

Case Study: WoodenValley

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Purpose: Regenerative Construction: “To shape our living space jointly and consistently in a climate-positive way.”

Design Trait: Purpose

Key Facts

WoodenValley aims to transform the construction industry toward regeneration. Through research, consulting, and education, the company promotes Cradle-to-Cradle principles that can enable sustainable building practices.

Seat: Stuttgart

Established: 2021

Founders: Kamila Pasko, Robert Böker, Christian Ritz

Ownership: Verantwortungseigentum (Steward Ownership)

Legal form: Not-for-profit Limited Liability Company (gGmbH)

Employees: 13

Webpage: <https://woodenvalley.de/>

Purpose, Business Model & Objectives

Purpose: Regenerative Construction: “To shape our living space jointly and consistently in a climate-positive way.”

WoodenValley was founded with a clear and ambitious goal: to make construction regenerative. The founders were driven by the industry’s significant ecological challenges: high emissions, excessive energy consumption, and waste generation. Inspired by the Cradle-to-Cradle concept, they set themselves the purpose of advancing regenerative construction.

Figure 1: Environmental Impact of the Construction Industry in Germany^{1, 2, 3}



Source: Own Representation.

Cradle-to-Cradle (C2C)

“The goal is not to minimize the cradle-to-grave flow of materials, but to generate cyclical, cradle-to-cradle “metabolisms” that enable materials to maintain their status as resources and accumulate intelligence over time (upcycling). This inherently generates a synergistic relationship between ecological and economic systems—a positive recoupling of the relationship between economy and ecology” (Braungart et al. 2007).

The idea to bring the Cradle-to-Cradle concept into construction, or: *WoodenValley*, emerged during a high-school reunion between Robert Böker and Kamila Pasko. However, their initial search for investors was met with disappointment, as most were more interested in maximising their personal return on investment than promoting sustainability. As Robert Böker recalls,

“We attended an impact investing event at the end of 2022, and there was a programme focused on sustainability. It was quite interesting to observe how the investor network interpreted that concept. In reality, it turned out to be traditional thought patterns—just painted green.”

1 Statistisches Bundesamt (2024).
 2 Umweltbundesamt (2019).
 3 Destatis (2021).

Eventually, Christian Ritz joined Kamila Pasko and Robert Böker on their mission: first as a business angel who shared their vision and later formally as a co-founder. Together, they divided *WoodenValley's* activities. While Kamila Pasko focuses on raising awareness and promoting regenerative practices through education, Robert Böker oversees digital tools and processes that enhance sustainability in construction and Christian Ritz consults clients in adopting regenerative approaches within the construction industry. The business model generates revenue from research and consulting services to fund educational initiatives.

“We have a business area for research and a business area for practical projects, where we do things for companies in exchange for money. So, the goal is to generate enough from the non-commercial and commercial operations to keep research and education running. What emerges from research and education is then funnelled back into practical projects to test its viability. The learnings from these projects are then fed back into research and education, creating a continuous cycle.”— Robert Böker

Insights into the Purpose of Regenerative Construction

For *WoodenValley*, regenerative construction goes beyond carbon neutrality. It involves creating climate-positive solutions by not only minimising emissions but actively contributing to environmental regeneration. The company pursues this purpose through three interconnected pillars.

Three Pillars of Purpose

As *WoodenValley* grew, the founders identified three interconnected areas crucial for achieving their purpose: knowledge dissemination, research, and implementation through projects. These areas were formalised into the three pillars of their purpose-driven model: Consulting, Research, and Education. Together, these pillars underpin *WoodenValley's* business while advancing its purpose of sustainability transformation in construction.

- a) **Research:** *WoodenValley* collaborates with academic institutions, industry partners, and students to research sustainable construction techniques. One of its core innovations is life-cycle-optimised Building Information Modelling (BIM), which evaluates buildings based on circular economy principles. In this research project, *WoodenValley* demonstrated that the life cycles of different building options can be calculated at the earliest stages of the construction process. This calculation allows for precise, data-driven statements about which option gen-

erates lower CO₂ emissions or consumes fewer resources, which enables more informed decision-making.

