

# COLLABORATIVE GREEN VENTURING

How students, companies and academic staff  
benefit from co-innovating for sustainability

Key results and learnings from the EU-funded  
Erasmus+ project "ScaleUp4Sustainability"



## SCALEUP4SUSTAINABILITY COORDINATOR

Carl von Ossietzky University Oldenburg  
School II, Department of Business Administration, Economics and Law  
Professor Dr. Klaus Fichter  
Innovation Management and Sustainability  
Ammerländer Heerstraße 114 – 118  
D-26129 Oldenburg  
Germany  
[klaus.fichter@uol.de](mailto:klaus.fichter@uol.de)

### **Web**

<https://www.scaleup4sustainability.eu>

## PROPOSAL FOR CITATION

Scaleup4Sustainability Consortium (2022). Collaborative green venturing: How students, business partners and academic staff benefit from co-innovating for sustainability. Key results and learnings from the EU-funded Erasmus+ project "Scale-up4Sustainability" – Linköping, Oldenburg and Zuidlaren.

This publication was produced as part of the Erasmus+ project ScaleUp4Sustainability.  
Project Reference: 601150-EPP-1-2018-1-DE-EPPKA2-KA



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

This publication is available on the Internet as a pdf file at:  
[www.scaleup4sustainability.eu](http://www.scaleup4sustainability.eu)

Oldenburg, Linköping, Zuidlaren, 2022

1 HARNESS THE POWER OF STUDENT-BUSINESS-COLLABORATION	4
2 COLLABORATIVE GREEN VENTURING: EXAMPLES	6
2.1 Sweden: The “InGenious” Challenge-based learning module	8
2.2 The Netherlands: Circular Challenge Co-Creation Workshop	9
2.3 Germany: The Climate Challenge Project seminar	10
3 BENEFITS AND LEARNINGS	11
3.1 General learnings	11
3.2 Students	11
3.3 Companies	12
3.4 Academic staff	13
4 MANUAL FOR IMPLEMENTATION	15
4.1 How to start from the teaching perspective	15
4.2 How to start from a business perspective	17
5 FUTURE ACTION FOR SCALING UP COLLABORATIVE GREEN VENTURING	21
5.1 Recommendations for European and national policies	21
5.2 Recommendations for Higher Education Institutions	21
5.3 Recommendations for companies	22



# HARNESS THE POWER OF STUDENT-BUSINESS-COLLABORATION

Transitioning to a sustainable economy is one of the greatest challenges of our time. Cooperation between Higher Education Institutions (HEIs) and companies can play a significant role in this, especially when it comes to developing innovative sustainable solutions and the training of the change agents of tomorrow. This is where the novel learning and transfer format of **collaborative green venturing** comes in, where students and companies work together on innovative answers to specific sustainable business challenges.

Transforming the economy needs a lot of knowledge (about sustainability, business models, supply chains, stakeholder interests, customer needs and much more), skills (selection and application of appropriate methods and tools), values (linked with social justice, ethics, natural environment) and attitudes (the will to act and the self-perception of being able to solve problems). There are great study approaches out there to learn about it. However, how to bridge the gap between “Knowing” and “Acting”? How to come from “Thinking” to “Doing”? When we aim to develop our student’s competencies in sustainable entrepreneurship, we need to challenge them by real world problems.

Companies have a huge need in finding talents for their innovation processes. They need new ideas and perspectives and the latest knowledge. Start-ups need support for ideas that are already out there but cannot be followed due to lack of resources. Let’s bring them together! Cooperation and entrepreneurial thinking are key ingredients when trying to find sustainable solutions.

## What is collaborative green venturing?

The project “ScaleUp4Sustainability” (S4S), funded by the European Commission in the framework of the Erasmus+ Knowledge Alliances program, was implemented from November 2018 to April 2022. It combined two important demands called for by European policy. Firstly, it addressed green entrepreneurship in higher education in order to contribute to the modernization of Europe’s higher education systems. Further, it aimed to strengthen Europe’s capacity to innovate by introducing new forms of student business collaboration in developing, implementing and scaling-up eco-innovations when starting new green businesses. We refer to this activity as “green venturing”.

Venturing is an integral element of entrepreneurship with the emphasis on the creation of new business within an organization (new products or business units) or outside an established organization (spin-offs, start-ups). With “green”, we refer to the concept of a Green Economy and the Sustainable Development Goals. The project focused collaboration of student teams and business partners in green venturing. This form of collaborative green venturing is embedded in the Bachelor and Master Programs of Higher Education Institutions and is organized and coached by professors and teaching staff. Collaborative green venturing constitutes an innovative form of multidisciplinary, real case-based interactive learning and entrepreneurship education.



# 1

## What are the benefits of collaborative green venturing?

While companies and HEIs have diverse missions, structures and working cultures, there is great potential to generate mutual benefits through effective collaboration.

Are you a **teacher** at a HEI and did you know that student business collaboration ...

- enables students to move from sustainable entrepreneurship theory into entrepreneurial practice
- facilitates students' development of 21st century skills
- develops competencies of academic staff and fuel professional development
- builds professional relationships and the growth of networks
- supports innovation in teaching practices in Higher Education Institutions?

Are you an **innovation manager** or the **founder** of a start-up? Join the co-creation of innovative sustainable solutions! You will

- receive sustainable solutions to your business problem
- strengthen your ties to academia and access leading research expertise
- increase your sustainable impact
- boost employee development
- build your employer brand.

## The purpose of this booklet

In this booklet, you will learn about the key results and acquired knowledge of the ScaleUp4Sustainability (S4S) project. The consortium of Higher Education Institutions (HEIs) and business partners has enjoyed collaboration and has had the pleasure of coaching and accompanying many students on their learning journey in sustainable innovation. That is why we want to motivate you to participate in the collaborative green venturing journey!



