

Sustainability4All

Sustainability in university start-up support programmes Practical examples an approaches





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Carl von Ossietzky University of Oldenburg
Faculty II – Department for Economics and Legal Studies
Adjunct Professor for Innovation Management and Sustainability
Ammerländer Heerstr. 114-118
26129 Oldenburg, Germany

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Foreword

The Sustainability4All initiative identifies and develops keys to success and appropriate measures with the aim of taking early, ongoing steps to integrate climate protection and sustainability in newly founded, innovative and technology and knowledge-based companies. Solutions with a practical orientation and cooperation with key players in the start-up ecosystem in Germany are required to this end. Universities are one of these key players when it comes to promoting and supporting sustainability-oriented start-ups. In addition to the teaching and research opportunities that universities offer start-ups, their transfer activities are highly relevant. However, the question of how relevant university start-up consultancy services are in terms of taking early steps to integrate climate protection and sustainability in start-up initiatives has yet to be examined in a structured manner.

Universities have significantly expanded the support they provide to start-ups in recent years. But the services provided by start-up consultancies rarely take a holistic approach to issues around economic, environmental and social sustainability. This represents a shortcoming, particularly in light of the increasing importance of mission-oriented innovation policies at the European level and in Germany. One example is the German government's High-Tech Strategy, which places a targeted focus on grand challenges in society – including the impacts of climate change and the need for an energy transition.

Sustainability-oriented start-ups in particular can contribute towards solving these grand challenges in society and achieving the objectives of a green economy by offering sustainable products, technologies and services. Green start-ups further a green economy by working towards sustainable business practices that conserve natural resources and have a lower environmental impact. In this context, green start-ups can be considered a subgroup of all green companies that are founded; they set themselves apart by being highly innovative and orienting their businesses towards growth.

In view of the above, the relevance of sustainability in start-up consulting at German universities has yet to be analysed in a comprehensive manner. Currently, there is a lack of clarity regarding

- The form in which sustainability is already incorporated in start-up consultancy services at universities in institutional terms, or to what extent this can be incorporated
- Which methods and formats can be used to support sustainability-oriented start-up initiatives
- The expertise in start-up consultancy services with regard to sustainability
- How university start-up consultancies themselves assess the need for start-up consulting services that link to sustainability and specific tools and methods for developing a sustainable business model
- Furthermore, the need for sustainability-related information services and further training opportunities for university start-up consulting has yet to be ascertained.

This brochure aims to strengthen a start-up culture that is oriented towards sustainability at universities. To this end, we start by discussing the reasons for orienting university start-up consulting towards sustainability. The brochure then offers an insight into the focus that has been placed on sustainability in start-up consulting at German universities thus far. It also identifies existing shortcomings and potential ways of providing specific support for those interested in launching start-ups based on real-life examples of good practice at the German and international level. Based on this, the brochure offers universities and, in particular, university start-up consultancies an insight into the range of available support services. We also highlight areas that need to be developed further in order to strengthen a sustainability-oriented start-up culture at universities.



**Reasons for orienting
university start-up
consulting towards
sustainability**

Significance of sustainability-oriented start-ups

The significance of sustainability-oriented start-ups has grown continually over the last decade. This includes both green start-ups that are making a demonstrable contribution towards protecting the environment and climate and creating the basis for the green economy in the future with their innovative products and services as well as social start-ups that address societal challenges in a targeted manner with new approaches and social innovations. A common factor of both types of start-ups is that, in addition to achieving market success, they aim to make a contribution towards solving grand challenges relating to the future and sustainability as well as having an environmental and social impact. As demonstrated by the Green Start-up Monitor and the Social Start-up Monitor, a growing number of entrepreneurs are seeking to combine economic, social and environmental goals and achieve an impact.

The proportion of green start-ups is increasing in Germany. According to the results of the Green Start-up Monitor 2020, 37 per cent of the start-ups surveyed see themselves as part of the green economy. The Green Start-up Monitor 2020 makes it clear that start-ups can combine economic success and a positive social and environmental impact very effectively. The study highlights the following characteristics of green start-ups geared towards innovation and growth. Green start-ups:

- Are a significant economic factor, making up 21 per cent of all young, innovative companies, and boost efforts to protect the climate and environment with their products and services.
- Stand out as having better expectations for their business situation in contrast to non-green start-ups and established companies.
- Place an equal focus on growth and profit as other start-ups. However, their business models generate added value from the perspectives of society and the environment.
- Have a significantly higher share of female founders (22 per cent) than non-green start-ups.
- Place a stronger focus on supporting and involving employees compared to other start-ups.
- However, raising capital represents a key challenge for green start-ups.¹

Sustainability: a grand challenge

Sustainability is playing an increasingly important role in scientific and innovation policies. One example is the High-Tech Strategy of Germany's federal government, which places a focus on sustainability.² This strategy calls for sustainability requirements to be taken into consideration in all support programmes with the goal of accelerating a sustainable transformation. As things currently stand, however, there is no suitable strategy for innovation policies that are sustainable as a whole.³ This shortcoming extends to the start-up consulting services provided by public authorities. While current trends in the support system for start-ups are making the services more professional and resulting in more services being set up, grand challenges in society are not being explicitly and systematically integrated into the support system in many cases. The following table

provides an overview of some of the trends in the start-up support system from the perspective of their services and demand for them. It should be noted that the corresponding developments particularly relate to management of the support process, for example by incubators and accelerators. However, the aspect of transferring mission-oriented innovation policies to sustainability-oriented start-up support and consultancy services is not included in the trends depicted in the below table at this point and should play a more significant role in future from the perspective of services and demand for them.