“When you, as a building assembly, have access to these calculations, you have a much better foundation for decision-making than if you just decide by rule of thumb.” – Christian Ritz

Additionally, they leverage machine learning and artificial intelligence to develop methods for documenting the CO₂ positivity of buildings. This research supports the issuance of emissions certificates and provides a much-needed tangible measure of environmental impact.

- b) **Consulting:** *WoodenValley* helps companies with climate protection, circular construction, economic viability analysis, and CO₂ calculations. By quantifying the benefits of circular construction, they create a stronger financial argument for sustainable methods. Still, *WoodenValley* remains committed to its purpose, even if, in some cases, this means turning down clients who do not align:

“There are just a few no-gos. And those are the things we want to address now, especially if someone deliberately positions themselves completely differently in the market. I just mentioned this at [Company X], even though we have no direct connection to them. But it’s one of those corporations that pretends to be something it’s not, while essentially continuing to cement business practices worldwide, especially around water, in a way that is no longer acceptable. And with someone like that, we don’t want to collaborate.” – Christian Ritz

- c) **Education:** Education is the third cornerstone of *WoodenValley*’s purpose, with the focus on two audiences:

- Young people: introducing sustainability concepts and fostering environmental awareness. Specifically, *WoodenValley* works towards integrating the Cradle-to-Cradle Concept into the school syllabus. As Kamila Pasko points out,

“Essentially, the goal is to integrate the concept of Cradle to Cradle into the curriculum [...] in the sense of education for sustainable development. And the integration of this specific topic [...] is meant to ensure that children ultimately develop [...] future competencies like problem-solving orientation, critical thinking, creativity, and self-determination.”

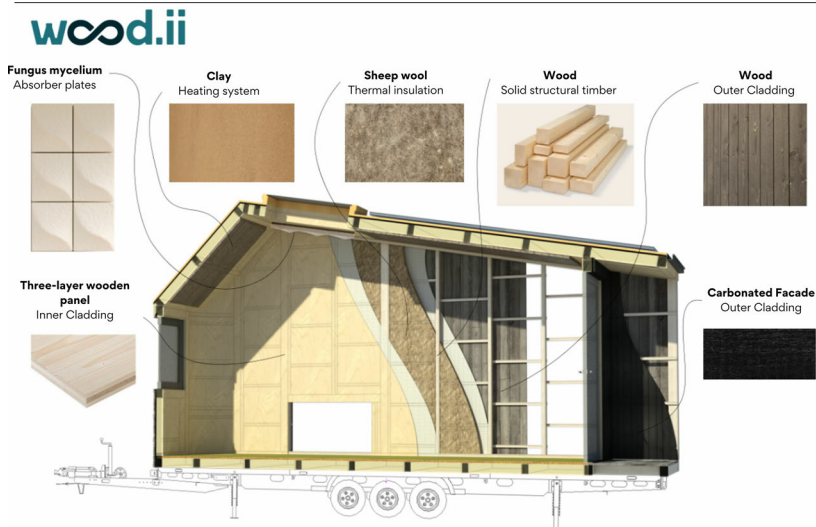
- Professionals: providing practical insights into circular construction and material lifecycles. The increasing demand for educational programs underscores its foresight in addressing a critical gap in industry knowledge.

Education Flagship: W∞d.ii

WoodenValley's most recent contribution to its educational activities is its initiative, w∞d.ii. The project, a mobile real-world lab in the form of a tiny house, is designed to showcase and test circular construction principles. Built according to Cradle-to-Cradle standards, w∞d.ii is a space for education, innovation, and collaboration and aligns with WoodenValley's broader purpose:

“To create an adaptable learning space where our future and life as part of the biosphere are at the centre. To design education for regeneration and invite individuals to take action with self-efficacy.”

Figure 2: WoodenValley's W∞d.ii: Future Mobile and Educational Space



Source: WoodenValley 2024.