Professor Klaus Fichter / © Leo Seidel Fotodesign

*"To master the grand challenges of the future, we need specialists who learn how to tackle sustainability challenges as early as their studies."*

Professor Klaus Fichter, University of Oldenburg



## COLLABORATIVE GREEN VENTURING: EXAMPLES

In the S4S-project, we developed several modules, learning units and extracurricular activities regarding student business collaboration on green venturing with a variety of workload for the participants, duration, and involvement of partners. Find an overview of the developed and tested formats of collaborative green venturing in Table 1.

Depending on these factors, the scalability and transferability varies as well, ranging from low (for complex modules that involve multiple part-

ners over a longer timeframe) to high. In Table 1, we give an overview of the tested approaches. In the following, we highlight three examples: the Swedish "Ingenious" module, the Dutch "Circular Challenge" workshops, and the German Climate Challenge project seminar.

Do you need more inspiration for your own teaching or do you want to provide a challenge of your own? Browse all our collaborative venturing activities on the project website

<https://www.scaleup4sustainability.eu>.

**Table 1:** Overview and characterization of tested approaches in collaborative green venturing in the S4S-project

TYPE AND ACTIVITY	ORGANIZER	WORKLOAD STUDENTS	TIME FRAME/ DURATION	SCALABILITY	TRANSFERABILITY	NO. OF UNIVERSITIES/ BUSINESS PARTNER
<i>Curricular approaches</i>						
Module "Eco-Venturing"	University of Oldenburg	180 h (6 ECTS)	6 months	Low/Medium	Medium	1/1-6
More information here: <a href="https://www.scaleup4sustainability.eu/ecoventuring/">https://www.scaleup4sustainability.eu/ecoventuring/</a>						
Module "Fujifilm Future Challenge"	Vennebroek Academic Services	120 h (4 ECTS)	10 weeks	Low/Medium	Low/Medium	4/1
More information here: <a href="https://www.scaleup4sustainability.eu/fujifilm_challenge/">https://www.scaleup4sustainability.eu/fujifilm_challenge/</a>						
Module "Environmentally driven business development"	Linköping University	180 h (6 ECTS)	6 months	Medium/High	Medium	1/student ideas
More information here: <a href="https://www.scaleup4sustainability.eu/ebdb/">https://www.scaleup4sustainability.eu/ebdb/</a>						
Module "InGenious"	Linköping University	180 h (6 ECTS)	6 months	Low/Medium	Medium	1/several
More information here: <a href="https://www.scaleup4sustainability.eu/cross-disciplinary_sustainability/">https://www.scaleup4sustainability.eu/cross-disciplinary_sustainability/</a>						
Learning unit: Digital Transformation: Strategies and Sustainability	University of Oldenburg	90 h (3 ECTS)	3 months	Medium	High	1/1
More information here: <a href="https://www.scaleup4sustainability.eu/digital_transformation/">https://www.scaleup4sustainability.eu/digital_transformation/</a>						

Table continued on next page





Table continued from page 6

TYPE AND ACTIVITY	ORGANIZER	WORKLOAD STUDENTS	TIME FRAME/DURATION	SCALABILITY	TRANSFERABILITY	NO. OF UNIVERSITIES/BUSINESS PARTNER
Learning unit: "Climate Challenge"	University of Oldenburg	90 h (3 ECTS)	3 months	Medium	High	1/1
More information here: <a href="https://www.scaleup4sustainability.eu/climate-challenge/">https://www.scaleup4sustainability.eu/climate-challenge/</a>						
Learning unit: Green Creativity	Vennebroek Academic Services	8h (extra-curricular)	1 days	Low	Low/Medium	1/1
More information here: <a href="https://www.scaleup4sustainability.eu/creativity-for-sustainability/">https://www.scaleup4sustainability.eu/creativity-for-sustainability/</a>						
Learning unit: European Sustainable Innovation Contest	Linköping University, VAS, University of Oldenburg	6 h (extra-curricular)	1/2 day	High	High	3/0
More information here: <a href="https://www.scaleup4sustainability.eu/eurovision-sustainable-innovation-contest/">https://www.scaleup4sustainability.eu/eurovision-sustainable-innovation-contest/</a>						
<b>Extracurricular approaches</b>						
Negotiation festival	Vennebroek Academic Services	8h	1 day	High	High	Several/several
More information here: <a href="https://www.scaleup4sustainability.eu/negotiation-festival/">https://www.scaleup4sustainability.eu/negotiation-festival/</a>						
Role of ecosystems in upscaling upcycling	Vennebroek Academic Services	40h	1 month (parttime)	Medium	Low/Medium	6/0
More information here: <a href="https://www.scaleup4sustainability.eu/ecosystems_enablers/">https://www.scaleup4sustainability.eu/ecosystems_enablers/</a>						
Idea Jam for a Sustainable Society	Linköping University	5 h	1 day	Medium/High	High	1/2
<b>Company specific approaches</b>						
Green Business Idea Jam	Büfa, University of Oldenburg	10 h	1 day	High	High	1/1
More information here: <a href="https://www.scaleup4sustainability.eu/green_idea_jam/">https://www.scaleup4sustainability.eu/green_idea_jam/</a>						
Circular Challenge	ECOR, VAS	8-16h	1-2 days	High	High	1/1
More information here: <a href="https://www.scaleup4sustainability.eu/circular_challenge/">https://www.scaleup4sustainability.eu/circular_challenge/</a>						
Internationalization Strategies	VAS, Againty	16h	1 month (parttime)	High	High	2/1
More information here: <a href="https://www.scaleup4sustainability.eu/internationalization_cleantec/">https://www.scaleup4sustainability.eu/internationalization_cleantec/</a>						



