too many governmental funds and subsidies in order to improve the capacity of R & D in public and private institutions regarding environmental and green transition.

1.4.4. The Existing Green Jobs Mechanisms

There are some governmental level action plans and they will be adopted to the regional and local levels.

1.4.5. Environment Related Economic Sectors and Activities

In Turkey, energy production and distribution, law, business and marketing, agriculture, forestry and fisheries; construction, logistics and transportation, tourism are the most cited environment related economic sectors and activities in Turkey.

1.4.6. Core Environment-related jobs in Turkey

In Turkey, environmental engineer, renewable energy storage specialist, energy management designer, energy efficiency specialist, soil scientist, flood specialist, fire ecologist, climatologist, climate scientist, environmental protection specialist, waste manager, recycling specialist are the most cited core environment related economic jobs in Turkey during the data collection phased.

1.4.7. Green Jobs in Turkey

As a part of sustainable development goal and related EU strategies there are some green jobs in Turkey which are also related with the above-mentioned sectors. Such as; renewable energy consultancy, renewable energy engineering, wind energy expertise, clean water engineer, green marketing consultancy, green business managers, green human resources management, environmental and energy law expertise, green finance, organic agricultural engineering, environmental and ecological engineering, green designer, green logistic manager.

1.4.8. New skill development strategies for green jobs in Turkey

In parallel with international improvements, development policies in Turkey have taken into account the interaction of economy, environment and society, which are the three pillars of sustainable development. Before the 1992 Rio Conference, environmental policies in the Five-Year Development Plans (FDPs)

were based only on the objectives of eliminating the pollution that emerged, later on pollution prevention policies and finally with the 7th FDP, policies for the integration of environment and economy were prioritized in line with the sustainable development approach.

Since the 2000s, environment became a separate topic, and since the importance of environmental policies in terms of production and employment increased, it became important to integrate the issue with economic and social policies. In addition to increasing productive employment and protecting the environment, which are among the main objectives, similar issues were included among the priority areas in sectoral targets. Since then, the development plans have included policies to ensure sustainable use and conservation of resources, to expand the use of renewable energy resources, to increase energy efficiency, to develop sectors that will create high added value, to increase the employment of qualified labor force and to apply and disseminate new technologies in a way to increase employment. In incentive policies, it is also stated that priority will be given to developing new employment opportunities, environmental protection and R&D. Therefore, in Turkey there is a tendency to apply new skill development strategies for green jobs.

1.4.9. Integration of Sustainable Development and Environmental Solutions into Existing Qualifications

Yes, the above-mentioned international strategies have been implemented in the policies related with VET and TVET.

1.4.10. Women in Green Jobs

While many green jobs in Turkey are in traditional sectors such as manufacturing, installation, maintenance and agriculture, others are in emerging green sectors such as renewable energy (wind, solar, geothermal bio-fuel, etc.) energy efficient sectors, building retrofitting, construction and transportation lines. Since these professions are mostly defined as male-dominated sectors, there are no separate privileges or fields for women.

1.4.11. Women in Green Jobs Statistics in Turkey

Although Turkey is trying to increase interest and employment in green professions as an outcome of both national and international reforms, it is not possible to find statistical data to define the visibility of women in this sector.

2. Green Professions and Skills Survey Results

This section is the second task of Projet Result 1 which is part of the Women4Green Project. This research presents the outcomes of the survey related to the needs for the project. For this reason, the consortium developed a questionnaire (see Annex II) for the further evaluation of the country-specific situation regarding skill requirement in green jobs, inquiring specifically the professional field in the green economy (companies, job orientation centers etc.). The objective of this phase is to propose the skills needed for young women to decide for professions in this future-relevant field.

Accordingly, in total 115 experts from Austria (34 people), Italy (29 people), Sweden (25 people) and Turkey (27 people) participated in the questionnaire from different sectors and organizations. According to responses the highest proportion of respondents are aged 31-40; while participants generally fall between the ages of 20-30. In terms of their sector orientation, all participants are coming from different sectors and this indicates that the survey managed to reach different people from all over the partner countries. Accordingly; the participants are representing construction, ICT, energy solutions, agriculture, education, fishery, automotive, logistics, tourism sector, and local government. Similarly, the participants have different roles and responsibilities in their work such as HR manager, product and process developer, engineer board member, design manager, senior research officer, sales manager, architecture, marketing manager, civil engineer, investment consultant, researcher etc..

From the responses of the partner countries, the first part of the questionnaire (general statements on green skills) suggests that there are no clear, coherent and integrated strategies at institutional level that could support, promote and increase green jobs and women's participation in the sector. Indeed, the respondents from Italy confirm their organizations' commitment in promoting green skills. They also promote awareness and confirm that the green economy is receiving awareness at a very broad scope. However, the respondents from Austria and Turkey clearly point out that their organizations unfortunately are not promoting green skills in their organizations.