The project serves multiple audiences:

- Architecture and planning professionals engage with circular technologies.
- Young learners are introduced to sustainability through hands-on experiences.

The structure itself exemplifies regenerative construction. Features include:

- **Integrated solar panels**, placed within walls to reduce resource usage.
- A **plant-based water treatment system** that purifies water for reuse in the facility.
- **Circular and bio-based** materials showcased as part of the building's design.

Founders' Perspectives on *WoodenValley's* Purpose

Notably, despite their shared vision, each founder articulates *WoodenValley's* purpose uniquely, which reflects the depth of their engagement with the company's purpose.

"We have taken it upon ourselves to implement and establish a circular economy in the construction industry, and we have intertwined that with promoting education and research in this field." – Robert Böker

"Our purpose is enabling people to shape their living spaces in a self-determined, climate-positive way." – Kamila Pasko

"Our purpose is about showing others how the circular economy works. That's one part of it. That's why this early phase in the education sector is also about using *wod.ii* for this purpose. The second part is to radically change existing business processes and workflows, in other words, to be disruptive. Basically, *WoodenValley* aims to show how it is now possible to achieve alignment between the requester of a building, i.e. the client, through to the architect, engineers, suppliers, contractors and so on – and in terms of ecology, the circular economy and sustainability." – Christian Ritz

How the Purpose of Regenerative Construction is Embedded across the Design of the Business

Finance Design

While access to financing is a persistent problem, *WoodenValley* does have access to some noteworthy funding opportunities. Its not-for-profit status and focus on a purpose-driven model have opened doors that would have otherwise been inaccessible to profit-driven companies. One such opportunity lies in accessing public funding, particularly for research projects:

“Because we have the additional topics of education and research, it makes it much easier for us to present ourselves as a non-university research institute for funding projects, educational projects, grants, etc. This allows us to access entirely different funding sources and in a different way than purely economically-driven companies.” – Robert Böker

When initial investor searches proved unfruitful, *WoodenValley's* independence and commitment to its purpose led the founders to pursue creative solutions, such as acquiring government funding and launching crowdfunding campaigns.

“This independence and flexibility to find other ways was fantastic. It made us more creative rather than leaving us in despair because there wasn't anyone sitting there tapping their finger on the table and saying, 'You know, I want my 10% in three years.' Instead, it was stressful, but in a different way. It was stressful for us because we wanted to achieve good value, but we didn't have someone breathing down our necks to whom we owed money.” – Kamila Pasko

Ownership Design

During its financing search, *WoodenValley* explored alternative financing and legal models, and decided to adopt the steward-ownership model. With guidance from the Purpose Foundation, they established *WoodenValley* as a not-for-profit company (gGmbH). This legal form binds its activities to its mission of climate protection, ensuring that profits will always be reinvested into its purpose.

“And then, out of sheer defiance, we added the non-profit status to it, and in doing so, we deprived ourselves of the possibility of distributing profits in that form. So, in the current setup we are in, it's virtually impossible to take money out of the company that is not reinvested into the company's purpose.” – Robert Böker

WoodenValley's steward-owned legal structure enhances its credibility when forming partnerships. As it prioritises purpose over profit, its partners trust in *WoodenValley's* commitment to climate positivity and neutrality. This dedication is particularly evident in the company's customer relationships. For instance, its very first municipal client chose *WoodenValley* over for-profit consultants, recognising its mission-driven approach. As Kamila Pasko explains:

“Yes, it's really always the same question—this authenticity. Maybe they didn't take us seriously at first because we were a startup, but they believed us. They saw our passion and purpose, that we were working for the cause and not for our own Porsche. That made a huge difference in getting our foot in the door. We haven't done an enormous number of projects in the past years, but I can count four or

five where I believe this was the initial reason. They saw our non-profit angle and thought, 'That's interesting; they're coming at this from a completely different perspective.'

This transparency and clear sense of purpose enable *WoodenValley* to build strong and reliable relationships with various stakeholders who share its sustainability goals.

