D.7.1. MAPPING OF THE TARGET AUDIENCE GROUPS

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1 Introduction

In WP7, T.7.1. a target group mapping activity took place to define the types of communication needed during the whole life project, facilitating the relationship with various stakeholders, making the communication more effective.

This activity was conducted parallelly to the National Platforms' Status Quo Analyses (WP2, T.2.1.), the mapping of the qualifications and training landscape in each country. The activities make the two coherent and consistent and specifying how the target persons will be addressed and engaged. The results will be used to assure the best coverage and outreach for all relevant stakeholders.

This document presents the analysis methodology and conclusions of the assessment of the target audience and training providers linked to TOP CLeveR's whole life carbon, circular construction, resource efficiency, Level(s) and zero energy building (hereinafter WCRLZ) scope.

We are analysing our target audiences under two directions.

- Firstly, TOP CLeveR's target audience is made of all the different stakeholders of the construction value chain, **as training consumers**.
- Secondly, we assess the **training suppliers** as potential partners for the dissemination of TOP CLeveR training and outreach programmes.

The assessments are included in 2. Training consumer stakeholder analysis and 3. Training supplier stakeholder analysis chapters.

This document concludes the audience mapping activity by drafting the main communication messages, which will be incorporated into the Communication and Dissemination Plan.

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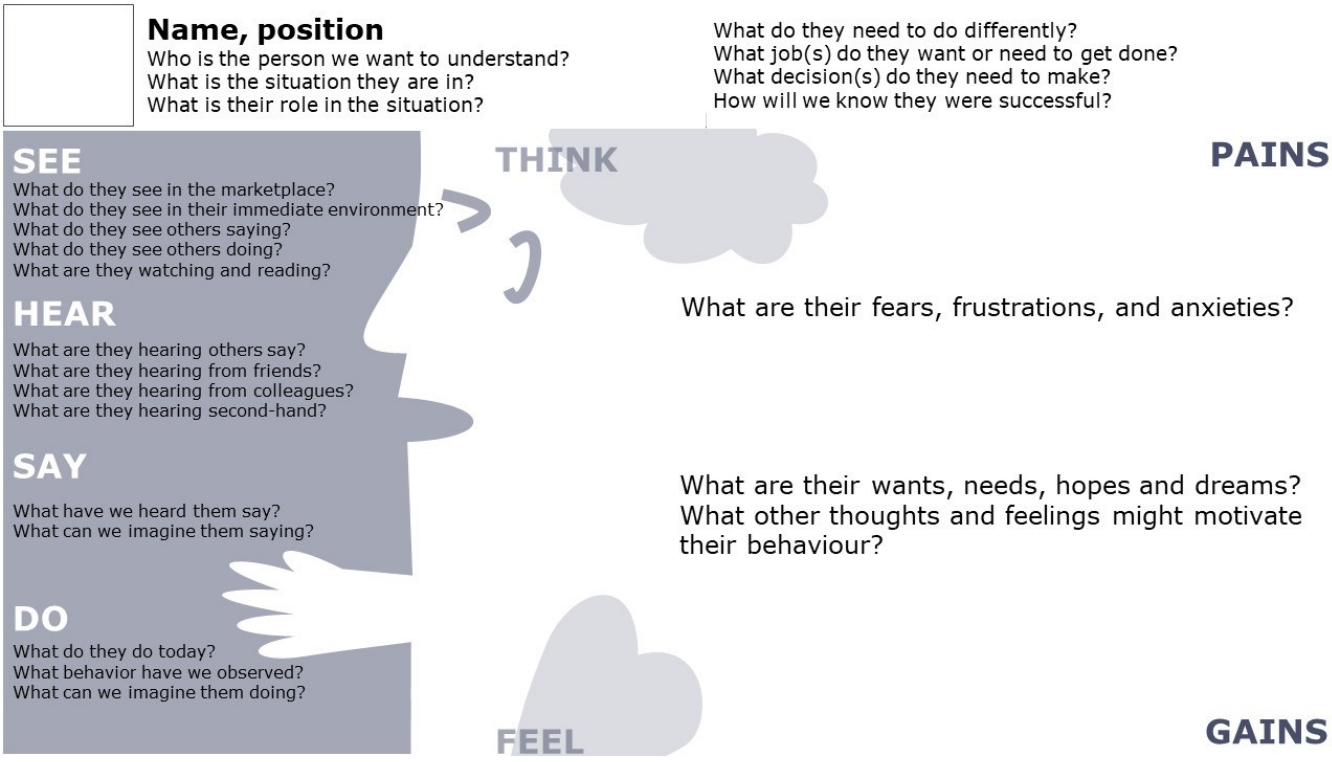
2 Training consumer analysis

TOP CLeveR's target audience is made of all the different stakeholders of the construction value chain: white collar professionals (architects, designers, engineers, consultants, developers, contractors, materials and product manufacturers) and blue-collar workers (craftspeople, on-site workers, installers etc.). The project also gives special focus on how young people and women can be channelled, made aware and engaged into a high quality, circular construction industry.

2.1 Empathy map

To identify the communication messages for our key audience, consumer stakeholder groups, we used the method of Empathy Map. The method helps to assess a better understanding of audience desires and needs and allows us to create more empathetic and targeted communication messages to every group.

Empathy mapping is a visual representation of what a stakeholder thinks, feels, says, and does. It helps us to step into the shoes of the stakeholders and to understand their perspective more deeply.



Empathy map by Dave Gray X-Plane

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Personas for training programs in the construction and building sector are identified based on the key stakeholders in the industry. The construction industry's complex supply chain makes the creation of personas important for tailoring specific marketing messages to key audiences. Researching construction personas can provide valuable insight into the motivation behind training decisions, challenges, and goals.

By understanding the stakeholders' challenges and utilizing personas, TOP CLeveR can enhance the communication and dissemination strategy to reach more potential customers in the built environment.

2.2 Personas

In the building and construction sector, there is a diverse range of roles and responsibilities TOP CLeveR aims to reach out to. The WCRLZ – whole life carbon, circular construction, resource efficiency, Level(s) and zero energy building – scope implies the whole value chain of the sector.

We identified key personas covering different roles within the construction sector along the four key groups – white collar, blue collar, women, young talent – identified in LIFE Clean Energy Transition BUILD UP Skills strategic initiative.

The characters were created based on the national status quo analyses, by desktop research of a variety of sectoral resources, and brainstorming.

Three white-collar professional personas were developed: an architect/engineer, a sustainability manager of a real estate developer, and a construction site manager. They are involved in designing and planning buildings with a focus on incorporating sustainable and circular principles. They are also responsible for conducting life cycle assessments, implementing whole-life carbon methodologies, and ensuring that construction projects adhere to WCRLZ principles. We have decided to limit the number of personas, so we decided not to include the Facility Manager responsible for the operation and maintenance phase of the building, nor the Operations Manager of a building manufacturing plant.

Two blue-collar worker personas were identified: a construction labourer and a manufacturing plant worker. They contribute to the implementation of circularity and whole-life carbon approaches using sustainable building materials, efficient construction techniques, and proper material and waste management practices. Their hands-on involvement in construction and maintenance activities directly impacts the overall carbon footprint and circularity of building projects. They also seem to be in the position where skills shortages arise and the ability to shift towards WCRLZ might be blocked.

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For assessing the issues of women and young talents we created two personas: one towards white collar and one towards blue collar fields of interest. The nature of the work, the skills required, the ability to have meaningful impact on processes are different in leading and executing positions.

Through these personas we broadly can analyse the challenges of the building and construction sector over the whole value chain to implement changes and new skills of WCRLZ through training programs.

2.3 Empathy mapping of personas

2.3.1 White collar professionals

2.3.1.1 Christine Morgan, Sustainability Manager (age:35)

Who: Christine is a sustainability manager (or consultant) working for a real estate developer (or as an independent professional).

Situation: Christine is tasked with integrating sustainable practices, including whole life carbon and circular approaches, into the development projects her company is involved in.

Role in the situation: Christine plays a key role in influencing and implementing WCRLZ strategies at different stages of the building life cycle. She needs training to stay updated on the latest practices, technologies, and regulations related to whole life carbon and circular approaches. She also needs to educate project partners on WCRLZ.

What needs to be done differently: Christine needs to incorporate whole life carbon and circular approaches into the overall sustainability strategy of the development projects from the early stages of decisions to be made. This involves moving from new buildings to retrofitting, assessing the environmental impact of materials, implementing circular economy principles, ensuring compliance with relevant regulations. She also should argue for whole-life cycle assessments and cost calculations.

Jobs to get done: Christine needs to develop and implement WCRLZ plans to achieve better long-term decisions, collaborate with different project stakeholders to promote sustainable practices, and stay informed about evolving industry standards and technologies.

Decisions to make: Christine must decide on the most suitable sustainable practices for each project, consider the life cycle impact of materials, and communicate the importance of these practices to the decisionmakers, clients, project team.

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Success indicators: Set and approved WLC targets, meeting or exceeding sustainability targets, successful implementation of sustainable practices, positive feedback from clients and stakeholders, staying ahead of industry best practices.

Empathy map for Christine Morgan:

See:	Pains:
Growing awareness of environmental issues in the construction sector. Changing EU and national regulations and industry standards Increasing interest from investors and tenants in sustainable buildings, however neither enough interest in whole-life carbon approach, nor in prioritizing renovations over new building.	Facing resistance from owners and some team members or stakeholders who may not fully understand or support WCRLZ practices. Managing the integration of new ideas of WCRLZ, new technologies and materials into established construction practices. Overcoming limited resources (financial, technical, HR) for implementing WCRLZ practices, balancing the upfront costs of WCRLZ construction with long-term environmental benefits. Navigating and complying with regulations and standards often restricting timber and bio-based material use. Finding a design team and contractor with knowledge and skills to achieve WCRLZ targets.
Hear:	
Lectures about new sustainable construction materials, WCRLZ trends and technologies. Stakeholders expressing concerns about the costs of implementing WCRLZ building practices. Feedback from architects and engineers regarding the obstacles in the traditional practice and regulatory environment of WCRLZ. Feedback from contractor regarding the challenges faced during the construction process. Discussions about the few successful case studies in WCRLZ construction.	
Say:	**Gains:**
Advocates for the integration of WCRLZ in project discussions and decisions. The importance of WCRLZ to colleagues, emphasizing long-term benefits. Communicates with project teams to ensure understanding and commitment to WCRLZ practices. Addresses concerns from stakeholders about the initial costs of WCRLZ construction. Collaborates with architects, engineers, and contractors to align project goals with WCRLZ objectives.	Seeing a positive impact, a reduction in the environmental footprint of construction projects. Reducing long-term operational costs through WCRLZ construction methods. Building a team that is passionate and committed to WCRLZ goals. Gaining recognition within the organization for successful WCRLZ initiatives. Enhancing the reputation of the real estate developer and the company as a leader in sustainable construction. Attracting environmentally conscious investors and tenants. Achieving certifications and recognition for the building projects.
Do:	
Researches and stays updated on the latest WCRLZ trends and technologies. Conducts life cycle assessments and feasibility studies for projects.	

