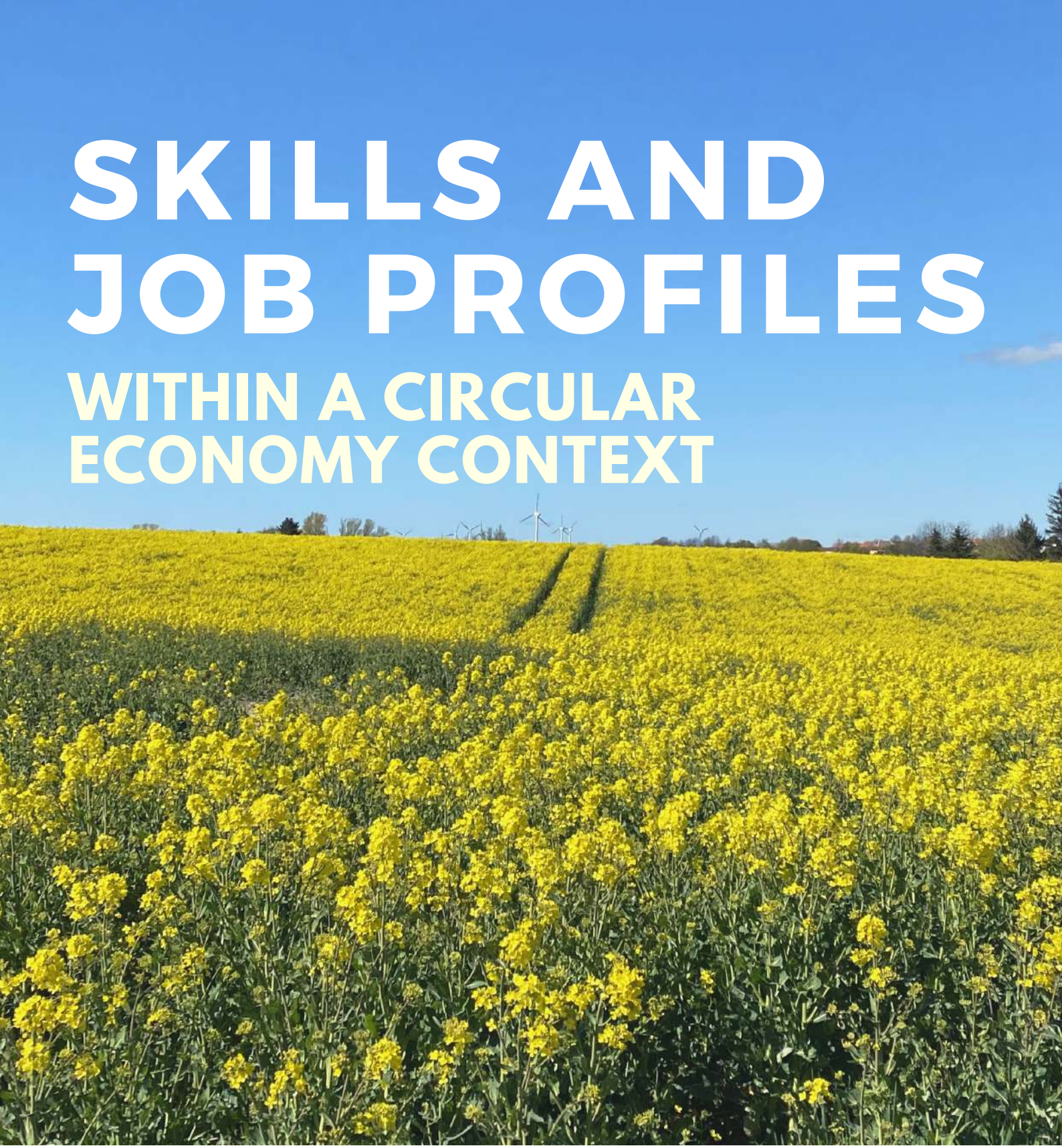
SKILLS AND JOB PROFILES

WITHIN A CIRCULAR ECONOMY CONTEXT



U-Eco

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WORKING WITHIN A CIRCULAR ECONOMY CONTEXT

This catalogue contains 17 job profiles and a related set of professional skills. Previous research has foreseen the demand for those profiles and skills within a circular economy framework in five economic sectors, which were identified to have the highest employment potential. It is noteworthy that partners involved in this project did not conceptualize these job profiles and skills; on the contrary, they are the product of extensive research that studied the currently emerging jobs and skills that are in increasing demand, and are expected to remain so in the future. In addition, the selected job profiles mentioned in this catalogue are likely to yield new different positions with various levels of responsibilities (i.e., junior entry-level to managerial level). These will require multiple levels of experience both academically and professionally, as well as related skills, which may not be specified here. It is also likely that the titles of the profiles may be subject to change.

The concept of a circular economy has been developed along with the "urgent need for a new paradigm that integrates the continued development of human societies and the maintenance of the Earth system (ES) in a resilient and accommodating state" (Steffen et al., 2015). Therefore, it provides an innovative economic system that minimises environmental impacts without compromising economic development. Its innovation lies in the fact that it is "based on business models which replace the 'end-of-life' concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes" (Kirchherr, Reike and Hekkert, 2017). Therefore, this new system demands new specialized professional personals, with a whole set of new skills. As a matter of fact, the circular economy is expected to create around 700 000 new jobs by 2030 (Cambridge Econometrics, Directorate-General for Environment (European Commission), ICF and Trinomics, 2018).

Within the circular economy framework, the new professional roles will strive to optimize and preserve resources, minimize damages (SB Insight, 2019), and demand the use of technology. Digital manufacturing and online marketplaces are already growing and gaining importance, representing innovative virtual alternatives (ibid). Not only that, but emerging technologies such as robotics and artificial intelligence (AI) will play pivotal roles in accelerating "innovation, across sectors, for example, in materials science" (ibid).