## 2

### 2.1. Sweden: The “inGenious” challenge-based learning module

InGenious is a 6 ECTS module jointly offered by Linköping University and Almi East Sweden AB, a public business development organization. Almi East Sweden AB takes the responsibility for establishing contacts with trade and industry and supplying the module with challenges, while the university is responsible for the academic parts. Students work in cross-disciplinary teams from other educational programs and faculties. It takes place twice a year with a total of 60-80 students. In total, 10-14 groups are annually solving external challenges. The program consists of interactive seminars such as „shitty prototyping“, responsible innovation, and pitch training. The module is different from ordinary modules in many ways and is unique in Sweden. Based on challenge-based learning it promotes the student’s entrepreneurial abilities and develop their professional skills. They challenge themselves, use their theoretical knowledge on real projects, learn more about how to think ethically and responsibly during an innovation process and become more comfortable when presenting effectively and with a „business touch“ in front of an audience. They realize that this course prepares them for the future.

The cross-disciplinary teams are tackling real-life challenges directly from challenge-providers in trade and industry, and public sectors. These challenge-providers have in common that they want to find a sustainable solution to their challenges. Throughout the module, they assume the role of a „speaking partner“ rather than a customer and participate actively on several occasions. In order to align expectations, they are informed that the students are not consultants who will work on a specific path pointed out by them, but instead are to find their own solution.

It is crucial that the challenge providers are genuinely interested in the students, their knowledge, and their way of thinking outside the box when being innovative. This type of collaboration is an excellent way for companies to get in touch with academia, get help being more sustainable, and find future employees. At the same time, the students learn that there is a huge and interesting labor market in the region. Students are challenged to operate outside of their comfort zone, resulting in more self-confidence.



Final pitch in the inGenious Course / © Linköping University

*„I guess I can say that accepting my own knowledge limits and giving responsibility to other team members and not trying to influence everything, are things that I learned during this project and find very valuable. Because in the end, I know that our solution is the best we could have come up with and I alone would not have thought about many things we included in our concept.“*

(Student, Sustainability Engineering and Management)





## 2

### 2.2. The Netherlands: Circular challenge co-creation workshop

The Circular Challenge is a new extracurricular educational format of student business collaboration in green venturing at Twente University. Interdisciplinary student teams from various countries developed innovative & feasible new circular business models and presented these to expert juries. Companies supplied business cases and coached the teams on demand. Companies involved in the Circular Challenges: ECOR (Noble Environmental Technologies Europe), CEWE, DSM-Niaga, and Impulse – a start-up from Twente University.

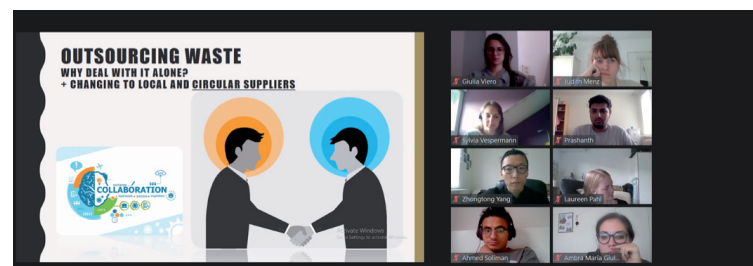
The workshops were conducted both on campus and online. We used new digital tools to make an inventory of barriers and drivers for implementing sustainable challenges (e.g. Mentimeter). The individual time spent is between 8-16 hours covering one or two days of full-time. A new element was the involvement of students from the Green Hub of Twente University in co-organizing the Circular Challenge events. This formula is well suited when developing new sustainable business ideas. Mainly students with high entrepreneurial attitude are interested in such co-creation workshops. Students can play an interesting role too, even with well-established companies who struggle when implementing circularity. Time pressure is part of the challenge, and therefore time management is one of the lessons of the circular challenges. To facilitate the participants, we supplied toolkits in order to help structure ideas or guide the creative processes. In the future, we will add consumer viewpoints and more possibilities for networking with companies.

*"Learning how to work with people from different backgrounds and solving real case studies is fun"*

*"Useful, enjoyable, helps you gain lots of experience and a deeper understanding of circular business"*

*"Circular challenges can be solved with out-of-the-box creativity"*

*"In a short time creating innovative and real solutions is possible"*



Screenshot Circular Challenge 1 / © Frans Stel, Vennebroek Academic Services



Start-up Impulse presenting / © Frans Stel, Vennebroek Academic Services



Circular Challenge on-site Twente / © Frans Stel, Vennebroek Academic Services



### 2.3. Germany: The Climate challenge project seminar

The Climate challenge project seminar is part of the master's module "Innovation Management" at the University of Oldenburg and has been developed together with the BÜFA Group. BÜFA is an innovative, medium-sized and family-owned company based in Oldenburg. It is a supplier of chemicals, cleaning and composite products and systems for various industries. In the Climate Challenge Seminar, the students came up with new innovative ideas for implementing BÜFA's climate neutrality strategy.

The design of the Innovation Management module consists of a lecture (3 ECTS), in which the theoretical basics as well as the most important concepts and instruments used in innovation management are taught and the Climate Challenge seminar (3 ECTS), which starts in the second half of the semester. Thus, the module combines general knowledge on innovation management with a company-specific innovation challenge. In the Climate Challenge seminar, the students developed solutions for BÜFA and were coached by specially instructed BÜFA mentors.

A first Climate Challenge has been realized in the winter semester 2020/2021. It should be noted that due to the coaching-intensive format, the number of students needs to be limited. 35 students in 5 groups have joined the seminar and solved various BÜFA Challenges. The workload per student can be estimated with 90 hours for the Climate Challenge. Overall, 10 BÜFA staff members and 2 teachers have supported the process.