The second part of the questionnaire (skills required for the green economy) also clearly shows how all economic and occupational sectors can potentially contribute to green economy goals by implementing deep changes and innovations in their organizations. According to the findings from Italy, this, on the one hand, can be considered a symptom of a matured awareness of environmental sustainability, on the other hand, reconfirms the disorientation towards this topic and the fragmented nature of national and regional policies. In all countries the respondents reported a broad range of green jobs. Besides in Italy those people underlined the importance of implementing environmental conversion and certification pathways for all production sectors.

Additionally, although there are some similar jobs which are repeatedly called green jobs; partner countries have some small differences. For instance, in Turkey energy engineers, logistic and waste managers are most frequently mentioned as green jobs; in Italy and Sweden it is the energy managers and construction engineers, in Austria they are environment and energy engineers. These differences may be due to the current nation level public interest around these sectors and the national incentives related to country priorities. Also generally, in all partner countries it has been noted that, with respect to an analysis of the answers from the point of view of gender, that all the professions are declared in the masculine, contributing to the development of an imagery in which the female population is not represented.

Finally, one of the most important issues that emerged as a result of the surveys conducted in 4 countries is that the competencies required by employees who will take part in green jobs or green-collar jobs are similar. It is undoubtedly important that these people act with environmental awareness. However, green jobs also require some new competencies. It is very important for employees to have competencies in these areas in order to spread green culture at all points of the units where they will work. Especially when the concepts of green jobs, sustainability and green economy are considered, it is seen that competencies directly related to the environment come to the fore. In addition to the competencies presented in the questionnaires, participants emphasized the importance of competencies related to green jobs, such as knowledge and experience in environmental auditing, environmental health, safety and protection, environmental science and climate change, recycling and hazardous waste, experience in quality standards, and project management skills.

Knowing, implementing, designing and managing all organizational processes for business models that offer a sustainable solution, and being able to think analytically are among the competencies that are more frequently emphasized in green positions. In addition, many respondents also emphasized competencies such as being able to use computer programs, being proactive, having strong interpersonal skills and being able to analyze data. In addition, more traditional competencies such as time management, decision-making, problem solving, financial literacy, communication skills, self-expression, critical skills, etc. are key to self-development and will continue to be developmental tools for green jobs.

3. Focus Groups Results

Focus group interviews can be defined as a qualitative data collection technique that is carried out within the framework of pre-determined instructions, prioritizes the subjectivity of the interviewees in accordance with the logic of this method, and requires attention to the discourse of the participants and the social context of this discourse. In this sense, focus group interviews are a qualitative method that aims to learn about the conscious, semi-conscious or unconscious behaviors of groups, sub-groups, and their psychological and socio-cultural characteristics, and to learn the reasons behind their behavior. In this context, the partners of the project consortium collected the data from Austria, Italy, Sweden, and Turkey and they either conducted on place face-to-face or online on different days with a **total of 28 experts from career counselling centers**. These participants are from partners' own region and are responsible for different education and training programs (see table below).

Country	By	Date	Participants Name or Professional Role	Details of the Roles	Facilitation and Documentation
Austria	ÖJAB	April 2022	1. Trainer of young NEETs in the AFit Program (Fit for Apprenticeship) 2. Coach of young NEETs in The AFit Program 3. Trainer of young NEETs in the AFit Program (Fit for Apprenticeship) 4. Coach of young NEETs in The AFit Program	✔ Promotion of corporate social and environmental responsibility through certifications ✔ Implementation of training courses on skills and green jobs ✔ Developing Academic and lifelong learning guidelines for the promotion of green careers ✔ Development of educational activities with focus on green jobs ✔ Implementation of activities aimed at schools on the topic of decent work and the UN 2030 agenda ✔ Expert in inclusive and sustainable orientation ✔ Academician ✔ Human Resource Manager	Julia Probst Sabina Suta-Islamovic
	bit schulungs center GmbH	May 2022	1. Trainer in the JUP program of bitSC 2. Project manager “career guidance” at STVG 3. Trainer in the JUP program of bitSC 4. Youth career guidance at LOGO jugend management 5. Trainer “career guidance” at STVG		Stefanie Gugganig Natalie Volkmann
Italy	Jonathan	April/May 2022	1. Project Manager and Corporate Social Responsibility Auditor 2. Director of Professional Training and Upgrade Institution Region Veneto 3. Employment Centre Manager Municipality of Bari 4. Counselling Service Operator & Doula Province of Padua 5. Counselling Service Operator & Educator Early Orientation Project Province of Padua 6. Labour Psychologist and Career Counsellor Region Veneto 7. Employment Centre Operator		Luca Ventura Nadia Dalla Costa

Sweden	Wise Academy	May 2022	1. The student of Management Department of Malmö University Sailorman 2. Photographer and Entertainment Service Worker 3. Young Entrepreneur on Nutriation and Health Employee 4. Employee of Adult Care and Protection Center 5. Language Trainer and Social Educator on Youth Program		Emre Hüseyin Yiğit Gülce Güner
Turkey	SBTC	April 2022	1. Researcher on Sustainable Economics and Development 2. Researcher on Green Marketing 3. Researcher on Sustainable Tourism 4. Researcher on ICT and Distance Learning 5. Researcher on Ecologic Tourism 6. Researcher on Green Logistics		Tugba Uçma Uysal Ceray Aldemir

Table 2: Focus Group Details

3.1. Duration and General Atmosphere of the Idea Sharing

Although the prior aim of the focus groups is getting appropriate answers for the interview questions (see Annex III), the project partners have raised some additional points around the topic of problems and solutions of the green jobs and employment issues. To ensure a smooth process of the focus group session, the partners followed the guideline developed within the Women4Green project.