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Implements WCRLZ practices in project planning and execution. Collaborates with project partners over the whole process (brief, design, construction, operation) to maximise WCRLZ in project planning.	

2.3.1.2 Alex Brown, Construction Site Manager (age:45)

Who: Alex is a site manager with a construction company.

Situation: Alex is responsible for overseeing the day-to-day construction activities on site. He is interested in understanding how to optimize resource use, minimize waste, and reduce the carbon footprint during the construction process.

Role in the situation: Alex is directly involved in the execution phase of the building life cycle. He also is responsible for hiring the best qualified workers, so he must be trained to know and demand from his employees, and even train them on site. Training for Alex should focus on practical applications of circular approaches on-site, efficient resource management, material and waste reduction. He also should know the implementation aspects of WCRLZ to be able to make right decisions and avoid bad practices.

What needs to be done differently: Alex needs to manage construction activities with a focus on optimizing resource use, minimizing material and waste, and adhering to circular principles.

Jobs to get done: Alex needs to implement sustainable construction practices on-site, coordinate with suppliers to source eco-friendly materials, and train the on-site team on material and waste reduction techniques.

Decisions to make: Alex must make decisions about material selection, construction methods, material reduction strategies, and waste collection practices. He also needs to communicate with the project manager and site workers to ensure everyone is aligned with WCRLZ goals.

Success indicators: Materials used with smaller embodied carbon, reduction in material use and on-site waste, efficient resource utilization, adherence to project timelines, and positive feedback from the sustainability manager and other stakeholders.

Empathy map for Alex Brown:

See:	Pains:
Construction site with mostly traditional building methods and materials.	

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Blueprints and project plans that do not prioritize WCRLZ. Potential areas for improvement in WCRLZ. Lack of worker skills in executing WCRLZ tasks. Lack of knowledge of successful BIM implementation.	Balancing tight construction schedules with the additional considerations of WCRLZ practices, including BIM models. Dealing with resistance from construction workers and subcontractors unfamiliar with new construction methods. Managing unexpected challenges related to the sourcing and availability of low-carbon materials. Navigating the complexities of integrating WCRLZ practices within traditional construction processes.
Hear:	
Feedback from construction workers on challenges in new technologies as well as workflow. Concerns from subcontractors about adjusting to new WCRLZ construction methods, materials and resource efficiency requirements. Updates and changes in construction regulations related to environmental standards.	
Say:	**Gains:**
Communicates project goals and WCRLZ requirements to on-site teams and subcontractors. Provides guidance and instructions to construction workers and subcontractors on the implementation of WCRLZ practices. Advocates for the use of environmentally friendly materials and methods and resource-efficiency requirements during construction.	Achieving project milestones while meeting or exceeding WCRLZ targets. Gaining experience and refining skills in WCRLZ construction management and problem-solving Enhancing the construction company's reputation for responsible and WCRLZ building practices. Educating and building strong working relationships with subcontractors and construction teams by advocating for WCRLZ.
Do:	
Oversees day-to-day construction activities with a focus on adherence to WCRLZ goals. Implements responsible timber use, waste reduction and recycling initiatives on the construction site. Collaborates with project managers to address any challenges related to WCRLZ construction. Collaborates with suppliers to source timber, bio-based and sustainable construction materials. Ensures that construction activities align with the project's WCRLZ objectives.	

2.3.1.3 Mark Smith, Architect/Engineer (age: 50)

Who: Mark is an experienced architect/engineer working for an architectural/engineering firm.

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Situation: Mark is involved from the early design stages of a real estate development project. He wants to create sustainable and environmentally friendly designs that consider the entire life cycle of the building. He is committed to achieve a zero carbon building.

Role in the situation: Mark is responsible for conceptualizing and designing the building. He also needs to argue for long-term success factors and environmental responsibility to the client and the collaborating design/engineering team. Training for Mark should emphasize sustainable design principles, material selection, design for reuse and flexibility, and how to integrate whole life carbon considerations into the design process.

What needs to be done differently: Mark needs to integrate whole life carbon considerations into the architectural design process, selecting materials with lower environmental impact and designing for flexibility, adaptability and deconstruction.

Jobs to get done: Mark needs to create sustainable, aesthetically pleasing and environmentally conscious designs, collaborate with other professionals to ensure the feasibility of WCRLZ choices, and stay updated on zero-carbon trends.

Decisions to make: Mark must decide on the architectural features that align with sustainability and circularity goals, choose materials with low environmental impact, and consider the long-term implications of design decisions on the building's whole life cycle.

Success indicators: Right decisions of the client, positive feedback from the sustainability manager, successful integration of sustainable design principles, and meeting or exceeding sustainability benchmarks for the project.

Empathy map for Mark Smith:

See:	Pains:
Architectural drawings and plans for building projects with limited WCRLZ qualities. Evolving trends in WCRLZ architecture and engineering. Innovative and WCRLZ building designs and technologies in the international professional horizon. Collaboration opportunities with other professionals in the industry. Preference for timber and biobased materials, but facing restricting regulations and standards.	Balancing creative design and practical engineering considerations as well as financial realities of WCRLZ construction. Navigating the complexities of integrating WCRLZ features within existing project constraints. Struggle with traditional structural solutions' environmental impact in the design decisions. Managing client expectations and potential resistance to upfront costs associated with sustainable design. Addressing technical challenges in implementing cutting-edge WCRLZ technologies. Challenges of design team with limited knowledge of WCRLZ technologies and solutions.
Hear:	
Client expectations and desires for WCRLZ designs preferences and requirements.	

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Feedback from project teams about the feasibility of incorporating WCRLZ elements. Industry discussions about the latest advancements in WCRLZ construction materials and methods. Challenges and constraints from regulatory bodies related to WCRLZ solutions.	Challenges of getting data from manufacturers to the BIM model and WLCA calculations, as well as challenges of continuous use of BIM models by client, contractor, AM/FM.
Say:	**Gains:**
Communicates with clients about the benefits and challenges of integrating WCRLZ features. Advocates for the use of environmentally friendly materials, resource efficiency and energy-efficient systems in building projects. Provides expertise on the feasibility and cost implications of WCRLZ design choices.	Achieving recognition for unique and innovative architectural designs. Reducing long-term operational costs through WCRLZ-conscious planning. Contributing own and client's reputation for innovative projects achieving WCRLZ. Enhancing professional satisfaction by working on WCRLZ projects aligned with personal values. Complementing competences and standing out with expertise in a highly competitive market. Being recognized as a thought leader in WCRLZ design within the architectural/engineering community.
Do:	
Designs buildings with a focus on WCRLZ. Stays updated on the latest WCRLZ design tools and technologies. Conducts life cycle assessments for building structures and elements for determining best WLC option. Collaborates with other architects, engineers, and design professionals to incorporate WCRLZ practices. Collaborates with project teams to ensure that WCRLZ goals align with architectural and engineering principles. Efficiently uses BIM modelling towards WCRLZ goals.	

2.3.2 Blue collar personas

2.3.2.1 Tom Taylor, Construction Worker (age:38)

Who: Tom is a general construction worker employed by a construction company.

Situation: Tom is on-site, actively participating in various construction tasks such as framing, pouring concrete, or installing insulations. He may not have in-depth knowledge of sustainability practices but is eager to learn and contribute positively to the project.

Role in the Situation: Tom is a hands-on worker responsible for the physical aspects of construction. He follows instructions from supervisors and works collaboratively with other team members.

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What needs to be done differently: Tom needs to adopt practices that contribute to the overall sustainability goals of the project. This includes efficient use of materials, proper waste sorting and disposal, gaining knowledge in new technologies.

Jobs to get done: Tom is responsible for executing construction tasks on-site. He needs to follow and learn new techniques and processes related to sustainable construction practices, handle materials and waste responsibly. He also needs to communicate any challenges or suggestions for improvement to the site engineer or supervisor.

Decisions to make: Tom must make decisions about how to handle materials, manage on-site waste. He may need to choose between different methods that have varying environmental impacts.

Success indicators: Successful implementation of sustainable construction practices, minimal and responsibly managed on-site waste, achievements in new skills and knowledge, and positive feedback from the site engineer and project manager.

Empathy map for Tom Taylor:

See:	Pains:
Mostly traditional construction materials and methods on the construction site, however new expectations from site manager on resource efficiency. Along with the tools and equipment commonly used in conventional building practices new tools are appearing on site. Changes in construction plans that indicate a shift towards WCRLZ practices. A shift from on-site concrete works to prefabricated elements, which needs more precision to handle. Ageing and retirement of colleagues.	Adjusting to new construction materials and techniques that are unfamiliar. Worries about acquiring new knowledge related to new technologies and obtaining new skills and competences. Concerns about job security and potential changes in job roles due to the shift towards WCRLZ. Navigating potential resistance from colleagues who may be unable or unwilling to change. Meeting the project deadlines with the added requirements of WCRLZ.
Hear:	
Instructions and guidance from supervisors on new construction methodologies. Conversations among colleagues about the challenges of adapting to WCRLZ construction practices. Concerns from colleagues about potential job changes related to WCRLZ initiatives. Feedback from project managers regarding the importance of meeting WCRLZ targets.	

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Say:	Gains:
Expresses concerns about the lack of knowledge and communicates to his supervisors about the need for training and guidance on WCRLZ construction techniques. Discusses experiences and challenges related to adopting new construction materials and methods, e.g. prefabricated elements, timber, etc. Shares feedback and suggestions for improvement in the implementation of WCRLZ initiatives.	Acquiring new skills and expertise in WCRLZ construction practices. Contributing to environmentally responsible and eco-friendly building projects. Enhancing job satisfaction by gaining new skills during the WCRLZ projects and becoming a valued team member with the ability to adapt to the evolving construction industry.
Do:	
Collaborates with colleagues to adapt existing construction processes to meet WCRLZ goals. Takes part in waste reduction and recycling efforts on the construction site. Participates in training programs to learn about new sustainable construction materials and methods to be able to do precisely and safely the hands-on construction work.	