The Climate Challenge has provided important impulses for strengthening the climate awareness of the BÜFA staff. In addition, innovative logistics solutions have been identified and sustainable business practices have been

strengthened. Other ideas have been initiated as part of the digitalization of BÜFA's customer service processes and in the context of intelligent energy management for a new photovoltaic system. Most of the Climate Challenge solutions of the student teams are implemented by BÜFA.



© Litho Niemann+Steggemann



Yvonne Burmann / © Harry Köster, BÜFA

*"I am positively surprised by the intensity of the student results, especially when considering that the students usually do not have specialist knowledge of our company's business field and also don't necessarily know each other before they group up to work together on a topic. This is pretty amazing and enables us to learn from for our further work in the company."*

Yvonne Burmann, Business Development Officer at BÜFA GmbH & Co. KG and corporate coordinator for the challenge-based 'Climate challenge' seminar



## BENEFITS AND LEARNINGS

### 3.1. General learnings

**Success factors.** Commitment and engagement are the keys to success – from all parties! However, it is not enough to engage with just passion and motivation; resources need to be allocated as well. It is important to involve key personnel of companies. This raises awareness of implementing sustainable practices effectively. Ideation methods and entrepreneurial thinking are important elements in collaborative green venturing. Developing technical and methodological knowledge are important aspects as well. Students should be encouraged to be creative and not to be afraid of taking an abstract challenge and breaking it down into operational aspects which they can tackle with their given resources and timeframe.

**Managing expectations.** This is important for companies, teachers and students alike. Expectations should be properly managed at the start of the collaboration in order to achieve a fruitful process. All partners should be realistic, open minded, critical, and reflexive in their approach to student-business collaboration and challenge-based learning.

**Collaborative green venturing** has a multi-disciplinary character and deals with VUCA circumstances (Volatility, Uncertainty, Complexity and Ambiguity). Participants of collaborative green venturing programs should be aware, feel comfortable and be able to deal with these VUCA aspects. It is not easy to solve sustainable problems, one needs to be open to new and different ways of thinking, be receptive to new ideas and be able to navigate ambiguity. Don't underesti-

mate sustainability – both in terms of its complexity as well as its possibilities.

### 3.2. Students

#### Benefits

Student business collaboration in green venturing gives students the opportunity to acquire new skills in entrepreneurship and innovation. They gain experience in collaborating with real companies and with colleagues from other study courses. Sometimes on a national scale, sometimes internationally. Students learn to merge knowledge from several disciplines when solving a companies' challenge or developing an own idea. This adds relevance and reality to learning activities while working on today's challenges to improve sustainable impact for tomorrow.

#### Key learnings

**Motivate and inform in advance.** Since green venturing often involves wicked VUCA problems, it is of great importance to support students and how they should deal with this. Some students might have to leave their comfort zones and feel insecure. Overcoming these hurdles is rewarding for students. Student engagement and commitment is essential for collaborative green venturing programs; only motivated students collaborate fruitfully with companies. Student enthusiasm can also motivate business partners. It is important to inform and train students before or at the start of the student-business collaboration in order to obtain an active attitude, motivation and commitment. Sustainability issues involve 'wicked' VUCA problems. Students – coached by their teachers – should be able to deal effectively with these types of multidisciplinary problems.



**Stimulate openness to experience.** Innovation and creativity are essential to green venturing. This implies the willingness to explore new and unusual solutions, walking away from the usual view-points: all questions should be allowed. In the quest to find new solutions, connections across seemingly unrelated issues or aspects should be made. New solutions are developed through questioning, observation, and experimentation. Questioning involves an investigative approach and challenging the status quo to discover „what’s next” instead of sticking to “what is”. It also indicates a willingness to make mistakes order to pursue innovative new paths. Creativity tools are important steppingstones, but do not guarantee finding new solutions. New tools such as Lego Serious Play can be useful to creative team processes.

**Use real business cases.** Students are more attracted to real business challenges than to fictitious or theoretical-oriented cases. Real cases encourage real experimentation in which students may acquire and exercise new skills. For students, communication with companies and clients is a major component of green venturing. Apart from the products of business innovations, new skills and experiences are important outcomes.

*“I’m happy I have got the opportunity to interact with impact-oriented companies and to understand their missions, their strategies and to get behind their thought processes. It has definitely made me better understand the entrepreneurial mindset.”*

Yash Premchandani, Sustainability Consultant and former Master’s student in Sustainability Engineering and Management at Linköping University



Yash Premchandani / © private

### 3.3. Companies

#### Benefits

Student business collaboration in green venturing offers businesses an opportunity to acquire new ideas from a young generation. It provides companies a “window to the world” and encourages company staff to innovate and acquire the latest sustainability tools and methods.

#### Key learnings

**Manage expectations.** Sometimes, business partners do not know what to expect from student collaborations. A key learning is to define clearly the benefits for everyone involved. Do not promise too much in a project proposal to business partners or students. Make expectations clear before activities, modules or collaborations start. Share new information and learnings quickly between all partners/participants, including the required time spending. Proper feedback from company to students and vice versa is essential, e.g. were the results or process valuable?

**Strategic instead of ad hoc approach.** Create long-lasting company-networks for exchange of knowledge. These networks are an additional pool of knowledge and resources. Broaden the base for collaboration to include public /private combinations, involving for example regional developments agencies engaged in sustainable





projects and innovation development. Involve official net-work partners. These can be a starting point for further collaboration. A long-term relationship with companies increases the benefits for all stakeholders involved. Funding programs for a longer time instead of per project can stabilize relationships with business partners. A strategic approach includes defining long-term goals and plans, deliberate knowledge transfer, both internationally and locally in structural ways. International expansion will incorporate more perspectives and more knowledge.

**Engagement at companies.** Exchanges of experiences between partners increases the engagement of businesses. Companies with an open mind and hands-on mentality benefit most student business collaboration in which personal networks of managers play an essential role. Growing and strengthening ecosystems of entrepreneurs will facilitate implementation of sustainable business. Involving more start-ups can lead to more sustainability push and encourage comparison and peer-to-peer learning.