BIOMASS AND BIO-BASED PRODUCTS

(AGRICULTURE, FOOD, AND ENERGY)

Ensuring sustainable food production systems and implementing resilient agricultural practices bound to increase productivity and production are vital to transitioning towards a circular economy (SB Insight, 2019). According to the European Environmental Agency report (De Schoenmakere, 2018), in 2017, agriculture constituted around 63% of the total EU biomass supply, while forestry accounted for 36%, and fisheries represented less than 1%. In the EU alone, between 118-138 million tons of biowaste are generated each year, 25% of which is collected and recycled, while food waste amounted to 100 million tons in 2012.

The demand for agriculture, food production, and generation of bioenergy has not shown any signs of reduction; on the contrary, it will continue to be on the rise for the following years. Unfortunately, however, they have a considerable impact on the soil, water, air quality, biodiversity, and land availability. Therefore, transitioning into a circular economy is vital to ensure the availability of resources and preserving capital and the natural environment.

In light of the previous, our research has indicated that shifts will emphasize local production and optimization of resources and focus on bioenergy production within this sector.

Urban Agriculture Practitioner

CONTEXT

The urbanization rate is expected to increase within the next years. This increase calls for a new type of sustainable urban agriculture, and for individuals to work on urban food systems that promote a sustainable farming approach and are responsible for cultivating sites in urban areas. This direction will enable the sustainable growth of local production in urban settings, which will require less importation and reduce pollution caused by transportation.

JOB OVERVIEW

This job entails managing and coordinating cultivation sites. The role delivers locally sourced food with minimal use of pesticides, fossil fuels, and other resources. The primary duties and responsibilities include:

- Performing urban agriculture tasks including plant propagation, site preparation and maintenance, planting and transplanting, fertility management, weed management, integrated pest and disease management, irrigation, harvesting, washing, packing, and food safety;
- Ensuring high product quality and maintenance of plants;
- Maintaining cultivation tools and materials;
- Establishing communication with external partners;
- Organizing meetings with scientists and experts;
- Developing and forging partnerships in the local food system.

EDUCATION

Degree in Horticulture, Agronomy or a related field.