Network Design

WoodenValley's not-for-profit status and steward-ownership assure partners that the company is not motivated by economic gain but by a desire to advance the sustainability agenda, which in turn encourages deeper collaboration. As Robert Böker points out:

“Networks are vital for our survival. So, without SDG 17, it's very difficult.”

Sustainable Development Goal 17, focused on partnerships for the goals, underscores the importance of collaborative networks in achieving sustainable development. *WoodenValley* embodies this spirit, relying on strong partnerships in three main areas to advance its objectives.

One example of the power of this network is its collaboration with GLS Bank, a leading financial institution in sustainable banking. *WoodenValley* secured a loan from GLS to fund its operations, and this partnership is rooted in shared values around climate protection. Both parties are driven by enthusiasm for promoting sustainability, with a mutual mindset that challenges can always be overcome through collaborative effort.

Other key partners in *WoodenValley's* network include the NGO Cradle-to-Cradle, architects and sustainable material producers, with whom they frequently engage at fairs and events. These connections not only enhance their industry knowledge but also reinforce their network of supporters and collaborators. For example, the *wød.ii* tiny learning space serves as both an educational tool and a platform to deepen ties with these stakeholders, showcasing regenerative construction methods in action.

Another network-related part of *WoodenValley's* success comes from its team, consisting of like-minded, enthusiastic individuals who volunteer, network, and work as employees. *WoodenValley's* purpose is so inspiring that the company has no trouble attracting talent. As Kamila Pasko recalls, “the very first employee joined us primarily because of our purpose and our connection to Cradle-to-Cradle”. Accordingly, their job postings always receive a surplus of applications. In addition, many people in their broader community are eager to support *WoodenValley's* purpose through volunteering and networking.

This collaborative approach allows *WoodenValley* to initiate projects that challenge industry norms. As Robert Böker explains:

“Because we don't have that economic orientation, we are, more or less, a neutral Switzerland. And there are projects we've started or want to initiate that initially caused some raised eyebrows because it's not common practice. For example, let's say you have a great construction project in mind where you deliberately want to involve two or three architecture firms—one that specialises in timber construction and another that is a leader in sustainable materials. That's not typical. To put it mildly.”

These unconventional collaborations pool expertise and resources, pushing the construction industry toward more innovative, sustainable practices.

Their innovative approach has already been applied successfully, financing projects like *w∞d.ii*, their mobile real-world lab for circular construction.

Challenges Arising from Designing Purpose around Regenerative Construction

WoodenValley's mission to revolutionise the construction industry with sustainable practices comes with its share of significant challenges. These obstacles stem from financial constraints, mindsets regarding sustainability, and the conservative nature of the construction industry, which collectively slow progress toward regenerative construction.

Financing:

One of *WoodenValley's* most persistent challenges is funding. As a purpose-driven organisation prioritising long-term impact over short-term profits, *WoodenValley* has struggled to attract traditional investors. This challenge extends to customers, particularly companies, where financial concerns often outweigh environmental considerations.

A recent project exemplifies this difficulty. *WoodenValley* conducted a lifecycle analysis to evaluate two options for reworking an old building: renovation and reconstruction with sustainable, recyclable materials. Despite their analysis clearly pointing to one of these alternatives as the more sustainable, the client ultimately chose the more cost-effective yet more environmentally harmful alternative. As Kamila Pasko observed:

“But in the end, they chose the environmentally worse option due to cost reasons. If this had been a public project governed by laws requiring lifecycle analyses, they wouldn’t have been allowed to make such a decision.”

Mindset around Sustainability:

Another significant challenge *WoodenValley* faces is the subjective nature of sustainability itself. Sustainability is a broad and often loosely defined concept, which varies significantly across industries, companies, and individuals. This subjectivity makes it difficult to establish common ground or universal standards when promoting sustainable practices in the construction sector.