2.3.2.2 Robert Williams, Manufacturing Plant Worker (age:52)

Who: Robert is a worker employed at a building material manufacturing plant.

Situation: Robert is stationed on the production floor, engaged in the manufacturing process of building materials such as insulation.

Role in the Situation: Robert is responsible for operating machinery, monitoring production processes, ensuring quality control, and addressing any immediate issues on the manufacturing line.

What needs to be done differently: Robert needs to adopt sustainable practices in his day-to-day tasks. This could involve using machinery efficiently, minimizing waste, and ensuring the responsible use of resources in the manufacturing process. He also needs to adjust to the evolving automatization of the production line.

Jobs to get done: Robert is responsible for operating machinery effectively and ensuring that the manufacturing process runs smoothly. He also needs to conduct quality control checks to ensure that the building materials meet the required standards. Robert should actively contribute to the efficient use of raw materials, energy, and water in the manufacturing process as well as participate in waste reduction initiatives, including proper disposal and recycling efforts.

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Decisions to make: Robert may need to decide on the order and priorities of machine operation to optimize efficiency and resource use. He must make decisions related to quality control, including identifying and addressing any issues with the produced building materials. Robert may be involved in decisions related to resource allocation, such as adjusting production schedules to align with energy-efficient practices.

Success indicators: Consistently efficient operation of machinery, contributing to the production of building materials with minimal resource waste, building materials meet or exceed quality standards, indicating that Robert has effectively performed his quality control responsibilities, waste reduction in the manufacturing process, adhering to safety protocols, contributing to a safe working environment for himself and his colleagues.

Empathy map for Robert Williams:

See:	**Pains:**
Industrial machinery used in the manufacturing process. Raw materials being processed into construction materials. Quality control measures to ensure the consistency of materials and resource efficiency. Changes in manufacturing processes to align with WCRLZ production practices and robotics.	Adjusting to new digitised manufacturing methods, resource efficiency and materials that are unfamiliar. Worries about acquiring new knowledge related to new technologies and to obtain new skills and competences. Concerns about job security and potential changes in job roles due to the shift towards WCRLZ. Navigating potential resistance from colleagues who may be resistant to change. Balancing the need for efficiency and meeting production targets with the newly learned WCRLZ requirements.
Hear:	
Instructions from supervisors regarding changes in methods for WCRLZ production. Conversations among colleagues about the challenges and benefits of WCRLZ manufacturing. Feedback from quality control teams regarding the performance of sustainable materials and resource efficiency. Updates from management on the company's commitment to environmental responsibility.	
Say:	**Gains:**
Communicates with supervisors about the need for training and guidance on WCRLZ production techniques, new materials and resource efficiency. Discusses experiences and challenges related to adopting new manufacturing processes, including automatization and robotics.	Acquiring new skills and expertise in sustainable manufacturing practices. Contributing to the production of environmentally responsible, eco-friendly building materials and resource-efficient processes.

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Shares feedback and suggestions for improvement in the implementation of WCRLZ initiatives.	Enhancing job satisfaction by being a valued team member with the ability to adapt to the evolving manufacturing industry.
Do:	
Operates and maintaines manufacturing equipment with the new requirements of WCRLZ production. Participates in training programs to learn about new manufacturing methods and processes. Collaborates with colleagues to adapt existing processes to meet sustainability goals. Implements waste reduction and recycling efforts within the manufacturing plant.	

2.3.3 Young talents

2.3.3.1 Sofia Morgan, Young Sustainability Analyst (age: 22)

Who: Sofia is a recent graduate with a degree in environmental science, passionate about making a positive impact in the construction industry. She has recently joined a company known for adopting innovative and eco-friendly building methods.

Situation: Sofia is part of a team tasked with integrating whole-life carbon assessments and circular construction principles into ongoing and upcoming projects. The company is committed to reducing its environmental impact and wants to train young talents like Sofia to lead these efforts.

Role in the Situation: Sofia is responsible for assessing the environmental impact of construction projects, identifying opportunities for carbon reduction, and promoting circular construction practices. She works closely with project managers, architects, and other stakeholders to embed sustainability into every phase of the process.

What needs to be done differently: Sofia needs to shift the focus from conventional construction practices to sustainable and circular methods. This includes rethinking material choices, design decisions, construction processes, and end-of-life considerations.

Jobs to get done: Sofia needs to conduct whole-life carbon assessments for ongoing and upcoming construction projects to identify areas for improvement. She also needs to train on integrating circular construction principles into project planning and execution to promote environmentally friendly and low-carbon material use, maximize material reuse and minimize waste, and such to enhance overall project sustainability and reach WCRLZ goals. During her tasks she fosters

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collective commitment, so she feels responsible to share ideas and knowledge with colleagues and project team members on the importance of whole-life carbon assessments and circular construction.

Decisions to make: Sofia makes recommendations for WCRLZ principles, while balancing environmental impact with project requirements and cost considerations. She is responsible also to ensure that sustainable practices are embedded in every phase of the construction life cycle from project planning to execution.

Success indicators: Reduction in the whole-life carbon footprint of construction projects compared to benchmarks or previous projects, implementation of circular construction practices in project execution, increased awareness and engagement of team members in sustainable and circular practices.

Empathy map for Sofia Morgan:

See:	**Pains:**
Sustainable construction projects and initiatives within the company. Colleagues and mentors with diverse expertise in WCRLZ building and construction. Opportunities for career growth and development within the WCRLZ field. The integration of environmental principles into real-world construction practices.	Navigating the transition from academic knowledge to practical application in the workplace. Navigating the gap of WCRLZ data. Speeding up the tremendous information learning curve. Coping with potential challenges in effectively communicating complex WCRLZ concepts. Managing expectations and pressures associated with meeting WCRLZ targets.
Hear:	
Guidance and mentorship from experienced professionals within the company. Discussions about the company's commitment to WCRLZ construction practices. Feedback on the impact of WCRLZ initiatives on project outcomes. Conversations about industry trends and advancements in WCRLZ construction.	
Say:	**Gains:**
Shares enthusiasm and passion for the Zero Carbon future of the built environment. Seeks guidance from mentors and colleagues on best practices in the field. Communicates insights and findings from research on innovative WCRLZ solutions to colleagues and stakeholders. Expresses interest in contributing to and shaping the company's sustainability goals. Discusses	Acquiring practical experience in applying environmental science knowledge to real-world projects. Building a network of mentors and colleagues in the WCRLZ field. Contributing to the success of WCRLZ construction projects within the company.

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strategies for integrating WCRLZ into project workflows.	Developing a fulfilling and impactful career in the field of sustainable construction.
Do:	
Conducts research and analysis to assess the whole-life carbon environmental impact of construction projects. Collaborates with cross-functional teams to integrate sustainability into project planning. Attends industry conferences and training sessions to stay updated on WCRLZ trends as well as shares own research results. Contributes fresh perspectives and ideas to enhance the company's WCRLZ initiatives.	

2.3.3.2 Michael Williams, Apprentice Construction Worker (age: 20)

Who: Michael is a recent middle-school graduate who has chosen to pursue vocational training in construction. He is eager to learn practical skills and gain hands-on experience in the industry.

Situation: Michael has just started his apprenticeship with a construction company, working under the guidance of experienced construction professionals. He is involved in various construction tasks, from basic labour to learning specific skills related to different trades.

Role in the Situation: Michael 's role is that of an apprentice, working under the guidance of experienced tradespeople to gain practical experience in tasks such as material handling, site preparation, and basic construction techniques. His role is to learn and apply the fundametal skills necessary for a career in construction.

What needs to be done differently: Michael needs to transition from classroom knowledge acquired in vocational training programs to practical application on construction sites. He must also understand the importance of sustainability in construction practices.

Jobs to get done: Michael assists in various construction tasks, including carrying materials, using basic tools, and supporting skilled tradespeople. He develops the ability to interpret and follow project specifications by familiarizing with construction plans and blueprints. He also uses his digital skills if needed.

Decisions to make: Michael has to decide on a specific construction trade to specialize in. He must recognize safety and environmentally conscious situations during the construction. He also should actively seek guidance and learning opportunities from experienced construction professionals to accelerate skill development.

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Success indicators: Improvement in hands-on construction skills, consistent adherence to safety and environmental guidelines on the construction site, understanding and applying sustainable practices in daily work, ability to interpret and apply information from construction plans, positive feedback from mentors on willingness to learn and progress.

Empathy map for Michael Williams:

See:	Pains:
Construction sites with a mix of traditional and sustainable building methods. While he likes timber, he sees that it is not much used. Experienced construction professionals demonstrating various construction techniques. Opportunities to work with advanced tools and equipment used in sustainable construction. A learning environment that emphasizes safety and sustainability. Aging and retirement of highly skilled mentors.	Coping with the physical demands of the construction job while focusing on new methods resulting from WCRLZ. Navigating the training needs associated with the changes resulting from WCRLZ construction methods. Balancing the eagerness to contribute with the need to absorb new information. Adjusting to potential resistance from more experienced colleagues unfamiliar with WCRLZ practices.
Hear:	
Instructions and guidance from experienced construction workers and supervisors. Conversations among colleagues about the importance of sustainability in construction. Conversations among colleagues about the difficulties in new technologies requiring digital skills. Feedback on the practical aspects of implementing sustainable construction practices. Encouragement from mentors to ask questions and seek learning opportunities.	
Say:	**Gains:**
Expresses eagerness to learn and contribute to sustainable construction projects. He especially would like to gain expertise in timber structures. He also wants to use his digital skills for the benefit of the projects he is working on. Asks questions to understand the reasons behind WCRLZ construction methods. Communicates challenges faced in adapting to new construction techniques. Shares enthusiasm for the company's commitment to environmentally friendly practices.	Acquiring practical skills and experience in WCRLZ construction techniques. Progressing from apprentice to a more skilled and experienced construction worker. Building a foundation for a long-term career in the construction industry. Contributing to meaningful and environmentally responsible construction projects.
Do:	

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Engages in hands-on construction work with a focus on WCRLZ. Learns the new skills while being an apprentice. Participates in training programs to learn about WCRLZ construction materials and methods. Collaborates with more experienced colleagues to gain practical insights. Follows safety and sustainability protocols while working on the construction site.	