Giulia Viero / © private

*„Our ambition is to integrate fresh ideas of youth, students and entrepreneurs with the know-how and experience of experts to facilitate innovation processes.“*

Giulia Viero, Business Process and Data Analyst at ECOR

### 3.4. Academic staff

#### Benefits

Student business collaboration in green venturing offers business academic staff the opportunity to modernize their educational programs, both in terms of sustainability content, educational methodology and pedagogy. Furthermore, it updates the tool kit of educators and enlarges their academic and business network. Educators can test new approaches and concepts in a relatively safe atmosphere.

#### Key learnings

**1. Within curricula.** Green venturing-workshops should be integrated early in educational programs for self-awareness and professional skills development. Design activities in such a way so that ECTS credits can be given. This implies to clearly define learning goals and their communication beforehand. The programs should fit within the complete educational programs.

**2. Extracurricular** workshops are a good way of supplementing existing educational programs. Academic staff were interested in joining because they were able to experience new educational formats regarding sustainability. These experiences were leading to new insights for educators regarding the motivation and involvement of (international) students. However, the possible time spent on academic staff (and students) is limited due to the teaching obligations of the main programs. Therefore, it is more difficult to encourage large number of students to join in.

**3. New skills.** Skills development is an important aspect of green venturing. Skills development requires attention to (1) self-reflection of participants; (2) teamwork and the different roles of individuals in a team; (3) effective facilitation.





In sustainable entrepreneurship and innovation management, working effectively at team levels matters. Developing new skills is relevant for students, businesses and academic staff. Educators also need to develop capabilities to work with this.

**4. Digitalization.** Digitalization brings opportunities and challenges to student business collaboration. Opportunities are – e.g., easier internationalization and upscaling. Online activities make upscaling easier and most cost effective. It is possible to configure international teams. Through digitalization and a digital platform, a wider group of students and companies can be reached. Less travelling implies a lower ecological footprint. Challenges are – e.g., creative processes in virtual teams and team building. Online collaboration can almost always replace face-to-face meetings; however, for digital collaboration, additional skills are required. It is important that universities develop toolsets, platforms and skills trainings in order to enable effective digital communication and collaboration. The kind of tools and the level of skills depends on the specific character of the activities.

**5. Research.** Through research, the quality and continuous updating of collaborative green venturing activities can be achieved. Long-term outcomes and impacts for students and business partners are not easy to measure and assess. Therefore, sound and practical methodologies of impact monitoring need to be developed to allow for a holistic evaluation and systematic improvements.



Wisdom Kanda, PhD / © Teikuma Buseva, Linköping University

*"It is increasingly important for students to develop the skills needed for solving real-world problems and not just grades. By including challenged-based learning in our curriculum, we give students the opportunity to develop skills of relevance for their future employers."*

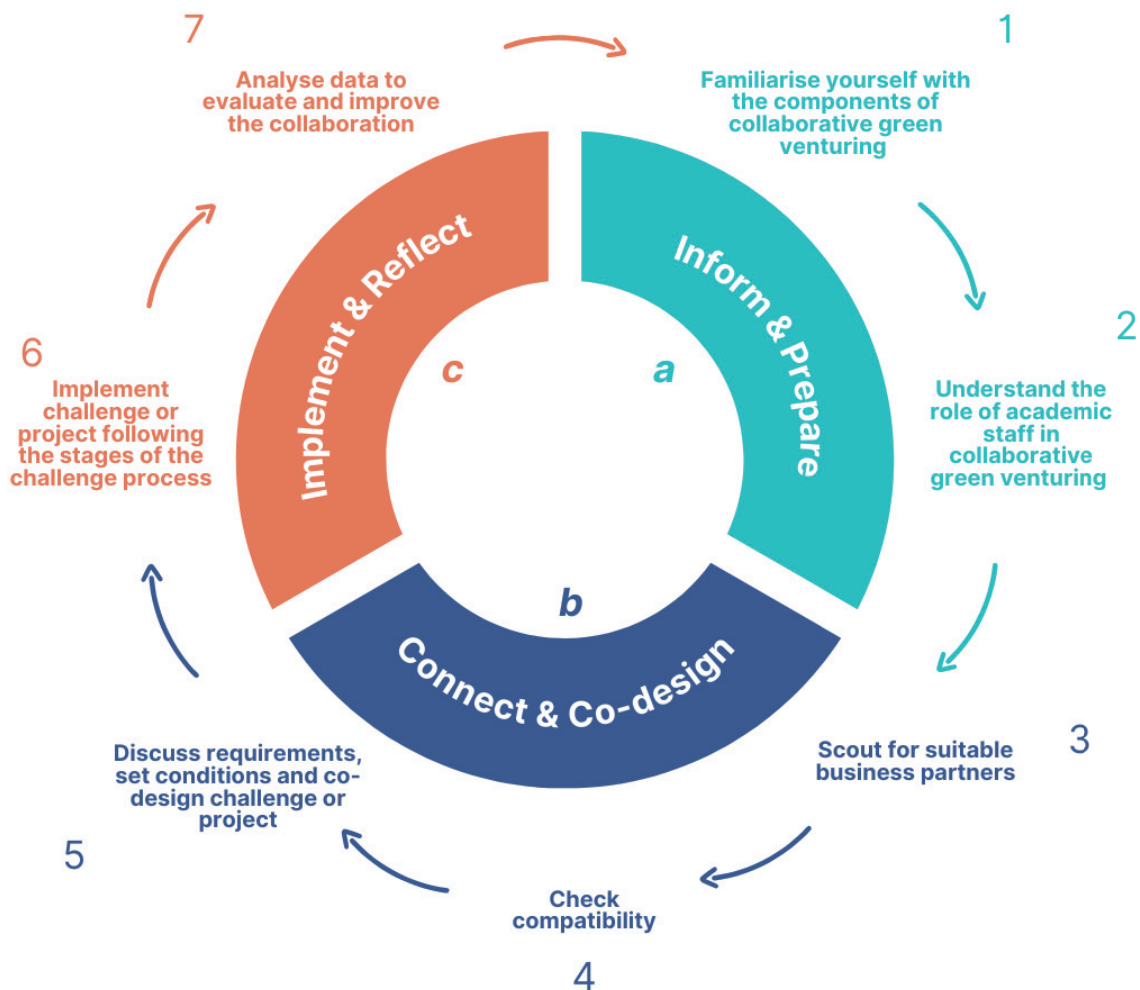
Dr. Wisdom Kanda, Senior Lecturer and Head of Unit at the Division of Environmental Technology at Linköping University