SPECIFIC SKILLS

- Enthusiasm about environmental topics especially those of horticulture and agronomy;
- Ability to carry on tasks that require physical work;
- Ability to work outdoors in all types of weather;
- Ability to work with a flexible schedule;
- Computer literacy skills;
- Interdisciplinary knowledge;
- Knowledge in the use of farming tools and equipment;
- Management, organizational, technical and analytical skills;
- Willingness to learn and advance one's skillset;
- Interpersonal skills;
- Independence and the ability to make critical decisions.

Agronomic Advisory Practitioner

CONTEXT

Since natural resources are extremely valuable, we must monitor and preserve them. In a highly vulnerable sector such as agriculture, Agronomic advisors will play an essential role; they will maintain crops by studying the soil, seeds, plants, and products.

JOB OVERVIEW

This job entails ensuring optimal conditions to grow crops by studying the soil, seeds, plants, and their products. This can be accomplished through extensive research, sample collection, and data analysis. Therefore, an Agronomic Advisor can solve problems related to plant or soil nutrition, damage caused by insects or wildlife, weather, climate changes, or the use of specific products, including pesticides and fertilizers, etc. An Agronomic Advisor can also develop techniques aiming at enhancing crop quality and yield. Workplaces can include consultancy firms or research institutes. Primary duties and responsibilities include:

- Conducting field research, data collection, and analysis;
- Developing and carrying out research;
- Writing reports;
- Staying up to date regarding new agricultural techniques and breakthroughs produced in crop research;
- Attending meetings alongside scientists and researchers of this field.

EDUCATION

Degree in Agronomy, Agriculture or a related field.

SPECIFIC SKILLS

- Detail-oriented;
- Willing to travel and have a valid driver's license;
- Ability to do fieldwork, and have the physical endurance to perform specific tasks and in harsh climate conditions;
- Complex problem-solving skills;
- Research and report writing skills;
- Critical and analytical thinking;
- Verbal communication skills;
- Flexibility and adaptability;
- Data analysis skills;
- Interdisciplinary knowledge;
- Computer literacy.

Biogas Plant Supply Practitioner

CONTEXT

Using renewable energy is a prerequisite to establishing a circular economy. Therefore, biogas represents a clean and renewable alternative source of energy. The increasing use of biogas will allow the economy to retract its dependency and reliance on fossil fuels, one of the primary triggers of climate change. Hence, biogas plants require individuals capable of managing them to ensure the best function and quality of the production process.

JOB OVERVIEW

This job entails the correct production process in a biogas plant and, possibly, its comprehensive management. It includes the initial planning to reach the optimal amount of substrate and other detailed technical aspects. The practitioner needs to possess extensive knowledge of advanced biogas production processes as well as chemical processes, and needs to be fully aware of all equipment used during these operations. The practitioner ensures a continuous, uninterrupted biogas production; there can be no lack of supervision or planning to avoid any production losses or the premature wear off of equipment. Furthermore, the role entails the implementation of circular economy policies, including the responsible and calibrated use of resources and recycling. Primary duties and responsibilities include:

- Collection of technical installations;
- Control installation settings, and conduct scheduled maintenance, and repairs;
- Supervision of pre-production phases and production process;
- Ensuring the safety within a biogas plant;
- Writing reports.

EDUCATION

Degree in Management, Engineering, Chemistry or a related field.

SPECIFIC SKILLS

- Self-discipline;
- Ability to quickly reorganize work;
- Stress endurance;
- Ability to work with people;
- Creativity;
- Complex problem-solving skills;
- Negotiation skills;
- Fast learning and adaptability.

WATER TREATMENT AND REUSE

Water is a natural resource that is widely available to most of us. Still, 2.1 billion people worldwide lack access to safe drinking water (WHO/UNICEF, 2017). Therefore, securing access to water for both individual consumption, as well as for industries, businesses, and energy production is crucial to enable sustainable development and guarantee the future of our societies. Given its renewable characteristic, water treatment and reuse are integral to foster a circularity in the use and consumption of water.

Indeed, the circular economy priority targets focus on improving “water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally” by 2030 (SB Insight, 2019:10).

As such, our research has shown that the water sector demands will focus on monitoring the quality of water resources, water treatment for reuse, and purification.