2.3.4 Women

2.3.4.1 Sarah Wright, Project Manager (age:33)

Who: Sarah holds a degree in Civil Engineering and has over 10 years of experience in project management within the construction sector. Sarah is known for her strong leadership skills and expertise in overseeing complex construction projects. She has successfully managed various construction projects and is passionate about sustainable and inclusive practices. Sarah is leading a high-profile construction project for a real estate development company.

Situation: As an experienced Project Manager, she is responsible for overseeing the entire project life cycle, managing budgets, coordinating with various stakeholders, and ensuring timely project delivery. She is committed to ensuring that the project meets WCRLZ goals.

Role in the Situation: As the Project Manager, Sarah plays a central role in planning, executing, and closing the construction project. She collaborates with architects, engineers, contractors, and other professionals to ensure the successful progress towards the sustainability objectives. Sarah is also involved in decision-making, risk management, and maintaining effective communication channels.

What needs to be done differently: She needs to efficiently manage project timelines and budgets, while implementing and monitoring sustainability initiatives. Given that Sarah is a female professional in a predominantly male-dominated industry, there may be additional challenges related to gender biases and workplace dynamics. She needs to navigate these challenges while maintaining a focus on project success and team collaboration.

Jobs to get done: Sarah must provide strong leadership while fostering a collaborative and inclusive team environment to achieve a positive team culture that values diversity and encourages open communication. She needs to address any gender biases or stereotypes that may arise in the workplace. She must ensure

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clear and effective communication with all project stakeholders to keep everyone aligned with project sustainability goals.

Decisions to make: Sarah makes resource allocation and budget decisions, selects partners known for sustainable construction practices. Sarah leads decision-making and negotiations to resolve conflicts of interests and drive the project to achieve the WCRLZ objectives. While doing so, she maintains a fair and collaborative approach to conflict resolution. She needs to address any instances of gender bias or discrimination and implement strategies to enhance team dynamics, promote inclusivity and to foster a positive work environment.

Success indicators: Successful completion of the construction project with high sustainability qualities within the specified timeline and budget, positive feedback and high satisfaction levels among team members and all stakeholders, an inclusive and diverse work environment where all team members feel valued, clear and effective communication channels throughout the project.

Empathy map for Sarah Wright:

See:	**Pains:**
Changing field of building and construction projects with diverse teams, however many lacking the WCRLZ knowledge. Hardship of women to take on leadership roles in traditionally male-dominated field. Slow brake of barriers of "this is how it is done" arguments. The impact of her successful projects on changing perceptions within the industry.	Navigating stereotypes and biases associated with women in leadership roles in construction. Overcoming resistance or scepticism from those who may question her abilities and decisions. Balancing the demands of project management with a commitment to breaking gender stereotypes. Managing expectations and addressing potential gender-related challenges in project teams.
Hear:	
Conversations about the importance of diversity and breaking gender stereotypes in construction. Feedback from colleagues and team members on her leadership style and project management skills. Discussions about the challenges women face in the construction industry. Little, but growing encouragement and support from mentors and allies within the company.	
Say:	**Gains:**
Advocates for equal opportunities and recognition for women in project management in the construction sector. Shares experiences and insights on overcoming challenges as a female professional in construction.	Achieving project success and recognition for breaking gender stereotypes. Contributing to a more inclusive and diverse construction company.

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Communicates with team members to ensure a collaborative and inclusive work environment. Expresses the importance of diversity in perspectives for innovative project outcomes.	Becoming a role model and mentor for other women aspiring to enter project management. Fostering positive change within the real estate development company and the broader industry.
Do:	
Makes ongoing efforts to foster diversity and inclusivity within the real estate development company. Leads project teams with a focus on efficiency, quality, and inclusivity. Mentors and supports other women in the field. Participates in industry events and initiatives that promote gender equality. Takes on challenging projects to showcase the capabilities of female project managers.	

2.3.4.2 Emma Brooks, Construction Worker (age:28)

Who: Emma has a background in construction and masonry work, having completed vocational training in construction. She is passionate about hands-on work and breaking gender stereotypes in the construction industry.

Situation: Emma is currently working on a construction site as part of a crew involved in various construction tasks. She is determined to excel in her role despite the traditionally male-dominated nature of the construction industry.

Role in the Situation: As a construction worker, Emma is involved in physically demanding tasks such as mixing and pouring concrete, setting forms, and performing other tasks related to masonry work. She works closely with her colleagues to contribute to the successful completion of construction projects.

What needs to be done differently: Emma faces the challenge of breaking gender norms in a field where women are traditionally underrepresented. She needs to navigate and challenge stereotypes while demonstrating her skills and commitment to her role.

Jobs to get done: Emma contributes to the efficient execution of construction tasks with physically demanding tasks such as lifting, carrying, and moving construction materials. She must ensure the quality and accuracy of the work.

Decisions to make: Emma needs to demonstrate skills and capabilities in masonry and construction tasks, overcoming stereotypes and biases through competence and professionalism. She also needs to actively engage with colleagues and establish professional relationships on the construction site regarding task progress. She also

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contributes to a more diverse and welcoming construction industry by advocating for inclusivity and challenge gender stereotypes.

Success indicators: Completion of concrete and masonry tasks with high quality, positive feedback from the construction supervisor and team, commitment to safety and sustainable practices on-site.

Empathy map for Emma Brooks:

See:	Pains:
Construction sites where she actively participates in various hands-on tasks. Limited opportunities to showcase her skills and expertise in masonry and construction work.	Dealing with the physical demands of the job. Navigating stereotypes, biases, and potential resistance as a female construction worker. Managing potential challenges related to workplace dynamics. Balancing the desire to break gender stereotypes with the need for acceptance within the team. Balancing family life with site commitments that often extend beyond conventional working hours, such as weekends or holidays.
Hear:	
Limited conversations about the importance of diversity and inclusivity in the construction workforce. Limited discussions about the challenges women face in the construction industry. Support from mentors and allies who believe in her capabilities.	
Say:	**Gains:**
Expresses pride in her skills and passion for hands-on construction work. Advocates for equal opportunities for women in all aspects of construction. Communicates effectively with colleagues to foster a supportive work environment. Shares experiences and insights on breaking gender stereotypes in the industry.	Achieving recognition for her skills and contributions towards a more inclusive and diverse construction industry. Building a sense of pride and accomplishment in her work while challenging stereotypes. Inspiring other women to pursue careers in construction through her example. Evolving of women in traditionally male-dominated roles within the industry.
Do:	
Actively participates in various construction tasks with dedication and skill. Takes lead in learning WCRLZ techniques. Embraces opportunities to lead and showcase her capabilities in traditionally male-dominated tasks. Makes efforts to challenge stereotypes and promote diversity in construction. Mentors and supports other women who aspire to enter the construction field. Engages in community outreach to encourage more women to consider careers in construction.	

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3 Training supplier analysis

In WP7, T.7.1. a target group mapping activity takes place to define the types of communication needed during the whole life project, facilitating the relationship with various stakeholders, making the communication more effective. This activity will run parallel to the National Platforms' Status Quo Analyses (WP2, T.2.1.), the mapping of the qualifications and training landscape in each country. The activities make the two coherent and consistent and specifying how the target persons will be addressed and engaged. The results will be used to assure the best coverage and outreach for of all relevant stakeholders.

To find the most important training supplier partners and stakeholders we use the strategic framework method of Power-Interest Matrix (PIM). By categorizing stakeholders based on their power and interest over the training and education activities of WCRLZ in the building and construction sector, we can tailor our communication approaches that address the unique needs and concerns of different stakeholder groups.

3.1 Main categories of stakeholders

Main category	Sub category	Description
Public sector	EU	EU policies and funding schemes to support training and education activities of WCRLZ in the building and construction sector
	Central Government	Ministries, Prime Minister's Cabinet etc.
	Regional & Local Governments	
	Other Public	Construction authorities, Energy agencies, Government owned companies
Accreditation entities	Council/Chamber of Architects	
	Council/Chamber of Engineers	
	Chamber of Trade/Commerce/Industry	
Education & Training	Schools for builders, Technical institutes	
	Universities and academia	
Other training entities	Research centres	Research institutions, education providers, think tanks

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Main category	Sub category	Description
	Associations and NGOs linked to the building sector	Industry associations representing companies and building firms
Lobby	Lobbying associations	Representing construction stakeholders at European, national and/or local levels.
Private Sector	Business property owners	Offices, hotels, retail, logistics etc.
	Business property occupiers	Companies that rent office, retail etc. space
	Developers	Developers/investor developers
	Contractors	Builders, Construction companies
	Asset/Facility Managers	
	Professional services	Architects, engineers, consultants etc.
	Manufacturers/Trades	All products and systems
	Business services	E.g., software developers (to classify stakeholders like OneClick LCA, R2M that also provide training)
	Financial Services	Commercial financing, insurance companies, pension funds, real estate investment funds
Civil Society	Mainstream media	Mainstream newspapers, TV, radio, podcasts, online and social media etc.
	Specialized media	Print and online channels of building and construction
	Associations and NGOs (non-business related)	Charity, mission driven not-for-profit, organisations aimed at the public good (not business-related, which would go to other category above)
	Workers' Union	
	Building Users (Domestic)	Homeowners, homeowner associations, residential building managers
Unusual Suspects	Unusual Suspects	Could be Public, Private or Civil influencers, e.g. WLC ambassadors

3.2 Analysis of power and interest

Power refers to the ability of a stakeholder to affect the decision-making process or the outcome of a project. Influential stakeholders may have the power to allocate resources, make critical decisions, shape opinions.