Time	**Topic**	**Who**
10 Min.	Introduction and acquaintance	By Facilitators
10 Min	Presentation of the Women4Green project, aims and objectives	By Facilitators
10 min.	Presentation of the topics to be discussed	Whole Group
30-40 min.	Main discussion	Whole Group
15-20 min.	Summary and Conclusion	Whole Group

Table 3: Agenda of The Focus Groups

After a short welcoming and opening part, the focus group took around approx. 75-90 minutes with the continuing discussion and conclusion. The facilitators clearly managed to conduct the focus group agenda and implement it successfully, there was no communication and connection problem during the meetings that happened in different countries.

3.2. Problematic Treated Regarding Questions

Within the framework of the questions posed to the participants, the discussions started around the idea that the concepts of a green economy and green jobs are gaining more and more importance, although they are not yet very common in partner countries.

For instance, in Austria two focus groups were conducted and main outcomes were similar. Participants indicated that their own knowledge of the green sector, related jobs, and skills is limited or that the exact definition of green jobs is unclear to them. Moreover, the word is used in an inflationary way ("greenwashing") and is still unclear and not even known by many young people. Generally, they thought that green jobs are jobs that contribute to energy- and resource– saving. Due to this lack of general knowledge about green job, all participants found it hard to define or name competencies for green jobs.

All participants raised the perception, that green jobs require high education levels and are rather technological. For this reason, the participants see barriers to explain how difficult it is to get into

technology, especially for young girls, and for people with lower educational levels. Popular green jobs, such as solar energy or recycling, often require a higher level of education and therefore seem out of reach for this target group. They identify the following jobs that may be within reach for their target group of NEETs in the sustainability sector:

- Jobs in agriculture
- Recycling
- Wood work/ handcraft with natural materials
- Bicycle mechanics
- Tiny house projects
- Tree nursery

However, they also felt that educators or counsellors should also focus more on the presentation of green jobs. In the further discussion it turned out that this vague definition is a possible reason why green jobs are not yet widespread in career guidance and rather unknown. In their opinion, women and men can do the same jobs. However, self-confidence was mentioned as an important point that still needs to be promoted among girls.

Due to this lack of knowledge about green jobs, participants find it difficult to answer most questions in detail. The participants are in the opinion that political and legal guidelines are still missing. They perceive a lack of political will to integrate sustainability and climate friendliness into the national education curriculum and to fund them adequately, although both topics are particularly promoted. For example, the proposal for a dedicated trainer for Environmental Solutions was rejected by the relevant ministry. Instead, they see an individual need to research and inform themselves in order to teach sustainability.

Like Austria, Italy emphasized similar issue. According to the national report, it clearly emerges that the perception that people have today of these professions is poor; they are not aware of the repercussions of green issues even on "normal" professions and there are difficulties in the youngest generations (or even in those who need to retrain) to imagine a path within the green world to acquire professionalism. As there is no culture, and no information on what the green sector offers - it is still considered a niche and therefore companies struggle to find qualified people. The participants agree that nowadays young people have a great sense of respect for the environment (e.g., on recycling or turning off the lights), but the professions in the green field are perceived as distant, but also of a high level. Young people have no idea which are the professionals that could work in the green field, and they only consider architects or urban planners (high-level professionals). Therefore, when they are 18 or 22 years old, they think they should have chosen different study paths in order to be able to get a job in the green sector. There is a shared vision among the participants that agriculture is an area more within reach to work in in the green field, while other areas are perceived as distant because they require more complex skills and specitechnologies/knowledge.

In Italy the participants, as professionals in the field of training and guidance, highlighted their awareness of the need to get a better understanding and knowledge on green professions, to develop useful skills to be used in their work. Finally, the group reflected on the importance of certifications on environmental sustainability and corporate social and environmental responsibility as useful strategic

tools. Additionally, the participants shared the perception of the lack of a ruptured national attention on these issues and that everything is therefore left to the attention of the bodies that manage guidance and training services. The result is a lack of shared guidelines and a territorially heterogeneous attention. It is shared by the interviewees that as training and guidance professionals they are aware of the need to create in-depth courses on green skills and green jobs on a par with what was done during the pandemic for digital skills.

In Sweden, some of the participants whose backgrounds are related with energy and natural science are aware of the green jobs and their definitions, but the rest of the people have very limited information about the green jobs and their exact meaning. The participants who are familiar with the concept of green jobs underlined some initiatives. One of the participants pointed out that the Swedish Government has started to implement the green jobs initiative which covers the entire country. One aim of the green jobs initiative is to alleviate unemployment linked to the ongoing outbreak of COVID-19. This topic opened a new discussion and people mentioned that they read through the newspapers and on the internet that the new initiative opened opportunities for unemployed people across the country. According to participants who were involved into the discussion this will help to increase integration.