Water Purification and Reuse Practitioner

CONTEXT

Fresh clean water is valuable, but also a limited, resource. Hence, a smart procedure to reuse and purify water is essential. Water reuse and purification practitioner strives to establish infrastructure for water treatment that aims to improve water quality.

JOB OVERVIEW

The job entails managing the various processes within sewage treatment plants, pumping stations, and collectors. The main objective is ensuring the correct reuse and purification of water. The technical nature of the role, therefore, demands adequate technical knowledge of industrial electricity and mechanics. Primary duties and responsibilities include:

- Sampling, measuring and adjusting the parameters when necessary;
- Correctly estimating the correct adjustments needed to ensure the proper functioning of the water treatment infrastructure;
- Managing and monitoring the electric and mechanical preventive maintenance of installations;
- Solving electrical and mechanical failures;
- Ensuring the administrative follow-up of processes and daily operation.

EDUCATION

Degree in Electricity, Electrical Installation Techniques, Industrial Maintenance Techniques or Electromechanics.

SPECIFIC SKILLS

- Environmental awareness;
- Interpersonal skills;
- Team working skills;
- Complex problem-solving skills;
- Verbal communication skills;
- Critical thinking;
- Interdisciplinary knowledge;
- Capable of carrying out fieldwork;
- Detail-oriented.

Water Quality Monitoring Practitioner

CONTEXT

Water is a precious resource; therefore, maintaining its quality is crucial. Hence, there is the need for someone who can ensure adequate water quality levels.

JOB OVERVIEW

The job entails monitoring and testing water supplies to ensure their quality. A water quality monitor works both on-site, collecting water samples, etc., and indoors, analysing data and writing reports. Workplaces can include governmental departments, universities, research institutes, or consultancy firms. Primary duties and responsibilities include:

- On-site monitoring and data collection;
- Data analysis and testing (i.e., bacteriological and chemical testing of collected samples, etc.), and interpreting results;
- Assessing water quality and reporting to whom it may concern;
- Compiling reports;
- Communicating with internal and external entities, including scientists and governmental departments.

EDUCATION

Degree in Chemistry, Biology, Water Resources, Environmental Technology, Environmental Science or a closely related field.

SPECIFIC SKILLS

- Knowledge of chemistry;
- Ability to collect, analyse and interpret data;
- Verbal and written communication skills;
- Ability to work in a team;
- Leadership skills;
- Critical thinking ability;
- Interpersonal skills;
- Proactiveness;
- Active learner and a broad mindset;
- Interdisciplinary knowledge;
- Capable of carrying out fieldwork; have a valid driver's license.

Microbiology Sampling Practitioner

CONTEXT

Water, as a resource, is a necessity for the continuation of all living organisms and to carry on all-natural processes; therefore, it needs to be constantly monitored to ensure its quality. A microbiology sampling practitioner is expected to ensure the quality of the products produced through water treatment; thus, both water and sludge can be safely reused. This role will be crucial to secure a sustainable circular value of products.

JOB OVERVIEW

For this role, a professional will execute all duties and responsibilities with the utmost attention to all safety and security procedures regarding the use of materials and equipment:

- Conducting wastewater and sludge/solid sample analysis for microbiological and wet chemistry parameter;
- Observing and executing up all quality control requirements methods and maintaining appropriate records;
- Receiving samples and inspecting proper containers, temperatures, and preservatives, etc.;
- Interpreting and writing standard operating procedures (SOPs), conducting regent formulation, recording bench-level observations, and keeping records both inbound and electronic notebooks;
- Communicating and sharing information with all involved partners, especially with those involved in the decision-making process.

EDUCATION

Degree in Chemistry or a related field.

SPECIFIC SKILLS

- Ability to multi-task;
- Organized;
- Detail-oriented;
- Problem-solving skills;
- Will and desire to work in a scientific laboratory;
- Ability to quickly learn new concepts;
- Precision and accuracy.