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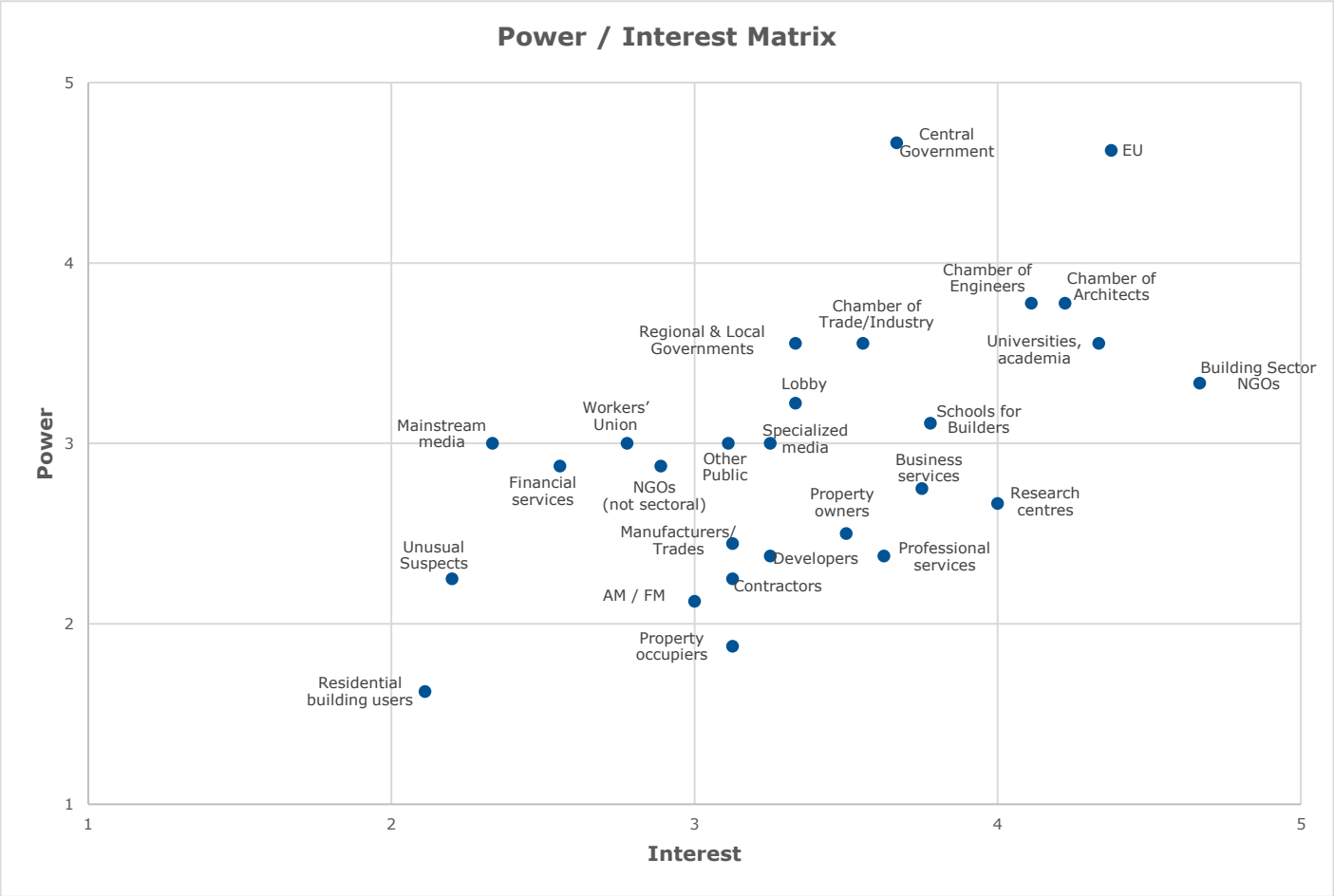
Interest refers to the degree to which a stakeholder is affected by or concerned about the project. Stakeholders with high interest are those who stand to gain or lose the most from the project's outcomes.



Power-Interest Matrix for training in construction and building

HIGH POWER / HIGH INTEREST stakeholders are all levels of governments with their companies, authorities and energy agencies, the chambers of trade/industry, engineers and architects, building sector NGOs, universities schools for builders, and specialized (building and construction-related) media. These stakeholders are the most important to have an impact in the sector about WCRLZ. The highest effort on continuous and meaningful communication should be targeted to reach them. Active and regular engagement is aimed during the project and afterwards.

HIGH POWER, LOW INTEREST stakeholders are Workers' Unions and mainstream media. While these stakeholders have significant influence, their low

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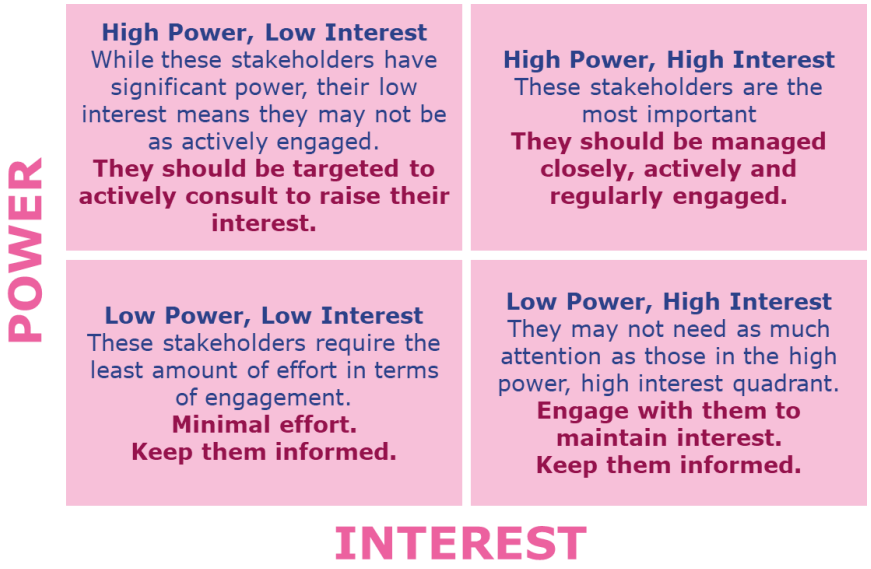
interest means they are not yet actively engaged. They should be targeted to actively consult to raise their interest.

LOW POWER, HIGH INTEREST stakeholders are research centres, business (consultants) and professional (architects, engineers) services, property owners, occupiers and asset/facility managers, developers, contractors, and manufacturers and building material traders. We aim to engage with them to maintain interest and to make individual effort of WCRLZ change more impactful. TOP CLeveR will keep these stakeholders informed and targeted for pilot training programs.

LOW POWER, LOW INTEREST stakeholders are non-sectoral NGOs, financial services, residential building users and individual influencers (unusual suspects). TOP CLeveR will keep them informed through online communication channels.



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4 Conclusions

The results of the mapping of the target audience groups will be incorporated into the Communication and Dissemination Plan. The communication messages and dissemination activities will be targeted as discovered by the analyses.

TOP CLeveR and all project partners find targeted and meaningful impact important in implementing whole life carbon, circular construction, resource efficiency, Level(s), and zero energy buildings, therefore will continue to assess target audience. The messages will be continuously expanded during the project and afterwards.

4.1 Communication messages for key stakeholders in training supply

The stakeholders that are influential in making available or supporting training and education activities of WCRLZ in the building and construction sector need to be aware of industry status and aims.

The following set of key messages have been developed to communicate the project and its WCRLZ mission to target audiences. They reflect the challenges, mission and offer of TOP CLeveR.

CHALLENGES

- Increasing scarcity of raw materials and natural resources require the speed-up of WCRLZ. Considering environmental change, the ability to reason and act systemically is crucial in the building and construction sector.
- The construction sector comprises an important part of the EU economy. It accounts for 6% of EU's GDP and employs 13.5 million people with a multiplier effect is estimated to be more than 2. The construction sector needs to adjust to changing environmental expectations by incorporating WCRLZ.
- Construction is strategically important, as investments in construction acts as catalysts for economy during periods of recovery (COVID, energy crisis). EU's long-term budget has earmarked substantial funding for construction, while emphasizing the necessity of avoiding lock-in effects of buildings and infrastructure.
- The construction sector has uncertainties in continuous employment, high unemployment rate, low wages, and difficulties in attracting young people. Pressure on construction prices lead to further uncertainties.
- The construction sector is characterized by skills shortage, increasing job vacancies and difficulties of finding qualified workforce.

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- Rapid technological evolution constantly generates new skill requirements, skill gaps and mismatches, making it hard for the labour market to respond to this fast evolution in time. All of the key stakeholders and employees in the construction sector have to be on the alert to keep up with this rapid pace and respond to these demands effectively and in time.
- The changing needs of the sector requires the change of the core curriculum and structural reform of vocational education, adult training and continuous professional development.
- Few of the construction companies use digital tools, even though these technologies help to achieve better quality in all phases of the process. Digitization is seen as a way to replace labour, however it can be an effective tool to accomplish better results.
- Legislation and building standards lacking WCRLZ priorities, especially not implemented WLC target requirements or incentives, restrictions of timber and bio-based material use and minimalization of demolitions and new buildings. Mineral construction waste represents the largest waste stream as well as embodied material environmental burden.
- WCRLZ principles tend not to be included in project preparation or planning, in which phase the most impact can be achieved with the least cost.

TOP CLeveR MISSION

- Empower construction professionals and workers with the skills needed to face the challenges of implementing a whole life carbon and circular approach along a building life cycle.
- Helping new entrants into the construction sector workforce TOP CLeveR helps existing workforce to adopt a lifelong learning approach.
- Initiate cooperation between different levels of education and different sectors, which are important to keep up with fast industrial changes.
- Strengthening WCRLZ principles towards climate goals by education and training programs, in which high-quality fundamental skills are enhanced by new skills and competences.
- By adding new skills and competencies, TOP CLeveR makes the sector more attractive by wages, employment, mobility and employment opportunity.
- Recognizing that the implementation of new competences requires both experience and know-how to ensure the effectiveness of the training in new skills, TOP CLeveR lays the foundations for spillover by train-the-trainer programs.
- Work on ways to incentivise building professionals and construction workers to upskill and re-skill in WCRLZ, as policy and industry raise expectations towards climate goals.

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4.2 Communication messages for key stakeholders

Other part of the communication messages direct to the TOP CLeveR directly targeted audience: white collar professionals, blue collar workers, women and young talents. The table below summarizes the communication messages for the target stakeholder groups. The messages will be continuously expanded during the project and afterwards.