In Turkey, participants noted that the lack of current data does not allow to fully monitor the extent of green Jobs/employment. Increased awareness and research projects in this area will help to analyze green jobs in a healthier and more detailed way. Cooperation between institutions, incentives and regulations can pave the way for green jobs. In addition, the lack of vocational training arrangements is a problem. Therefore, VET arrangements should be aligned with the needs of environmental sectors that may come to the fore in the future. The creation of the technologies, policies and regulations needed for green jobs requires the effective cooperation of the public and private sectors and trade unions. Green-collar jobs are professions where different disciplines can meet and collaborate, requiring creativity and lifelong education and development. Therefore, it would be beneficial for people who want to work in green jobs to continuously educate themselves and to have knowledge about disciplines such as marketing, communication, advertising, psychology and sociology in addition to their fields.

The participants in Turkey pointed an important project which is "Decent Jobs in a Green Economy" project, implemented by the International Labor Organization (ILO), aims to contribute to the creation of green jobs for women and men by strengthening national green economy initiatives in the context of poverty reduction and social inclusion. To achieve this overall objective, the project combines international research and knowledge-sharing activities with training and research initiatives, thereby supporting policy development at the country level. In Turkey, the project's near-term objective is to improve the competencies of governments and social partners to assess the scope of green jobs and to support their ability to prepare, monitor and evaluate gender-sensitive strategies, policies and programs. So the participants believe that with this kind of initiatives national policies and governments may realize the economic and social linkages between climate change and employment. The participants believe that companies need guidance on how to create decent jobs as they transition to resource-efficient production systems and green business models, while policy makers need to be informed about the duties of companies in this process so that they can carry out the necessary legal infrastructure work.

3.3 Solutions Proposed Regarding Questions

During the focus groups conducted in four different countries, the participants pointed out that green jobs should be expressed as jobs that contribute to the protection of the environment or increase the environmental quality in sectors related to agriculture, production, research and development, administrative affairs, and services. Besides, the term must be defined more precisely in order to be able to create suitable concepts in vocational orientation. Also, support from the higher political level in this regard is crucial. According to the results of the discussion, the participants underlined that green jobs not only play a role in the protection of ecosystems and biodiversity, but also reduce energy, water, and materials used, and are designed to minimize the generation of all kinds of waste and pollution in general. According to these mentioned facts, green jobs are also expected to be decent jobs that value people, provide decent wages, observe occupational health and safety as well as workers' rights, and offer good career opportunities.

In this regard, the concept of green growth can also be defined as a human-oriented growth model that prioritizes the protection of the environment and the balanced use of resources, increasing social welfare, under the guidance of a balanced economic, social and environmental development. Day by day, the thought that environmental protection policies will have negative effects on the economy and employment, together with green growth, has gradually begun to change into the direction that these policies can be important tools that will provide the structural transformation in the country's economy. Even today, when unemployment and gender imbalance is an important problem, the view that employment areas will expand with green jobs, decent jobs will be created, and green growth will contribute to the development of human resources is getting stronger. For instance, working-age population will continue to increase every year until 2030, it is crucial to create new and quality jobs in Turkey, where unemployment is high and the working population is growing. The participants explained that it can be helpful if young people can gain experience and try things out for themselves. Therefore, one idea would be to offer and promote explicit green practice places. Role models also need to be considered. Young people get their information from social media, so to attract them to those jobs, there must be a focus in this area.

According to the participants, developing sustainable policies has critical importance in partner countries, especially in the ones that have only utilized a small fraction of their considerable renewable energy potential and imports a large portion of fossil fuels such as natural gas and coal, which are heavily consumed in the country. Some participants underlined that, in energy dependent countries, renewable energy sources and green collar jobs should be given importance. In sectors where green jobs can easily thrive, such as energy, construction, agriculture and transportation, private-public cooperation can play important roles in creating a low-carbon economy. The participants' focus on the topic at the academic level helped us to address the discussion in a multidimensional way. According to the participants, one of the most important factors for developed countries to improve green jobs and clean energy technologies is the importance they attach to R&D. For instance, for this reason, the government and the private sector in Turkey should increase their R&D expenditures, which are very low, and revise their priorities in line with emerging green technologies. Future investments and programs in Turkey should take steps to contribute to the development of green-collar jobs. In this way, the employment that these professions will create should be directed towards those who need it the most, namely the youth, women and the unemployed.

In a nutshell, the following pathways can be followed to develop a clear definition and understanding of green jobs and the skills required and to develop green jobs with high employment creation potential in the labor market:

- Enterprise Support and Entrepreneurship: Public support in this area will be important for the development of new "green" business activities, as well as facilitating internal adjustments in existing enterprises to maintain and increase competitiveness and productivity.