PLASTICS, SECONDARY MATERIALS, AND INNOVATION

Plastic is a key material in our daily lives. It is used in manufacturing a wide range of objects, from packaging to medical supplies. However, “too often the way plastics are currently produced, used and discarded fails to capture the economic benefits of a more 'circular' approach” (European Commission, n.d.), which consequently harm the natural environment. Therefore, to foster a sustainable future with minimal environmental impact and guarantee an economic profit, it is imperative to enable the wider reuse and recycling of plastic and secondary materials, and innovate new ways to recapture their value and circularly reapply them. One of the circular economy goals is to "substantially reduce waste generation through prevention, reduction, recycling, and reuse" (SB Insight, 2019:10). Accordingly, the U-Eco research has highlighted that within the plastic and secondary materials secretor, the emphasis will lie on the improvement and promotion of recycling and sustainable packaging, and the reuse and appropriation of value.

Plastic Processing Practitioner

CONTEXT

Plastic is one of the top used materials globally for its affordability, and multifunctionality makes it accessible in the market. Plastic takes a significantly long time to decompose; a simple plastic bag takes around 20 years, while plastic straws take up to 200 years, and basic plastic cups take up to 450 years (The lifecycle of plastics, 2018). Not only that, but plastic also has serious negative environmental repercussions as it affects biodiversity and pollutes natural ecosystems. Therefore, humanity is finding solutions to reduce these adverse impacts. A plastic processing practitioner will work on recycling plastic and monitor its transitional process from plastic to granule.

JOB OVERVIEW

The role involves monitoring the processing of plastics. So once plastic, regarded as waste, is taken in, the person in charge will follow all the phases to reduce plastic to granule. This is an essential step in the plastic recycling process. Since the role heavily relies on technical expertise, it requires a professional who possesses in-depth technical knowledge. Primary duties and responsibilities include:

- Monitoring the various stages of processing;
- Writing reports;
- Ensuring the correct flow of all processes.

EDUCATION

Degree in Chemistry, Engineering Management or a related field.

SPECIFIC SKILLS

- Fast-response to unexpected situations;
- Stress endurance;
- Negotiation skills;
- Learn quickly;
- Analytical thinking;
- Interdisciplinary knowledge;
- Complex problem-solving skills;
- Verbal and written communication skills;
- Ability to work in a team.

Sustainable Packaging Design Practitioner

CONTEXT

Waste production is on the rise, and it will not slow down anytime in the near future. Therefore, developing sustainable product packages is essential to minimise the impact of waste. In this sense, a sustainable packaging designer will create and fashion sustainable packages that are both usable and aesthetically pleasing. These packages must also be easily transported, stored, recycled, and durable.

JOB OVERVIEW

The job entails designing sustainable packages for products starting with its conception until production. Primary duties and responsibilities include:

- Investigating and sketching packaging design solutions in partnership with clients and internal teammates, including engineers, and marketing specialists, etc.;
- Collaborating with a team to find the best packaging solutions in a process that tackles both manufacturing processes and graphics;
- Researching and implementing the most innovative and efficient sustainable materials;
- Presenting demos for the final packaging release.

EDUCATION

Degree in Packaging Science, Industrial Design or a closely related field.

SPECIFIC SKILLS

- Knowledge of design, packaging, retail and consumer trends, ability to use such insight into the present and future projects;
- Interdisciplinary knowledge;
- Proactively propose and drive new ideas, projects, and methods;
- Collaboration and teamwork;
- Problem-solving skills;
- Analytical thinking;
- Ability to multitask;
- Interpersonal skills;
- Presentation, verbal and written skills;
- Knowing different materials and manufacturing processes;
- Knowledge of sustainable packaging processes;
- Tech-savvy.

Recycling Policy Practitioner

CONTEXT

Waste production is a global issue that has severe adverse environmental repercussions. To minimise this problem, recycling policy practitioners will play pivotal roles. They will be in charge of developing, implementing, and upholding policies to help people sort and recycle waste.

JOB OVERVIEW

The job entails developing and implementing practices and policies aimed at sorting and recycling waste. Possible workplaces include consulting firms, local authorities, and recycling sites. Primary duties and responsibilities include:

- Developing and implementing efficient sorting and recycling practices;
- Visiting and monitoring sorting and recycling sites;
- Ensuring the correctness and efficiency of implemented practices;
- Reporting impact assessments;
- Communicating with all involves, both internal and external partners.