	White collar	Blue collar	Women	Young talent
The building and construction sector is a growing sector with direct job opportunities.	x	x	x	x
Although the building and construction sector is traditionally a conservative industry, the environmental goals challenge its attitudes towards more innovative and constructive ways. The appeal of the construction sector needs to be achieved to slow down and turn the trend of the number of workers leaving the sector as well as attract more young talents and women.	x	x	x	x
Training in the WCRLZ field gives the ability to adapt to the evolving construction industry.	x	x	x	x
WCRLZ skills and competences allow to stand out with expertise in a competitive and demanding market.	x	x	x	x
WCRLZ skills and competences contribute to company's success and reputation for responsible and WCRLZ building practices.	x	x	x	x
WCRLZ skills and competences allow to develop a fulfilling and impactful career in the field of sustainable construction.	x	x	x	x
WCRLZ skills and competences, the ability to change and learn lay the foundation for a resilient, long-term career in the building and construction industry.	x	x	x	x
Gaining knowledge, expertise, skills and competences in the WCRLZ field leads to a network of mentors, colleagues and apprentices.	x	x	x	x
Professional satisfaction by working on WCRLZ projects is aligned with personal values for a sustainable world.	x	x	x	x
Recognition for breaking gender stereotypes and fostering positive change for a more inclusive and diverse building and construction industry.			x	x

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Women play the role as advocates for environmental sustainability, building inclusive communities, and being advocates for values such as diversity and inclusion.			x	
Young talents have the opportunity to shape the future by contributing to the creation of a more sustainable world.				x
The innovative initiatives aim young talents highly attracted to technology with an opportunity to be immersed in technological innovation for a sustainable future.				x
Teamwork, collaborative solutions, linking areas of construction that might not otherwise work together is necessary to achieve WCRLZ.	x	x	x	x
Building professionals need to deepen skills in WCRLZ in order to achieve resource efficiency and reaching climate goals.	x	x	x	x
Building professionals need to deepen skills in sustainable retrofit in order to speed up building stock renovation rates.	x	x	x	x
Experienced professionals and workers need new skills and competences due to new priorities, automation, and other technological advances.	x	x	x	
TOP CLeveR brings targeted training programs and e-learning platforms to all stakeholders of building and construction to facilitate upskilling and re-skilling.	x	x	x	x
TOP CLeveR makes WCRLZ skills, certifications and accreditations accepted across all EU Member States.	x	x	x	x
TOP CLeveR facilitates switching from training path to competence approach, targeting a more balanced professional development.	x	x	x	x

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5 Appendix – Empathy maps

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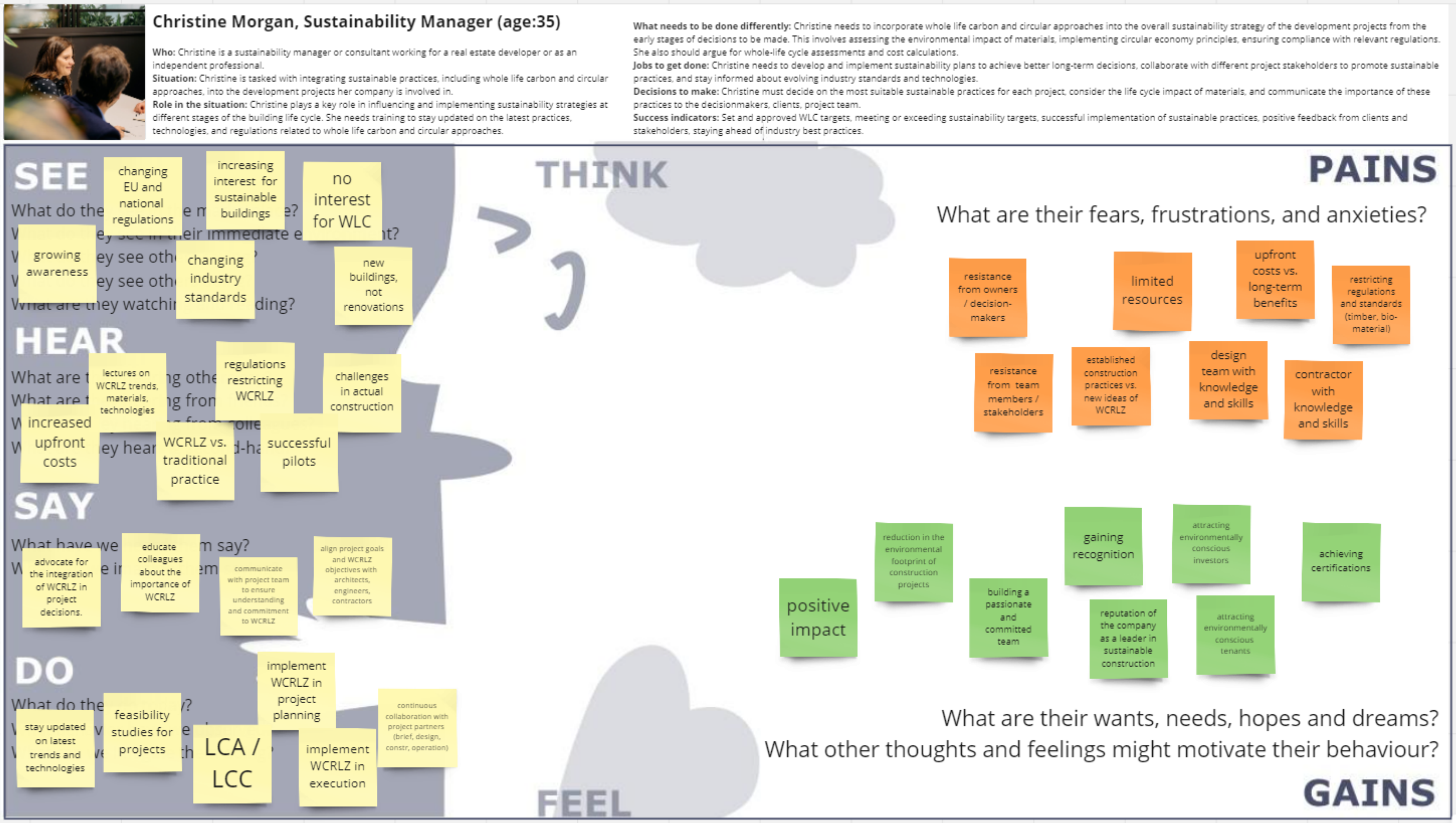

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Alex Brown, Construction Site Manager (age:45)

Who: Alex is a site manager with a construction company.
Situation: Alex is responsible for overseeing the day-to-day construction activities on site. He is interested in understanding how to optimize resource use, minimize waste, and reduce the carbon footprint during the construction process.
Role in the situation: Alex is directly involved in the execution phase of the building life cycle. Training for Alex should focus on practical applications of circular approaches on-site, efficient resource management, material and waste reduction.

What needs to be done differently: Alex needs to manage construction activities with a focus on optimizing resource use, minimizing material and waste, and adhering to circular principles.
Jobs to get done: Alex needs to implement sustainable construction practices on-site, coordinate with suppliers to source eco-friendly materials, and train the on-site team on material and waste reduction techniques.
Decisions to make: Alex must make decisions about material selection, construction methods, material reduction strategies, and waste collection practices. He also needs to communicate with the project manager and site workers to ensure everyone is aligned with sustainability goals.
Success indicators: Materials used with smaller embodied carbon, reduction in material use and on-site waste, efficient resource utilization, adherence to project timelines, and positive feedback from the sustainability manager and other stakeholders.

SEE

What do they see in the m… ?
What … see in their … nt?
What … doing?
What are they … nd reading?

- construction site with traditional methods and materials
- potential areas for improvement
- lack of worker skills
- blueprints and projects without WCRLZ aspects
- lack of BIM

HEAR

What are they hearin… ay?
What are t… g second-h…

- from construction workers: uncertainties in new technologies
- sub-contractors' concerns
- from construction workers: challenges in new workflow
- changes in construction regulations

SAY

What do we … m say?
What … ay?

- WCRLZ goals and requirements to on-site team
- guidance and instructions to construction workers
- use of environmentally friendly materials
- WCRLZ goals and requirements to sub-contractors
- guidance and instructions to subcontractors
- resource-efficiency requirements

DO

What … ?
What … ing?

- oversee day-to-day activities
- implement responsible timber, low-carbon materials
- collaborate with project manager
- implement waste reduction and recycling initiatives
- collaborate with suppliers, subcontractors
- ensure WCRLZ alignment

THINK

FEEL

PAINS

What are their fears, frustrations, and anxieties?

- tight construction schedules vs. new considerations
- uncertainties from construction workers
- unexpected challenges related to the sourcing and availability of low-carbon materials
- traditional construction processes vs. WCRLZ practices
- BIM model implemen-tation
- resistance from sub-contractors
- complexities of integrating WCRLZ practices

GAINS

What are their wants, needs, hopes and dreams?
What other thoughts and feelings might motivate their behaviour?

- meet project milestones with WCRLZ targets
- gain experience
- enhance company reputation
- refine skills, problem-solving
- educating team and partners
- challenges build strong working relationships

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Mark Smith, Architect/Engineer (age: 50)

Who: Mark is an experienced architect/engineer working for an architectural/engineering firm.
Situation: Mark is involved from the early design stages of a real estate development project. He wants to create sustainable and environmentally friendly designs that consider the entire life cycle of the building. He is committed to achieve a zero carbon building.
Role in the situation: Mark is responsible for conceptualizing and designing the building. Training for Mark should emphasize sustainable design principles, material selection, and how to integrate whole life carbon considerations into the design process. He also needs to argue for long-term success factors and environmental responsibility.

What needs to be done differently: Mark needs to integrate whole life carbon considerations into the architectural design process, selecting materials with lower environmental impact and designing for adaptability and deconstruction.
Jobs to get done: Mark needs to create sustainable, aesthetically pleasing and environmentally conscious designs, collaborate with other professionals to ensure the feasibility of sustainable design choices, and stay updated on zero-carbon design trends.
Decisions to make: Mark must decide on the architectural features that align with sustainability and circularity goals, choose materials with low environmental impact, and consider the long-term implications of design decisions on the building's whole life cycle.
Success indicators: Right decisions of the client, positive feedback from the sustainability manager, successful integration of sustainable design principles, and meeting or exceeding sustainability benchmarks for the project.