- Training and Skills Development: Providing the green skills needed in the labor market will reduce the risk of rising unemployment rates, ensure green growth and meet the demands of employers. The use of instruments such as vocational and technical education, lifelong learning, apprenticeships and on-the-job training in the green sectors can stimulate both production and demand in the economy.

- Employment and Green Jobs: The public sector's definition of customized labour market policies to reach or create masses with green skills at the local level will create employment opportunities for all segments of society, especially disadvantaged target groups such as women with relatively low chances of finding a job, long-term unemployed, youth, persons with disabilities and migrants, and will ensure that needs are addressed and focus on quality and good jobs.

- Eco-Innovation: For innovation, which is one of the driving elements of the Green Economy, policies can be implemented that work on the development of more energy efficient or cleaner technologies in specific sectors.

4. CONCLUSION

As explained in this report, green jobs are the jobs of the future which also comes along with new opportunities, especially for women. For instance; unlike other sectors, the transition to a green economy raises the important claim of high-skilled labour by developing better working conditions and offering higher occupational safety, health and wages. The agriculture, waste management, recycling and construction industries offer significant opportunities in terms of the quality of work, even if they require different reasons and options to make the necessary advances. However, preliminary desk research showed that green jobs are not clearly defined and thus lack a clear understanding and categorization. Therefore, with this report the Women4Green consortium developed a Green Professions and Skills Catalogue which aims to show a comprehensive insight in what green economy jobs are in each country and which specific competences/skills are required as well as an evaluation to which extent green economy jobs are already approached in career orientation.

The partners from Austria, Italy, Turkey and Sweden conducted the desk-research which indicated that environmental protection is a major topic in those countries' social and economic policy agenda. In several areas these countries are considered important agents in the field of environmental policy and environment related topics. The countries’ master or strategic plans present the importance of environment related jobs for instance today 1 in 20 jobs in Austria can be called a green job. In addition, there is an attempt in those countries to increase the interest of young women in those jobs but not enough. However, as the country specific findings indicate, the green economy is a chance for women to advance their fair place in the workforce. The country's findings show that these attempts are limited and need vital improvements and developments in policy and application level. Therefore, it is an important need to construct a link between green jobs and gender issues.

The results of surveys and research report indicate that, green jobs have been used to refer to jobs that contribute to the sustainability, protection and development of the environment in areas such as biodiversity, nature conservation, environmental consultancy, waste disposal and pollution control. However, it is not easy to draw a complete framework of green jobs. In this context, the concept has recently been extended to include low-carbon jobs in the renewable energy, resource and energy efficient production, low-carbon transport fuels, climate change consultancy and carbon finance sectors. Additionally, the proposals that emerged from the focus group can be summarized as following:

- MICRO LEVEL: development of the self-esteem and self-awareness capacity of young women by deconstructing the cultural stereotypes that limit the objective perception of the self;

- MESUS LEVEL: promotion of the visibility of women in the fields of the green economy; enhancement of all skills, experimentation with green jobs in real situations;

- MACRO LEVEL: national and regional policies that are able to give viable and homogeneous actions to integrate sustainability with active labor policies; sensitization and development of a culture preventing from reproducing gender stereotypes in different contexts (school, work, city).

REFERENCES

Advantage Austria Copenhagen. (2021). Greentech from Austria is promoting climate action worldwide. Retrieved from https://www.advantageaustria.org/gl/zentral/news/20211018-FRESH_VIEW_GreenTech.en.html.

AMS Österreich. (2020). Thematische Highlights. Nachhaltigkeit und Arbeitsmarkt: Fifty shades of green. Retrieved from https://bis.ams.or.at/qualibarometer/highlights.php?noteid=2544&stammdatenkategorien_noteid=97.

Amt der Steiermärkischen Landesregierung. (2022). Bund und Land. Strategien und Programme in Österreich und Steiermark. Retrieved from https://www.nachhaltigkeit.steiermark.at/cms/ziel/139358178/DE/.

Austrian Federal Chancellery. (2020). Austria and the 2030 Agenda. Voluntary National Review – Report on the Implementation of the Sustainable Development Goals. Retrieved from https://sustainabledevelopment.un.org/content/documents/26511VNR_2020_Austria_Report_English.pdf.

BMK. (2022). Green Jobs in Österreich. Retrieved from https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/green_jobs/oe_green_jobs.html.

BMK. (2022). Green Jobs Masterplan. Retrieved from https://www.bmk.gv.at/en/topics/climate-environment/sustainable-development/green-jobs-masterplan.html

BMK. (2022). Masterplan. Retrieved from https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/green_jobs/masterplan.html

BMK. (2022). Österreichische Strategie Nachhaltige Entwicklung (ÖSTRAT). Retrieved from https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/strategien/oestrat.html.

BMK. (2022). Umweltinvestitionen des Bundes 2020. Retrieved from https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/ufi/umweltinvestitionen.html.

BMLFUW. (2010). Österreichischer Masterplan green jobs. Strategie zur Maximierung von umweltrelevanten Beschäftigungseffekten. Retrieved from https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/green_jobs/masterplan.html.