EDUCATION

Degree in Environmental Science, Earth Science, Biology, Chemistry, Political Science, Materials Science or a closely related field.

SPECIFIC SKILLS

- Project management and implementation skills;
- Complex problem-solving skills;
- Interpersonal skills;
- Analytical thinking ability;
- Data literacy;
- Interdisciplinary knowledge;
- Assessment and decision-making skills;
- Verbal and written communication skills;
- Active learning with a broad mindset;
- Ability to give presentations;
- Willingness to travel to recycling sites.

DIGITALIZATION, SHARING PLATFORMS, AND SERVICES

(PRODUCT AS A SERVICE)

Within a circular economy framework, digitalization, sharing platforms and products as services are fundamental. They are all tools that drive change and are closely linked to technological innovation and advances in “asset tracking, distributed databases, microtransactions, and smart contracts” (SB Insight, 2019:10). Digitalization provides a golden opportunity for material optimization, local production, production process and life cycle transparency, and resource efficiency. Likewise, sharing platforms can boost the economy as well as optimise consumption. Products that pass as services maximise the value of products and reduce waste and overconsumption. As such, U-Eco research concluded that the emphasis will lie on maximising the value of products, monitoring the production process, and securing sustainable investments.

Reverse Logistics Practitioner

CONTEXT

The new concept of reverse logistics introduces a whole new paradigm that disrupts the current unsustainable linear model. Reverse logistics services are designed to move goods from their consumption point to their end to either properly reuse or dispose of them. The job deals with the collection, transportation, and sorting of goods based on their final destination. In this sense, materials and products may be resent to manufacturers to be reused, refurbished, or recycled. Reverse logistics can help close the loop regarding product lifecycles and facilitate the transition into a circular economy.

JOB OVERVIEW

The job is part of the logistic chain. Primary duties and responsibilities include:

- Managing and monitoring the entire logistic chain;
- Developing control and management tools, including follow-up procedures and information circuits and systems, etc., to transport products to various parties within the logistic chain, including producers, suppliers, transporters, and distributors, etc.;
- Conducting rational and optimal measures for quality, profitability, term, and safety.

EDUCATION

Degree in Economics, Engineering Management, Logistics or any other relevant field.

SPECIFIC SKILLS

- Planning skills;
- Management skills;
- Critical thinking ability;
- Analytical thinking ability;
- Detail-oriented;
- Complex problem-solving skills;
- Leadership skills;
- Ability to work in a team;
- Responsible and accountable;
- Interdisciplinary knowledge;
- Commercial insight;
- Coaching.

Circular Economy Education for Businesses Practitioner

CONTEXT

As the circular economy is gaining more ground, the demand for materials and learned personals will continue to grow for both the general public and private companies keen on implementing circular processes. Therefore, professional individuals with an in-depth understanding of the circular economy will be required to design and deliver new learning programs and workshops.

JOB OVERVIEW

The job entails the creation, development, and teaching of digital content. Potential workplaces include companies or educational organizations that provide services to entities. Primary duties and responsibilities include:

- Creating educational tools and experiences to inspire and equip learners to play an active role in the transition into the circular economy;
- Managing and developing the journey of learners from the digital world to face-to-face engagement;
- Developing and coordinating content based on the audience-focused approach and creating tailored content for target audiences;
- Assessing the content, and constantly optimizing and creating new content for specific target groups once feedback and data are received.

EDUCATION

Degree in Education, Communication or any other related field.

SPECIFIC SKILLS

- Knowledge and intellectual interest in the circular economy;
- Interdisciplinary knowledge;
- Interpersonal skills;
- Proactiveness;
- Verbal and written communication skills;
- Presentation and public speaking skills;
- Active learning with a broad mindset;
- Problem-solving skills;
- Leadership skills;
- Ability to work in a team;
- Facilitating skills: experience in bringing individuals and groups together and moderating events aiming to reach specific outcomes.