SEE

traditional design with limited WCRLZ

innovative WCRLZ international pilots

collaboration opportunities

evolving trends

new technologies

regulations vs. timber/ bio-based materials

What do the

What are the

HEAR

client WCRLZ expectations

feedback on challenges from project team

feasibility

cost-constraints

sectoral discussions about WCRLZ advancements

constraints from regulatory bodies

SAY

to client: benefits and challenges of integrating WCRLZ features

design professionals collaboration

advocate for material use, resource efficiency and energy-efficiency

expert advice on feasibility and cost implications

DO

building designs with a focus on WCRLZ

stay updated

LCA/LCC to minimize environmental burden

collaboration with design professionals for WCRLZ

BIM

collabor with project team to meet targets

THINK

FEEL

PAINS

What are their fears, frustrations, and anxieties?

incorporating WCRLZ into design

financial constraints

client expectations, potential resistance to upfront costs

technical challenges of implemen-tation

design team with limited knowledge of WCRLZ

complex multi-point requirements

traditional solutions' environmental impact

lack of data about embodied carbon

afterlife of BIM model

GAINS

What are their wants, needs, hopes and dreams?
What other thoughts and feelings might motivate their behaviour?

unique and innovative architectural design

reduced long-term costs by WCRLZ-conscious planning

own reputation

client's reputation

professional satisfaction by projects aligned with personal values

unique competences and expertise in a competitive market

recognized as thought leader within the architectural/ engineering community

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Tom Taylor, Construction Worker (age:38)

Who: Tom is a general construction worker employed by a construction company.
Situation: Tom is on-site, actively participating in various construction tasks such as framing, pouring concrete, or installing fixtures. He may not have in-depth knowledge of sustainability practices but is eager to learn and contribute positively to the project.
Role in the Situation: Tom is a hands-on worker responsible for the physical aspects of construction. He follows instructions from supervisors and works collaboratively with other team members.

What needs to be done differently: Tom needs to adopt practices that contribute to the overall sustainability goals of the project. This includes efficient use of materials, proper waste sorting and disposal, gaining knowledge in new technologies.
Jobs to get done: Tom is responsible for executing construction tasks on-site. He needs to follow and learn new techniques and processes related to sustainable construction practices, handle materials and waste responsibly. He also needs to communicate any challenges or suggestions for improvement to the site engineer or supervisor.
Decisions to make: Tom must make decisions about how to handle materials, manage on-site waste. He may need to choose between different methods that have varying environmental impacts.
Success indicators: Successful implementation of sustainable construction practices, minimal and responsibly managed on-site waste, achievements in new skills and knowledge, and positive feedback from the site engineer and project manager.

SEE

- traditional construction materials and methods
- well-known tools and equipment
- construction plans changing
- shift from on-site concrete to pre-fabricated
- new expectations from site manager
- new tools appearing on site
- ageing and retirement

HEAR

- guidance from supervisors on new processes
- colleagues: worries about new processes
- colleagues: concerns about changing job tasks
- project manager: importance of meeting WCRLZ targets

SAY

- concerns about the lack of knowledge of new processes
- need for training and guidance
- experiences and challenges
- feedback for improvement in the imple-mentation

DO

- collaboration with colleagues
- waste reduction and recycling
- participate in training programs

THINK

FEEL

PAINS

What are their fears, frustrations, and anxieties?

- adjusting to unfamiliar construction processes and techniques
- worries about the ability to obtain new skills and competences
- resistance from colleagues
- project deadlines with added requirements
- project deadlines with new processes
- job security
- potential changes in job roles

GAINS

What are their wants, needs, hopes and dreams?
What other thoughts and feelings might motivate their behaviour?

- new skills and expertise in WCRLZ construction
- contribution to environmentally responsible projects
- valued team member
- job satisfaction by gaining new skills
- ability to adapt to the evolving construction industry

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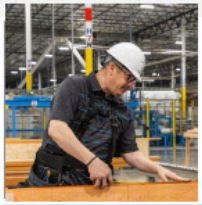

Robert Williams, Manufacturing Plant Worker (age:52)

Who: Robert is a worker employed at a building material manufacturing plant.
Situation: Robert is stationed on the production floor, engaged in the manufacturing process of building materials such as insulation.
Role in the Situation: Robert is responsible for operating machinery, monitoring production processes, ensuring quality control, and addressing any immediate issues on the manufacturing line.

What needs to be done differently: Robert needs to adopt sustainable practices in his day-to-day tasks. This could involve using machinery efficiently, minimizing waste, and ensuring the responsible use of resources in the manufacturing process.
Jobs to get done: Robert is responsible for operating machinery effectively and ensuring that the manufacturing process runs smoothly. He also needs to conduct quality control checks to ensure that the building materials meet the required standards. Robert should actively contribute to the efficient use of raw materials, energy, and water in the manufacturing process as well as participate in waste reduction initiatives, including proper disposal and recycling efforts.
Decisions to make: Robert may need to decide on the order and priorities of machine operation to optimize efficiency and resource use. He must make decisions related to quality control, including identifying and addressing any issues with the produced building materials. Robert may be involved in decisions related to resource allocation, such as adjusting production schedules to align with energy-efficient practices.
Success indicators: Consistently efficient operation of machinery, contributing to the production of building materials with minimal resource waste, building materials meet or exceed quality standards, indicating that Robert has effectively performed his quality control responsibilities, waste reduction in the manufacturing process, adhering to safety protocols, contributing to a safe working environment for himself and his colleagues.

SEE

What do they see in the real world?
What do they see in their immediate surroundings?
What do they say and do?
What do they do today?
What are they reading?

industrial machinery
raw materials processed into construction materials
quality control measures to ensure the consistency
quality control measures to ensure resource efficiency
changes in manufacturing processes
Robotics, automa-tization

HEAR

What do they hear others say?
What do they hear their boss say?
What do they hear their colleagues say?
What are they hearing second-hand?

instructions from supervisors
colleagues: challenges and benefits of WCRLZ manufacturing
quality control: performance of sustainable materials
quality control: resource efficiency
company's commitment to environmental responsibility

SAY

What have we heard them say?
What can we imagine them saying?

guidance request on WCRLZ production techniques
guidance request on new materials
guidance request on resource efficiency
communicate the need for training
share experience about changed manufacturing processes (automatization, robotics)
feedback for improvement in the imple-mentation

DO

What do they do today?
What behavior have we observed?
What can we imagine them doing?

operate and maintain manufacturing equipment
participate in training programs
collaborate with colleagues
waste reduction, recycling

THINK

FEEL

PAINS

What are their fears, frustrations, and anxieties?

adjust to new processes, materials, resource efficiency
worries about the ability to obtain new skills and competences
resistance from colleagues
job security
potential changes in job roles
meeting production targets with new processes

GAINS

What are their wants, needs, hopes and dreams?
What other thoughts and feelings might motivate their behaviour?

new skills and expertise in sustainable manufacturing
contribution to environmentally responsible materials
valued team member
ability to adapt to the evolving manufacturing industry

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Sofia Morgan, Young Sustainability Analyst (age: 22)

Who: Sofia is a recent graduate with a degree in environmental science, passionate about making a positive impact in the construction industry. She has recently joined a construction company known for adopting innovative and eco-friendly building methods.

Situation: Sofia is part of a construction team tasked with integrating whole-life carbon assessments and circular construction principles into ongoing and upcoming projects. The company is committed to reducing its environmental impact and wants to train young talents like Sofia to lead these efforts.

Role in the Situation: Sofia is responsible for assessing the environmental impact of construction projects, identifying opportunities for carbon reduction, and promoting circular construction practices. She works closely with project managers, architects, and other stakeholders to embed sustainability into every phase of the building life cycle.

What needs to be done differently: Sofia needs to shift the focus from conventional construction practices to sustainable and circular methods. This includes rethinking material choices, construction processes, and end-of-life considerations.

Jobs to get done: Sofia needs to conduct whole-life carbon assessments for ongoing and upcoming construction projects to identify areas for improvement. She also needs to train on integrating circular construction principles into project planning and execution to promote environmentally friendly and low-carbon material use, maximize material reuse and minimize waste, and enhancing overall project sustainability. During her tasks she fosters collective commitment to sustainable practices, so she feels responsible to share ideas and knowledge with colleagues and project team members on the importance of whole-life carbon assessments and circular construction.

Decisions to make: Sofia makes recommendations for construction materials with lower carbon footprints and that align with circular principles, while balancing environmental impact with project requirements and cost considerations. She is responsible also to ensure that sustainable practices are embedded in every phase of the construction life cycle from project planning to execution. She also has to identify opportunities for recycling and reusing materials at the end of a building's life.

Success indicators: Reduction in the whole-life carbon footprint of construction projects compared to benchmarks or previous projects, implementation of circular construction practices in project execution, increased awareness and engagement of team members in sustainable and circular practices.

SEE

What do they see other

What are they watching and reading?

- sustainable construction projects
- colleagues and mentors with diverse innovative expertise
- opportunities for career growth
- integration of environmental principles into real-world construction practices

HEAR

What are they hearing other

What are they hearing from colleagues?

What are they hearing second-hand?

- industry trends
- guidance from experienced professionals
- discussion about the company's commitment to WCRLZ
- results/project outcomes of the impact of WCRLZ initiatives
- advancements in WCRLZ construction

SAY

What have we heard them say?

What can we imagine them saying?

- enthusiasm for the Zero Carbon future of the built environment
- ask guidance on best practices in the field
- share findings from research on innovative WCRLZ solutions
- interest in contributing to company's sustainability goals
- strategies for integrating WCRLZ into workflows

DO

What do they do today?

What behaviour have we observed?

What can we imagine them doing?

- research and LCA to assess the whole-life carbon impact of projects
- project planning collaboration
- conferences and training sessions to stay updated
- conferences and training sessions to share own research results
- contribute to company's WCRLZ initiatives

THINK

FEEL

PAINS

What are their fears, frustrations, and anxieties?

- transition from academic knowledge to application
- gap of WCRLZ data
- manage information learning curve
- challenges in communicating complex WCRLZ concepts
- pressure of meeting WCRLZ targets

GAINS

What are their wants, needs, hopes and dreams?

What other thoughts and feelings might motivate their behaviour?

- network of mentors and colleagues
- success cases of WCRLZ construction projects
- experience in applying environmental science to real-world
- fulfilling and impactful career

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Michael Williams, Apprentice Construction Worker (age: 20)

Who: Michael is a recent high school graduate who has chosen to pursue vocational training in construction. He is eager to learn practical skills and gain hands-on experience in the industry.
Situation: Michael has just started his apprenticeship with a construction company, working under the guidance of experienced construction professionals. He is involved in various construction tasks, from basic labor to learning specific skills related to different trades.
Role in the Situation: Michael 's role is that of an apprentice, working under the guidance of experienced tradespeople to gain practical experience in tasks such as material handling, site preparation, and basic construction techniques. He's role is to learn and apply the foundational skills necessary for a career in construction.