## MANUAL FOR IMPLEMENTATION

Are you interested in collaborative green venturing activities and in starting a new journey with your teaching approaches?

There are many possibilities to do so. To get started, we recommend the following cycle.



### 4.1. How to start from the teaching perspective

**1. Familiarize yourself!** Well, you have just started! Are you already an expert on teaching sustainable entrepreneurship? Then just add the elements of real-world challenges and collaborative green venturing to your teaching. Check the following source to learn more:

<https://www.scaleup4sustainability.eu/results/>

**2. Understand the role of teachers** in collaborative green venturing! Change your perspective! Your students will become experts by making the challenge their own project. Facilitate them to do so! Be a coach and sparring partner instead of being just a teacher. *Here* you will find some contributions to reflect upon.

<https://www.scaleup4sustainability.eu/results/>



**3. Scout for suitable business partners!** This part is one of the most important elements, as it is the basis for successful collaboration and a great learning opportunity for your students. Scan your individual network or the contacts of the university to find a variety of possible enterprises you are interested in. Browse start-up platforms and local sector organizations. Perhaps you are interested in participating in wider challenge competitions or programs. If so, there is a great database of challenge providers in sustainable venturing on <https://platform.scaleup4sustainability.eu/>

**4.** Do you have a list of contacts? **Check their compatibility** with your teaching approach! We recommend thinking about the following issues:

## CHECK

**Innovation orientation:** At what level is the company's innovation orientation and what is its innovation endeavor? Is the company's innovation orientation high enough for it to follow a cooperation-based strategy that fits your envisioned collaborative green venturing format?

**Impact orientation:** Is the company aiming to generate market and societal impact through the collaboration? Is it willing to develop and set clear impact objectives, together with you?

**Sustainability orientation:** What is the company's strategy and level of engagement regarding environmental and social sustainability? Does it suit the intent of co-developing sustainable ideas and solutions?

**Student orientation:** Is the company willing to cooperate with students on an equal footing?

**Resource availability:** Is the company aware of the resources it needs to invest to ensure a fruitful collaboration, for instance with regards to time and personnel? Does it have the capacity to invest these resources into preparing and conducting the collaboration, as well as into implementing student ideas and solutions?

**Transparency:** Is the company willing to share all necessary information, expertise and data to ensure that students have sufficient information to find adequate solutions and suggestions for effective implementation?

**Commitment:** What drives you both to co-design and co-implement the sustainable venturing challenge? Collaboration in venturing challenges requires upfront commitment and the willingness to interact with an outside agency who will bring in different values and working approaches. Does the company's level of motivation and commitment fit in with yours?

**5. Discuss requirements, set conditions and co-design a green venturing project!** Provide your business partner with all the information and dates necessary. A leaflet or website could be suitable. Most important of all: manage expectations right from the beginning. What do you expect from the business partner? What can they expect from your students and the university? Are the challenges they want to bring in doable with regard to student's expertise and time? Is the business partner able to provide all the contacts and data that might be necessary for students? Are you willing to provide non-



disclosure agreements? What about property rights, if the business partner wants to implement your student's ideas and solutions? Find a more detailed checklist here.

<https://platform.scaleup4sustainability.eu/from-design-to-evaluation-the-7-steps-to-implementing-sustainable-venturing-challenges/>

**6. Incorporate the collaborative green venturing** into your study course. Regardless of whether curricular or extra-curricular, your challenge or collaboration project will follow a prescribed process. Have you carefully set the stage? Then get let's going! Let the business partners pitch their challenges, projects or ideas, so that students can react immediately. Do you want to strengthen local transfer? Why not planning the kick-off at an inspiring environment, for instance an incubator or start-up center? Feeling comfortable

Would you like to have a closer look at the different approaches ScaleUp4Sustainability had tested in the projects lifespan? Then lean back and study our report.

<https://www.scaleup4sustainability.eu/wp-content/uploads/2022/06/S4S-report-on-WP-3-4-220613.pdf>

**7. Is the final pitch done?** Are students, business partners and you happy with the acquired knowledge? Gut feelings are important, but sound **evaluation** is better. Look at the process and evaluate how to learn from it and prepare a new and better collaborative project next time! Do you need support in doing so? The S4S Evaluation Guidelines will help.

<https://www.scaleup4sustainability.eu/wp-content/uploads/2022/04/S4S-Guidelines-for-evaluation.pdf>



and having fun are important requirements when boosting motivation, engagement and creativity. Do you intend to collaborate with global players who will not be present at your venue? Kick-off presentations online are of course a possibility. Think in advance, how you should match students and business partners.

Do you need more inspiration to structure your collaboration and provide your students with the tools that meet their project needs? Find our database of tools and methods for sustainable venturing here.