BMLFUW. (2016). Masterplan Green Jobs – Mehr Jobs durch Green Jobs!.Umsetzungsbericht 2015. Retrieved from https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/green_jobs/masterplan.html

BMLRT. (2022). Drei Säulen der nachhaltigen Tourismusentwicklung. Retrieved from https://info.bmlrt.gv.at/themen/tourismus/tourismuspolitische-themen/nachhaltige-entwicklung/nachhaltige-entwicklung-im-tourismus.html.

Bundeskanzleramt. (2022). Nachhaltige Entwicklung – Agenda 2030/SDGs. UN-Aktionsplan „Transformation unserer Welt: die Agenda 2030 für nachhaltige Entwicklung. Retrieved from https://www.bundeskanzleramt.gv.at/themen/nachhaltige-entwicklung-agenda-2030.html.

Burki, T. (2020). The indirect impact of COVID-19 on women. *The Lancet infectious diseases*, *20*(8), 904-905.

Document of the UNIONCAMERE Working Group "Green professions, youth employment and new entrepreneurship: the role of training in the development of innovative skills to support the green economy and the development of territories" (original title “Professioni Verdi, occupazione giovanile e nuova imprenditorialità: il ruolo della formazione nello sviluppo di competenze innovative a sostegno della green economy e dello sviluppo dei territori”)

Ecotechnology Austria. (2021). Grüne Aus- und Weiterbildung. Retrieved from https://www.ecotechnology.at/de/content/gruene-ausbildung-weiterbildung.

Embassy of Austria. (2022). Environmental Protection. Retrieved from https://www.austria.org/environmental-protection.

European Union (2019). The Environmental Implementation Review 2019. Retrieved from https://ec.europa.eu/environment/eir/pdf/report_at_en.pdf.

European Commission (2019), The review of the implementation of environmental policies https://ec.europa.eu/environment/eir/pdf/report_it_it.pdf

European Environment Agency (2020), The European environment — state and outlook 2020: knowledge for transition to a sustainable Europe https://www.eea.europa.eu/soer/publications/soer-2020

European Parliament (2015) Report on the Green Employment Initiative: Exploiting the job creation potential of the green economy https://www.europarl.europa.eu/doceo/document/A-8-2015-0204_IT.html

European Parliament (2021) Environmental Policy: general principles and framework https://www.europarl.europa.eu/factsheets/it/sheet/71/politica-ambientale-principi-generali-e-quadro-di-riferimento

Feder Ministry for Sustainability and Tourism. (2019). Long-Term Strategy 2050 – Austria. Period through to 2050. Retrieved from https://unfccc.int/sites/default/files/resource/LTS1_Austria.pdf.

Federal Chancellery. (2021). National Reform Programme 2021. Retrieved from https://ec.europa.eu/info/sites/default/files/2021-european-semester-national-reform-programme-austria_en.pdf.

Federal Ministry of Science, Research and Economy.(2017). Austria - A Global Leader in Green Technologies. Vienna.

Green Jobs For Nature Across The Country (July, 2020), https://www.government.se/press-releases/2020/07/green-jobs-for-nature-across-the-country/

Green Recovery (September, 2020), https://www.government.se/press-releases/2020/09/green-recovery-will-lift-sweden-out-of-dual-crisis/

Il Sole 24 ore (2017) SMEs beyond the crisis thanks to 'green' investments https://www.ilsole24ore.com/art/pmi-oltre-crisi-grazie-investimenti-verdi-AE0PwouC?refresh_ce=1

Legambiente (2021), Green jobs and circular economy https://www.legambiente.it/wp-content/uploads/2021/06/Ecco_report_finale-.pdf

Ministry of labour and social policy (2022) Labour: Orlando, over 600 million for training with refinancing of the New Skills Fund https://www.lavoro.gov.it/stampa-e-media/comunicati/pagine/lavoro-orlando-oltre-600-milioni-per-formazione-con-rifinanziamento-fondo-nuove-competenze.aspx/

Ministry of the Environment and Energy Security (2021), Redesigning, Recognising, Remodelling the Sustainability Vectors in the SNSvS implementation and review process https://www.mite.gov.it/pagina/ridisegnare-riconoscere-rimodulare-i-vettori-di-sostenibilita-nel-processo-di-attuazione-e

Ministry of the Environment and Energy Security, National Strategy: the sustainable development https://www.mite.gov.it/pagina/strategia-nazionale-lo-sviluppo-sostenibile

Ministry of the Environmentand Energy and Security (2021) Towards the sustainability culture https://www.mite.gov.it/pagina/verso-una-cultura-della-sostenibilita-27-settembre-2021

Ministry of the Environmentand Energy and Security (2017) National strategy for the sustainable development https://www.mite.gov.it/sites/default/files/archivio_immagini/Galletti/Comunicati/snsvs_ottobre2017.pdf

Official Gazette of the Italian Republic (2015) Environmental provisions to promote green economy measures and to curb excessive use of natural resources. https://www.reteclima.it/wp-content/uploads/Legge_28-12-2015_n_221-GU-13-18-01-2016.pdf

Jugend-Umwelt-Plattform JUMP (2011). Berufsperspektive Umwelt. Verwurzle dich im grünen Bereich. Retrieved from https://www.jugendumwelt.at/sites/default/files/user/image_uploads/infobroschuere_green_jobs_bepeum.pdf?849.