What needs to be done differently: Michael needs to transition from classroom knowledge acquired in vocational training programs to practical application on construction sites. He must also understand the importance of sustainability in construction practices.
Jobs to get done: Michael assists in various construction tasks, including carrying materials, using basic tools, and supporting skilled tradespeople. He develops the ability to interpret and follow project specifications by familiarizing with construction plans and blueprints.
Decisions to make: Michael has to decide on a specific construction trade to specialize in. He must recognize safety and environmentally conscious situations during the construction. He also should actively seek guidance and learning opportunities from experienced construction professionals to accelerate skill development.
Success indicators: Improvement in hands-on construction skills, consistent adherence to safety and environmental guidelines on the construction site, understanding and applying sustainable practices in daily work, ability to interpret and apply information from construction plans, positive feedback from mentors on willingness to learn and progress.

SEE

What are they watching and reading?

Lack of timber

mix of traditional and advanced sustainable methods

opportunities to work with advanced tools and equipment

experienced construction professionals' role model

positive learning environment

aging and retirement of highly skilled mentors

HEAR

guidance from experienced supervisors

colleagues: importance of sustainability in construction

practical aspects of sustainable construction practices

encouragement from mentors to seek learning opportunities

colleagues: difficulties in new technologies, digital skills

second-hand?

SAY

eager to learn and contribute to sustainable construction

eager to gain expertise in timber

eager to share digital skills

ask questions to understand WCRLZ

challenges in adapting to new techniques

enthusiasm for company's commitment

DO

hands-on construction work WCRLZ focus

new skills while being an apprentice

training programs

collaborate with experienced colleagues

THINK

PAINS

What are their fears, frustrations, and anxieties?

physical demands of the construction vs. gaining new method insights

training needs changes

eagerness to contribute vs. need to absorb new information

resistance from more experienced colleagues

practical skills and experience in WCRLZ

progress from apprentice to experienced construction worker

foundation for a career in the construction industry

contribution to environmentally responsible construction projects

What are their wants, needs, hopes and dreams?

What other thoughts and feelings might motivate their behaviour?

GAINS

FEEL

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Sarah Wright, Project Manager (age:33)

Who: Sarah holds a degree in Civil Engineering and has over 10 years of experience in project management within the construction sector. Sarah is known for her strong leadership skills and expertise in overseeing complex construction projects. She has successfully managed various construction projects and is passionate about sustainable and inclusive practices.
Situation: Sarah is leading a high-profile construction project for a real estate development company. The project involves the construction of a multi-story commercial building aiming for high sustainability standards. As an experienced Project Manager, she is responsible for overseeing the entire project life cycle, managing budgets, coordinating with various stakeholders, and ensuring timely project delivery. She is committed to ensuring that the project adheres to sustainability goals.
Role in the Situation: As the Project Manager, Sarah plays a central role in planning, executing, and closing the construction project. She collaborates with architects, engineers, contractors, and other professionals to ensure the successful progress towards the sustainability objectives. Sarah is also involved in decision-making, risk management, and maintaining effective communication channels.

What needs to be done differently: She needs to efficiently manage project timelines and budgets, while implementing and monitoring sustainability initiatives. Given that Sarah is a female professional in a predominantly male-dominated industry, there may be additional challenges related to gender biases and workplace dynamics. She needs to navigate these challenges while maintaining a focus on project success and team collaboration.
Jobs to get done: Sarah must provide strong leadership while fostering a collaborative and inclusive team environment to achieve a positive team culture that values diversity and encourages open communication. She needs to address any gender biases or stereotypes that may arise in the workplace. She must ensure clear and effective communication with all project stakeholders to keep everyone aligned with project sustainability goals.
Decisions to make: Sarah makes resource allocation and budget decisions, selects sustainable construction practices for the project. Sarah leads effectively all decision-making and negotiations to resolve conflicts of interests and drive the project to achieve the sustainability objectives. While doing so, she maintains a fair and collaborative approach to conflict resolution. She needs to address any instances of gender bias or discrimination and implement strategies to enhance team dynamics, promote inclusivity and to foster a positive work environment.
Success indicators: Successful completion of the construction project with high sustainability qualities within the specified timeline and budget, positive feedback and high satisfaction levels among team members and all stakeholders, an inclusive and diverse work environment where all team members feel valued, clear and effective communication channels throughout the project.

SEE

What do they see in the ma
What do they
What are they watching and rea

changing scope of projects
colleagues lacking the WCRLZ knowledge
hardship of women in leadership role
impact of successful projects on changing perceptions
barriers of "this is how it is done"

HEAR

What are they hearing
What are th second-ha

importance of diversity
breaking gender stereotypes in construction
positive feedback from team members
discussions about the challenges of women in construction
growing encourage-ment from mentors

SAY

advocate for equal opportunities and woman recognition
experiences of overcoming challenges
open communication with team members
importance of diversity towards innovative projects

DO

do today?
doing?

ongoing efforts to foster diversity and inclusivity
project team leader with focus on efficiency, quality, and inclusivity
support and mentor other women
events promoting gender equality
challenging projects to show capabilities of female project managers

THINK

FEEL

PAINS

What are their fears, frustrations, and anxieties?

stereotypes and biases associated with women in leadership roles in construction
scepticism questioning women's abilities, decisions
project management vs. commitment to breaking gender stereotypes
gender-related challenges in project teams

GAINS

What are their wants, needs, hopes and dreams?
What other thoughts and feelings might motivate their behaviour?

success and recognition
role model and mentor for other women
more inclusive and diverse team
positive change within the building and construction sector

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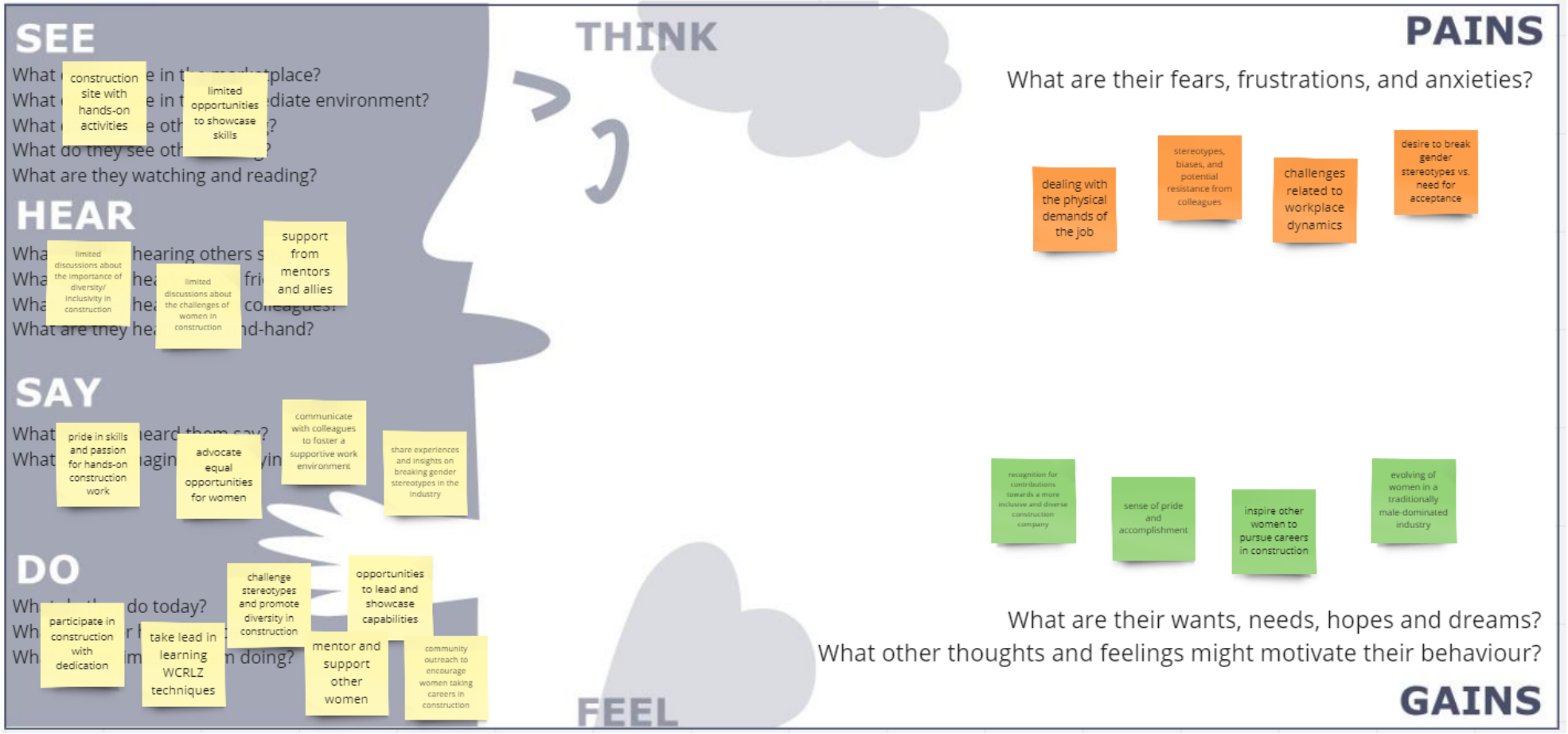
Emma Brooks, Construction Labourer (age:28)

Who: Emma has a background in construction and masonry work, having completed vocational training in construction. She is passionate about hands-on work and breaking gender stereotypes in the construction industry.
Situation: Emma is currently working on a construction site as part of a labor crew involved in various construction tasks. She is determined to excel in her role despite the traditionally male-dominated nature of the construction industry.
Role in the Situation: As a construction laborer, Emma is involved in physically demanding tasks such as mixing and pouring concrete, setting forms, and performing other tasks related to masonry work. She works closely with her colleagues to contribute to the successful completion of construction projects.

What needs to be done differently: Emma faces the challenge of breaking gender norms in a field where women are traditionally underrepresented. She needs to navigate and challenge stereotypes while demonstrating her skills and commitment to her role.
Jobs to get done: Emma contributes to the efficient execution of construction tasks with physically demanding tasks such as lifting, carrying, and moving construction materials. She must ensure the quality and accuracy of the work.
Decisions to make: Emma needs to demonstrate skills and capabilities in masonry and construction tasks, overcoming stereotypes and biases through competence and professionalism. She also needs to actively engage with colleagues and establish professional relationships on the construction site regarding task progress. She also contributes to a more diverse and welcoming construction industry by advocating for inclusivity and challenge gender stereotypes.
Success indicators: Completion of concrete and masonry tasks with high quality, positive feedback from the construction supervisor and team, commitment to safety and sustainable practices on-site.



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