Product Lifecycle Management (PLM) Practitioner

CONTEXT

In a transitional or functional circular economy, product lifecycle management (PLM) is an essential domain. This job entails handling a good from the early phases of its development until it grows, matures, and eventually declines. A circular economy aims to avoid waste production by promoting reuse, repair, recycle, and similar practices. Therefore, there is a growing need for someone who can ensure the sustainability of products from the moment of its inception until the end; this is manageable by connecting with consumers and monitoring the second life of products through online platforms.

JOB OVERVIEW

The job entails ensuring the sustainability of goods from the moment they are conceived and materials used in their manufacturing. Monitoring, then, continues throughout the maturing phase of products conducted through marketing and data analysis. In the end, direct contact is established with consumers via online platforms to guarantee control over products' end of life. Primary duties and responsibilities include:

- Developing, implementing, and supporting the PLM plan;
- Supporting the production phase, securing and monitoring the implementation of sustainable practices (check materials, manufacturing processes, etc.);
- Supporting the maturity phase;
- Supporting the end-of-life phase, monitoring and ensuring the proper functioning of online platforms, where customers can choose different green end-of-life solutions (reuse, repair, recycling, etc.);
- Working with IT;
- Working with B2C via online platforms;
- Handling B2B relations;
- Monitoring the product's cost, development processes, and other goods in relation to the product line (if they fit the aesthetics, etc.).

Product Lifecycle Management (PLM) Practitioner

EDUCATION

Degree in Business, Consumer Studies, Management, Marketing, Engineering Management or a closely related field.

SPECIFIC SKILLS

- Detail-oriented;
- Technical skills;
- Complex problem-solving skills;
- Background in business planning, process analysis, and design;
- Understanding the needs of consumers and the market;
- Ability to work in a team;
- Leadership skills;
- Critical thinking ability;
- Interpersonal skills;
- IT knowledge;
- Interdisciplinary knowledge;
- Analytical thinking ability.

CONSTRUCTION AND DEMOLITION

In this sector, the high volume of waste produced without adequate management that may result in severe environmental impacts represents the primary concern (López Ruiz et al., 2019). “Construction and demolition waste make up just over one-third of total waste generation in the EU” (EEA, 2020). Therefore, implementing circularity by promoting recycling and reuse of construction and demolition materials has become vital to minimise the adverse impacts of waste on the natural environment; managing waste and product cycles and fostering economic opportunities take precedence (ibid; López Ruiz et al., 2019). Accordingly, the U-Eco research reasserts that developments in this domain will emphasise waste management, sustainable design within the construction sector, and sustainable extraction of resources.

Urban Mining Practitioner

CONTEXT

By 2050, 70% of the world's population is expected to live in cities and urban districts. Since cities are where population, economy, production, and consumption are concentrated, they present both the problems and solutions to sustainability; the challenges include raw materials, waste, climate, etc. On the one hand, urbanization requires enormous amounts of materials for the phases of construction, maintenance, and replacement; on the other hand, urban development also provides a reserve of materials that can be recovered through urban mining. Sustainable cities of the future will not differentiate between waste and materials. Gradually, the cities will become the mines of the future, while traditional mines become exhausted. Most of the raw materials needed for building materials can be found in large quantities in our urban milieu. Therefore, analysing and estimating the types and volumes of material, and their spatial distribution, especially in the urban areas, have become essential to come up with solutions to address the challenges of urban sustainability.

JOB OVERVIEW

The job entails the management and inspection of the processes of dismantling, reuse, remanufacturing, and recycling. Once the urban miner focuses on the flow of materials procured from existing buildings, he can begin a selective dismantling process and prepare for reuse, remanufacturing, or recycling. The highly technical nature of the job, therefore, requires in-depth technical knowledge. Primary duties and responsibilities include:

- Project management (monitoring, handling budget, and resources, project preparation and analysis of resource streams, project feasibility, and profitability);
- Writing technical procedures, production, and applicable legislation;
- Providing technical support on-site;
- Ensuring optimal recycling or reuse of demolished materials by assessing the possibilities of recovery and reuse of any salvage product or material;
- Identifying contaminants and hazardous waste such as asbestos, tar, PCBs, mineral oils, heavy metals, etc.;
- Selective sorting at the source to obtain mono-waste streams that can be recycled.