“The problem, I believe, is that sustainability is quite subjective. Everyone defines it a little differently for themselves. Unfortunately, there is no clear way to measure it. There’s no baseline—where exactly is the starting point? What does zero to ten look like? What score should we give ourselves? Where do we actually stand? Unfortunately, that just doesn’t work so well.” – Robert Böker

This lack of consistent measurement tools complicates their efforts to push for more sustainable practices. The United Nations’ Sustainable Development Goals (SDGs) provide a framework for setting sustainability targets, offering companies like *WoodenValley* a point of reference to map their contributions. Documenting how they address each SDG and who their target audience is can help create a clearer picture. However, even with these guidelines, it remains challenging to compare sustainability metrics across projects.

As setting key performance indicators and other targets is key for any organisation, the difficulty of setting effective sustainability targets in this industry poses a particular challenge for *WoodenValley*. While their competitors focus on commercial and financial targets, being a purpose-driven organisation means that *WoodenValley* must develop credible and effective sustainability targets to guide its work.

Industry Standards and Resistance to Change:

While other industries such as food and fashion have been comparatively quicker in integrating sustainability principles, the construction sector remains particularly conservative, posing a persistent challenge to *WoodenValley*’s mission of promoting circular and sustainable building practices. This resistance to change is deeply rooted, with many industry players hesitant to adopt new materials or methods, even when they promise long-term environmental benefits.

“The field of construction is relatively conservative, and many companies make very good money with the existing system. Over the years, many processes have been optimised for efficiency, and everything works very, very well. The challenge we face is raising awareness and shifting toward a different approach to construction.” – Robert Böker

The tendering processes further compound the problem. Current tendering frameworks are not designed to accommodate sustainable innovations:

“The problem is that the entire tendering system is not prepared for these new topics. The whole process is designed to follow standard procedures and methods that have been in place for 100 years. These new approaches simply aren't included, and unfortunately, they can't really be represented within the current framework.” – Robert Böker

For instance, regulations often require multiple offers for any material purchase, which makes it challenging to use specialised sustainable materials such as fungal insulation, as there may be only one producer on the market. This results in sustainability-friendly innovations being disqualified from bids simply because they fail to fit within the established procurement framework.

As collaboration across the industry is critical to achieving sustainability goals, the resistance to change and lack of industry standards mean that *WoodenValley* often operates as an isolated pioneer within a broader industry where most mainstream actors do not prioritise sustainability.

Recommendations for Adopting a Regenerative and Distributive Purpose Design

Define a purpose that addresses a meaningful societal challenge while remaining broad enough for all employees, founders, and stakeholders to identify with and contribute to. As Christian Ritz explains:

“Whenever we were present and had meaningful conversations, the question came up: ‘I still don't fully understand what they actually do—what is it really about?’ This is partly because we have such a broad range of offerings. When you have that, and especially when you have a core product—or something that truly represents the heart of what you do, something that's easy to grasp—then I believe that's already a strong advantage. My advice to everyone would be to focus on developing that core with real emphasis before expanding into too many additional facets.”

Choose a legal structure that aligns with your purpose and protects it over time.

Consider adopting models like social enterprise or steward-ownership to formalise the commitment to purpose-driven business operations.

Develop strategic partnerships with like-minded organisations, communities, and financial institutions. This can help amplify impact, access new resources, and scale up efforts.

Inspiring Redesign Beyond the Business

WoodenValley contributes to economic transformation by promoting regenerative, circular construction practices that move away from the traditional linear economy. Or as Christian Ritz puts it,

“Disruption. It’s about completely redefining existing business fields. Not just in terms of the materials we inevitably address in the construction industry, but also in terms of processes. I believe it’s not our core purpose, but it is part of the consideration: how much growth is truly important and right?”

Through its use of *Cradle-to-Cradle* design principles, the company ensures that all materials are reused, creating no waste in the process. Its not-for-profit status reinforces its commitment to purpose over profit, channelling financial surpluses into research and education. By demonstrating the financial viability of sustainable construction through economic analyses, *WoodenValley* challenges conventional models and inspires a shift toward long-term, purpose-driven business approaches in the construction industry.

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