Mosberger, B.; Denkmayr, E. & Hochpöchler, A. (2013). Praxishandbuch. BerufsInfo Umweltberufe: 2. Auflage. Wien: Communicatio – Kommunikations- und PublikationsgmbH.

National Strategy For Sustainable Development (2017), Ministry of Ecological Transition, https://www.mite.gov.it/pagina/strategia-nazionale-lo-sviluppo-sostenibile

Och Regeringskansliet, R. (2014). Environment and climate., https://www.government.se/government-policy/environment-and-climate/

OECD (2020), “Enhancing Equal Access to Opportunities for All”, OECD Publishing, Paris.

ORF.at. (2013. Selten gute Arbeit, fast nie für Frauen. Retrieved from https://sciencev2.orf.at/stories/1715589/index.html

Renner, M., Garcia-Banos, C., & Khalid, A. (2022). Renewable Energy and Jobs: annual review 2022.

Report and Proceedings of the National Green Economy Council (2021), (components: 68 business organisations, Ministry of Ecological Transition and the European Commission and with the technical support of the Foundation for Sustainable Development), https://www.statigenerali.org/documenti/

Stadt-wien.at. (2022). Green Jobs: Der Boom in der österreichischen Umweltwirtschaft. Retrieved from https://www.stadt-wien.at/wirtschaft/green-jobs.html.

Statistik Austria. (2021). Umweltgesamtrechnungen. Modul-Umweltorientierte Produktion und Dienstleistungen (EGSS) 2019. Projektbericht. Wien.

Statistik Austria. (2022). The Environmental Gods and Service Sector (EGSS). Retrieved from http://www.statistik.at/web_en/statistics/EnergyEnvironmentInnovationMobility/energy_environment/environment/eco_industries_environmentally_goods_and_services/index.html.

Statistik Austria. (2022). Umweltorientierte Produktion und Dienstleistungen – EGGS. Retrieved from http://www.statistik.at/web_de/statistiken/energie_umwelt_innovation_mobilitaet/energie_und_umwelt/umwelt/umweltorientierte_produktion_und_dienstleistung/index.html.

Sweden and sustainability (2021),"Lowering emissions is key to saving the climate. Find out how Sweden does it".https://sweden.se/climate/sustainability/sweden-and-sustainability

Szalai, E.; Picher, M. & Erhard, F.. (2019).Green Jobs for Green Girls. Berufsorientierungsmaßnahme für Mädchen mit dem Fokus Umweltberuf MIN. Retrieved from https://www.researchgate.net/publication/332427439_Green_Jobs_for_Green_Girls_Berufsorientierungsmassnahme_fur_Madchen_mit_dem_Fokus_Umweltberuf_in_MINT.

The Swedish Environmental Code (2000), https://www.naturvardsverket.se/en

Towards Green Growth: Monitoring Progress OECD Indicators (2011), https://www.oecd.org/greengrowth/48224574.pdf

United Nations (2019), Transforming our world: the 2030 Development Agenda Sustainable Development https://unric.org/it/wp-content/uploads/sites/3/2019/11/Agenda-2030-Onu-italia.pdf

Umweltbundesamt. (2017). Wie unterscheiden sich die Umwelteffekte unterschiedlicher Antriebstechnologien. Retrieved from https://www.umweltbundesamt.at/aktuelles/presse/news2017/news-20171128.

Umweltbundesamt. (2021). Treibhausgas-Bilanz Österreichs 2019. Retrieved from https://www.umweltbundesamt.at/news210119.

Umweltbundesamt. (2022). Umweltgesamtrechnungen. Umweltwirtschaft/Green Jobs. Retrieved from https://www.umweltgesamtrechnung.at/umweltwirtschaft-green-jobs

Unemployed People Matched To Green Industries (May, 2020), https://www.government.se/press-releases/2020/05/unemployed-people-matched-to-green-industries/

Annexes

Annex I: The Questions for Country Insights

Please answer and explain the questions in your country. These questions will provide further evaluation of the country specific situation regarding skill requirement in green jobs, inquiring specifically the professional field in the green economy.

Q1 - Please indicate the environmental agenda in the last 5 years in your country.

Q2 - What are the main pillars of green growth in your country? (such as greening business and markets; sustainable consumption and production (demand-side management); green tax and budget reform; sustainable infrastructure; investment in natural capital; eco-efficiency indicators and etc.)

Q3 – Which policies have been put in practice in order to drive employment in green jobs in the last 5 years in your country? (such as subsidies, tax reform, R & D, eco-labelling, incentives and tenders etc.)

Q4 – What are the existing mechanisms that support green jobs in your country? (such as government level, regional level, local level etc.)