<https://www.scaleup4sustainability.eu/database-tools-approaches/>

## 4.2. How to start from a business perspective

Are you convinced that student business collaborations enhances your company's ability to tackle the innovation process? That collaboration boosts learning at both sides of the challenge? Do you want to discover new talents at academia and match them with your innovation experts? Then collaborative green venturing projects might be a good occasion for you. Follow the step-by-step guide below. It might look complex and overwhelming. Use your university partner for support if you already have established contacts.

**a: INFORM AND PREPARE!**

Providing a green venturing challenge project to students requires thorough preparation and planning. This entails becoming familiar with the learning approach and getting to know the various features of collaborative green venturing formats. The following dimensions provide guidance when you decide on and select the right format for your company's needs:

**Challenge focus:** From providing a thematic challenge, which focuses on a specific field you are active in, to open ideation or business model generation for specific ideas – which focus will be taken in your challenge will depend on the business problem you are facing.

**Duration:** While short-term formats (one to three days) require far less upfront investment in terms of time and personnel, long-term formats (several weeks or month) give students more time to internalize your business problem and dive deeper into the subject matter at hand. As a result, these solutions usually exhibit a higher degree of detail and sophistication.

**Number of university partners:** the number of universities you'd like to collaborate with, influences the process and outcome. Developing a green venturing challenge with several universities brings a multitude of solutions to your problem, though it does increase the coordination needs and means less intensive supervision of a larger number of students. Collaborating with only one, for instance the local university in your region will enable more in-depth collaboration and a more intense supervision of a smaller number of students.

**Type of collaboration:** While we recommended the use of traditional face-to-face collabora-

tion, virtual or hybrid collaboration provides a convenient and flexible option when offering an international challenge. In the case of virtual collaboration, you need to ensure a good level of connectivity and communication with academic staff and students.

**Study level and student diversity:** Are you planning your challenge for undergraduate or postgraduate students, or both? The challenge-based learning approach values the participation of mixed student teams, which are made up of students from different disciplines (or even universities and countries). Where possible, configure a diverse student team as this enriches team creativity and in effect, the quality of the solutions delivered.

**Your role:** You will engage in multiple roles throughout the collaboration process – company representative, coach or mentor or jury assessor. It is important to understand what these individual roles entail. If a number of colleagues are involved, clarify roles and expectations in the team, in order to share a common understanding.

**b: CONNECT & CO-DESIGN!**

**Finding a suitable academic partner** largely depends on the business problem you want to solve and how you could envision engaging in the collaboration process.

Good starting points are professional networks, your local university transfer office or entrepreneurship support center. Would you prefer to engage an organizer of various challenge programs? Have a look at our database of challenge providers to pick out the one that suits you best.  
<https://platform.scaleup4sustainability.eu/>





Once you have identified a potential university partner, there are several key criteria that should be considered and crosschecked. If met, the foundation for building a solid partnership is prepared. Criteria include matching ideas concerning innovation and impact orientation, sustainability orientation, resource availability, transparency and commitment. To go into detail, check our implementation guide

<https://platform.scaleup4sustainability.eu/the-7-steps-to-engage-in-successful-student-business-collaboration-in-sustainable-venturing/>

**Discuss requirements, set conditions and co-design challenge** to ensure successful collaboration, the following topics could form the basis for discussion:

## TOPICS

**Manage expectations!** Make sure you clarify expectations early on in the partnership process. This includes defining the role you will take on as business partner, but also by clarifying the roles of academic staff and students in the challenge process. How much time and resources will each partner invest in preparing and implementing the challenge activity or program? It is also recommended that you know the intended learning objectives of the students. The most important things you decide on should be documented in project plans and be set forth in a formal agreement. Announce in advance, if you need a non-disclosure agreement and discuss property rights.

**Define green venturing challenges!** Discuss with the academic partner how to frame and communicate the business problem to the students.

Challenges should be neither too broad nor too narrow. It should be open enough to foster students' creativity and out-of-the-box thinking, but concrete enough to provide them with a sufficient degree of clarity. It may be helpful to ask the following question: "What can be done to create a solution to the problem?" This question leads to a challenge and contains a lot of learning possibilities for the students.

**Choose suitable collaboration spaces!** Based on the duration and type of collaboration, determine which collaboration and meeting spaces you will need. Also, consider whether you would like to provide your company facilities as a learning location for the students. If you engage in virtual collaboration, check your requirements for data security and provide appropriate tools if necessary. (Mostly the academic partner provides an appropriate learning management system)

**Prepare with training!** Discuss with the academic staff whether and in what way you should prepare for your role as coach and mentor to the students.

**Implement students' ideas and solutions!** You should reflect on the "after-phase" of the project. If you decide to work with the developed student ideas and solutions, how will you go about implementing and measuring the impact of their solutions? How will you involve the students in the process?

**Assess and grade student teams!** How do you plan to assess the students' ideas and solutions and which evaluation criteria will you use? Together with the educators, you should decide on whether you will grade the final results and whether your company will issue official certification for the students' achievements.



# 4

## C: IMPLEMENT & REFLECT!

**Implementing** student business challenges in sustainable venturing will typically feature the phases shown in section 4.1. In each of these phases, companies and academic staff are involved to a varying extent. As a business partner, your input during the kick-off of the format is extremely important when setting the stage. This includes information on your company's strategy and activities as well as background information on the problem associated with the collaboration project. You might also include information on your expectations of the students and pose specific questions related to the topic, that you want them to investigate for you. Thus, you make ensure that students develop engagement and take ownership of the project they derive from your business problem.

Depending on the level of engagement agreed on, you should make time available to act as coaches and mentors during the process.

As regards the learning process during challenges, the widely recognized Challenge-Based-Learning (CBL)-Framework formulates three interrelated phases:

1. "Engage",
2. "Investigate" and
3. "Act".