Urban Mining Practitioner

EDUCATION

Degree in Engineering, Industrial Design or another related field.

SPECIFIC SKILLS

- Planning and management skills (i.e., handle a budget, communicate with stakeholders, etc.);
- Ability to work in a team;
- Leadership skills;
- Technical knowledge;
- Interpersonal skills;
- Verbal and written communication skills;
- Flexibility and adaptability;
- Interdisciplinary knowledge;
- Interested in fieldwork;
- Commercial insight;
- Detail-oriented.

Construction Waste Practitioner

CONTEXT

The construction and demolition sectors are responsible for high waste production rates. Therefore, it is essential to identify sustainable alternatives to resolve this problem. A professional Construction Waste Practitioner will be deemed a valuable source, whose role will entail the management of construction waste. A Construction Waste Practitioner will oversee and coordinate the disposal of waste produced by construction and demolition and promote recycling activities in an efficient, environmentally-friendly manner.

JOB OVERVIEW

The job entails the implementation and coordination of waste management systems designed to maximise waste prevention and create reuse and recycling opportunities. The practitioner must ensure that all waste disposal activities are executed in a highly efficient and environmentally friendly manner. Primary duties and responsibilities include:

- Developing and implementing construction waste management plans;
- Handling budget management;
- Ensuring that all waste disposal activities comply with environmental laws and regulations;
- Providing a reliable and efficient waste collection, transportation, and disposal service;
- Preventing air, land and water contamination;
- Guaranteeing optimum use of building resources;
- Redirecting recovered recyclable resources back to manufacturing;
- Redirecting reusable materials to appropriate sites.

EDUCATION

Degree in Engineering, Environmental Science or a closely related field.

SPECIFIC SKILLS

- Analytical skills;
- IT knowledge;
- Capacity to grasp and apply legislations;
- Organisational skills;
- Decision-making skills;
- Complex problem-solving skills;
- Planning and management skills;
- Leadership skills;
- Technical knowledge;
- Interpersonal skills;
- Verbal and communication skills;
- Interdisciplinary knowledge.

Sustainable Architecture Practitioner

CONTEXT

In the past, many infrastructures have been built using materials that, once disassembled, just piled up in landfills. Therefore, there is an urge to change the current design model to resolve this issue. There is a real need to design buildings with more flexibility and adaptability to maintain their value in the long term, and avoid them falling into waste. At the same time, buildings are consciously designed for a short lifespan, whereby they can be disassembled, and their elements reincorporated in new buildings. Renovating or disassembling reduces the demand for raw materials and waste production. The best way to design a building is to develop one that is mobile and reusable and to answer the question of what to do with the structure and its components once it reaches the end of its life cycle.

JOB OVERVIEW

The job entails designing and monitoring the construction of buildings to minimise their environmental impact and ensure an appealing aesthetic. However, this professional practitioner needs a team of environmental experts (i.e., geologists, geographers, environmental scientists, etc.). Primary duties and responsibilities include:

- Examining all regulations imposed by authorities with jurisdiction over the construction site;
- Analysing important information related to the site (i.e., soil conditions, topography, etc.);
- Preparing an environmental impact assessment;
- Understanding the client's needs and overall view of the project and ensuring that these points are met and respected;
- Developing the plan and the design of the project considering the budget, the materials, etc.;
- Selecting the suppliers, subcontractors or service providers;
- Preparing scale drawings of projects;
- Conducting periodic site inspections during construction to ensure compliance with the project plans.

Sustainable Architecture Practitioner

EDUCATION

Degree in Architecture, Engineering or another related field.

SPECIFIC SKILLS

- Management skills;
- Project management skills;
- Analytical skills;
- Decision-making skills;
- Verbal and written communication skills;
- Creativity;
- Complex problem-solving skills;
- Customer-oriented thinking;
- Organizational skills;
- Planning skills.

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