Q5 - Please indicate and identify economic sectors and activities that have strong links to the environment

Q6 - Please identify core environment-related jobs in your country. (You can explain regarding the sector specifications in your country)

Q7 - Please identify green jobs in your country. (You can explain regarding the sector specifications in your country)

Q8 – Are there any new skill development strategies for green jobs in your country? If yes, please indicate these strategies briefly.

Q9 – Does your country have any effort to integrate sustainable development and Environmental Solutions into existing qualifications? (such as any effort in order to add to your country's existing required skills of labor market through training tailored in VETs and TVETs)

Q10. Are there approaches to attract specifically women for green jobs?

Q11. Are there any available statistics in regard to women in green jobs in your country?

Annex II: Questionnaire in order to evaluate of the country specific situation regarding skill requirement in green jobs, inquiring specifically the professional field in the green economy.

Participant Age: ☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 60 +

Which organization are you representing (including sector)? ……

What is your role in your organization? ……

Below are a number of statements regarding skill requirement in green jobs. Please indicate to what extent you agree and disagree with each statement:

General Statements	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
My organization is promoting skills for green jobs, fosters investments in green activities and/or accelerates the green transition.					

The coordination of environmental policies and policies devoted to green job skills development in my country is enough.					
The public employment services in my country provide information on and access to retraining courses for green jobs.					
The environmental awareness is a routine component in general and vocational education and training in my country.					
There is a policy or incentives to support female enrolment into science, engineering and other types of technical education and training in my country.					
There is a policy or incentives to support green jobs in my country.					
Only a few industries such as an automobile industry are the key industries to face significant green structural change.					
What are the key industries in your opinion?					
Young women know what green jobs are and what is required in this regard					
Skills Requirement for Green Economy* ***This section is focusing on the skills requirement for the green economy and specifically green jobs***	**Strongly Disagree**	**Disagree**	**No Opinion**	**Agree**	**Strongly Agree**

Communication and cooperation skills to listen to customer needs or interact with Stakeholders and shareholders.					
Creative abilities to solve problems and develop new ideas.					
Leadership skills to lead projects or help customers.					
Organizational skills to keep track of lots of different information.					
Analytical skills to research a topic, develop a project plan and timeline, and draw conclusions from research results.					
Science skills to break down a complex scientific system into smaller parts, recognize cause and effect relationships, and defend opinions using facts.					
Mathematic skills for calculations and measurements.					
Attention to detail to follow a standard blueprint, record data accurately, or write instructions.					
Technical skills to troubleshoot the source of a problem, repair a machine or debug an operating system, and computer capabilities to stay current on appropriate software and equipment.					

Operation management skills - know-how related to change in organizational structure required to support green activities and an integrated view of the firm through life-cycle management, lean production and cooperation with external actors, including customers.					
Monitoring skills - technical and legal aspects of business activities that are fundamentally different way from the remit of engineering or of science					
Business accounting skills – Business/financial accounting services around carbon and natural environment accounting					
Skills to design and adopt methodologies, products and processes to minimize carbon emissions					
Skills to design and adopt methodologies, products and processes to improve climate resilience					
Skills to design and adopt methodologies, products and processes to manage natural assets.					
Nature-Based Design Skills – Finding inspiration in and from nature, Recognizing literature solutions to problems, Incorporating ideas from literature into design					

Technology Use Skills – Identifying appropriate technology for a given application, Using technology tools effectively,					
Converging skills - required to adapt products, services or operations due to climate change adjustments, requirements or regulations					
Are there any other skills which are important in this regard?					
Is your organization promoting green skills equally and how?					
What are green jobs in your country?					

Annex III: Focus Group Interview Questions

- How do you explain the actual and potential level of economic activity and number of jobs related to green economy?
- How is your current job career planning addressing the needs of the green economy? Are green jobs already included in career orientation? If yes, to which extent?
- Which is the more appropriate and the most suitable training method to meet the related needs of green economy?
- Do you think that national policies have already realized the economic and social linkages between climate change and employment? Please explain.
- Do you think that your national environmental legislation makes an appropriate reference to skills development for green jobs? Please explain.
- Do you think that there is a consensus regarding the definition of skills for green jobs? Please explain.
- Do you think that there is a consensus on assessing the changing need for skills regarding green transition in your country? Please explain.
- What are the opportunities for women to access green and decent jobs in the green economy do exist in your country? Please explain.
- Are there special initiatives in job orientation to approach specifically women in regard to green jobs? Please explain.
- What is your opinion: How we can affect young women interest for green jobs? Please share your own ideas.
- What are the major gaps among today young women competences for green jobs? Please share your own ideas.

WOMEN 4 GREEN
Women in power for a Green Economy

www.women4green.at

www.instagram.com/woman4green/

www.facebook.com/Woman4Green-105533855470897

Our local partner:
Solution Based Training & Consultancy (SBTC)
sbtc@sbtc-tr.com
+90 542 457 17 97

http://www.sbtc-tr.com
@sbtc.tr

Co-funded by the Erasmus+ Programme of the European Union