In the engagement phase, challenge participants explore the given problem and based on this, move towards formulating a challenge. The investigation phase involves in-depth research and analysis, which result in multiple perspectives and new ideas. Refining these ideas leads to the

final phase of action in which the participants eventually develop a concrete solution. During the presentation of the students' solutions, business partners act as jury members alongside the academic staff and together, assess the proposed solutions.

Do you want to know more about challenge-based learning? Check here:

<https://www.challengebasedlearning.org/>

Is the pitch over and the results are on the table?

**The assessment and evaluation** will be managed by academic staff to a large extent, but will involve your support when assessing and evaluating the outcomes of the challenge. This will ensure that all involved can grasp the impact of their commitment and in the case of continued collaboration, improve the challenge activity or program with regard to efficiency and effectiveness.

Are you interested in student-business collaboration in sustainable venturing and want to dive deeper into the information? Have a look at these resources:

<https://platform.scaleup4sustainability.eu/>  
[www.scaleup4sustainability.eu](http://www.scaleup4sustainability.eu)



## FUTURE ACTION FOR SCALING UP COLLABORATIVE GREEN VENTURING

Collaborative green venturing activities involving companies and Higher Education Institutions (HEIs) are still not conventional in the higher education system around the globe. With this booklet, we want to share our experiences of developing and implementing such activities within and across HEIs in Europe. One essential issue throughout the Scaleup4Sustainability project we have asked ourselves how to scale and transfer such activities so that collaborative green venturing becomes mainstream and not isolated islands in higher education. Reflecting on scalability and transferability, our experience is that collaborative green venturing is resource intensive because it is supplementary to traditional teaching methods such as lectures, instructions, templates etc. and it takes time and resources to find and qualify collaboration partners and clarify all parties' expectations. As described above, access to networks is key to both teachers and companies. Lack of resources and network access can hamper both: up-scaling and transfer of what we believe are innovative and rewarding approaches which revitalize higher education and solving sustainability challenges. To speed up the diffusion of similar activities and support the sustainable transformation of Europe and other economies we give the following recommendations on different levels.

### 5.2. Recommendations for european and national policies

The first recommendation for all HEIs is to start developing and implementing similar approaches as described in this booklet and in the report

<https://www.scaleup4sustainability.eu/wp-content/uploads/2022/06/S4S-report-on-WP-3-4-220613.pdf> if this has not already been done. We have found that such approaches are rewarding for all parties concerned and add value for students and their collaborating partners.

The second recommendation is to integrate collaborative learning into the university strategy and learning portfolio and link it to transfer activities. This gives more attention and legitimacy for resources

Implementing or using intermediary organizations is further recommendation. Intermediaries such as Demola and other communities and platforms presented on:

<https://platform.scaleup4sustainability.eu/>, can help to acquire business partners as well as students from different disciplines and relieve teachers from these tasks. This also allows for better visibility outside the HEI.

Even though this booklet focuses on companies, other external organizations such as local authorities or non-governmental organizations may be involved.

Finally, in order to facilitate more interdisciplinary challenges there are often administrative barriers that HEIs should try to overcome. A concrete example is to develop curricula in such a way that it becomes easier to mix students from different educational programs and from different faculties. In addition, international collaboration between HEIs can be difficult to manage.



Administrative barriers lead to extra-curricular activities, which in turn is less attractive to students.

### 5.3. Recommendations for companies

As describe in section 3.2, collaborative green venturing can be very rewarding for companies. Students take on challenges with their eyes open and can give insights into direct implementation of different development ideas. For companies this can be a very useful approach when getting to know their local university, which can gene-

rate joint research and development projects as spin-offs. It will also give companies direct access to a future workforce. Professionals in start-ups and their incumbents will also gain inspiration for further developments in this area.

Students will find their education more relevant if they see direct use of what they learn in their modules and teachers can offer more attractive teaching activities. One recommendation is to utilize the tips and tricks described in chapter 4 and start the journey to a smarter and more sustainable business sector in Europe.

## Scale-up4 Sustainability





## Team of the ScaleUp4Sustainability consortium



Klaus Fichter, Karsten Hurrelmann,  
Anne Seela

*University of Oldenburg,  
Germany (Coordinator)*



**Vennebroek  
Academic  
Services**

Frans Stel and Rogier De Jong  
*Vennebroek Academic Services,  
The Netherlands*



Erik Olsson, Matilda Skeppsby,  
Emelie Detert, and Ingela Lindahl

*Tekniska verken AB,  
Linköping, Sweden*



Joakim Wren, Elin Ledskog,  
Kristina Petersson

*Againity AB,  
Linköping, Sweden*



**ECOR®**

Giulia Viero, Eric Logtens,  
Sann Carrière, Navied Tavakolly

*Noble Environmental  
Technologies Europe (ECOR),  
The Netherlands*



Olof Hjelm, Madeleine Larsson,  
Wisdom Kanda, Charlotte Norrman,  
Karl Eldebo and Carina Sundberg,

*Linköping University,  
Sweden*

Cia Lundvall

*Ingenious, Almi företagspartner AB, Sweden*



Irina Tiemann, Tim Jürrens,  
Ulf Brommelmeier, Bernhard Wessels,  
Henning Engelhardt, Larissa Pfeifer

*EWE AG,  
Oldenburg, Germany*



Matthias Hausmann,  
Sylvia Vespermann, Daniel Schimpf

*CEWE Stiftung & Co KG,  
Oldenburg, Germany*



Yvonne Burmann,  
Stephan Göttke

*BÜFA GmbH & Co KG,  
Oldenburg, Germany*



**Borderstep Institute for  
Innovation and Sustainability**

Alexandra Widrat, Alexander Schabel,  
Severin Beucker, Anke Posthumus

*Borderstep Institut für Innovation und  
Nachhaltigkeit gemeinnützige GmbH,  
Berlin, Germany*