Table 1: Trends in the support system for start-ups in Germany

Trends on the service side (e.g. incubators and accelerators)	Trends on the demand side (start-ups)
A growing range of services is resulting in less transparency and greater disparity in quality	<p>Start-ups are becoming more professional; this means support services are being utilised for strategic reasons in many cases</p> <hr/> <p>Higher demands and expectations are placed on support services</p>
Growing trends towards concentration are resulting in verticalisation in the services provided along technology fields and sectors	Former founding team members become supporters in the start-up ecosystem
Internationalisation is boosting competition and creating new service formats	Authenticity and reputation of the support services are of key significance for promising start-ups
Established companies are developing new, independent service formats for start-ups to create close links between themselves and start-ups; this generates technological and organisational innovations. Public providers are increasingly competing with private sector services as a result	Promising start-ups are showing less and less willingness to provide a service in return for support services. Independence is thus becoming increasingly important for start-ups

Source⁴

Despite the growing role that sustainability-oriented start-ups have as players in Germany's start-up ecosystem, sustainability has only been systematically integrated into start-up support programmes on rare occasions so far. As a result, we are currently seeing less of a lack 'in terms of people knowing about the green economy and its individual economic sectors but rather in terms of their knowledge of the opportunities that a sustainable economic approach offers for consolidating regional and national strengths and weaknesses into strategically consistent programmes of action'.⁵ University start-up consulting in particular can play an important role in this context given that universities act as drivers for innovation thanks to the high potential of their students and can also play a role in shaping the framework for action for a sustainability-oriented start-up culture. This means the grand challenge of sustainability not only represents a further necessary trend from the perspective of services and demand for them in the start-up support system but is also a key basis when it comes to making a contribution towards overcoming sustainability challenges via sustainability innovations and sustainability-oriented business models on the part of start-ups.

Paving the way for a green economy via university start-up consulting

Germany is home to a total of 424 higher education institutions, of which 107 are universities with approx. 1.78 million students and 213 are universities of applied sciences with 1.08 million students.⁶ In addition to research and teaching, the transfer of knowledge and technology is a key area of action for universities. In this context, university start-up consultancies are of great relevance to transfer activities given that universities and their services for supporting and promoting start-up initiatives are a key success factor in their early stages in particular.

Consultancy services offered by public providers such as universities are appealing to start-ups and those interested in founding a start-up because the consultancy services they develop are of equal value to those from private providers and, above all, because they can ensure a higher degree of independence in their consulting. In addition, partnering with professorships and research institutes makes it possible to develop specific services for the respective start-up.⁷

Public providers, such as state universities, have the following advantages in particular:

- Overarching economic policy interests as well as aspects such as creating jobs and boosting regional development can be taken into consideration.
- Targeted funding can be provided for specific fields of technology as well as socio-ecological start-ups, in line with mission-oriented innovation policies.
- Public providers can also bridge gaps in existing services⁸.

In addition to these general criteria, the strengths of university start-up consulting lie in the following areas in particular:

- Transferring knowledge and technology from research and development
- Cooperation with regional technology and start-up centres
- Linking into various regional structures and alumni networks
- Close connections to scientific institutions and a research infrastructure
- University-related support with a focus on the preliminary and early phase.⁹

Studies show that start-up research, support and consulting at higher education institutions have grown significantly in recent years and that university start-up consultancies in particular – supported, for example, by EXIST funding – have been expanded and enhanced as regards their professionalism.¹⁰ Nonetheless, sustainability and climate protection have been integrated to only a minimal extent in start-up consulting and the analysis of the effectiveness of start-up support programmes at universities so far.¹¹ Only at individual higher education institutions have sustainability and climate protection been made an explicit area of focus, particularly in teaching and research relating to start-ups.¹²

Despite this, sustainability is already a significant aspect for many start-up initiatives launched in the university context – either via their technological focus or through the development of products and services that can also make an indirect contribution towards solving sustainability challenges. The relevance of this can be seen in the start-up radar for 2018, for example.* The following table shows that many start-ups founded at universities have a direct link to sustainability topics.

*The start-up radar published by the Stifterverband initiative compares start-up support programmes at universities in Germany. All state and state-recognised universities were contacted with a questionnaire regarding their respective start-up support programmes for the start-up radar in 2018. Of the 394 universities, 191 participated in the survey.

Table 2: Start-ups by fields of technology

	Number of start-ups	Universities providing information
IT-support services/digital analysis tools	434	101
Medtech/e-health/m-health/health applications	105	81
Environment, climate and energy technology	57	75
Electrotechnology	50	74
Production technology	37	70
Biotechnology and bioeconomy	35	74
Vehicle and system technology	34	71
Financial technology	30	67
Optical technology	25	71
Materials innovations/lightweight construction	21	72
Microsystem technology	18	66
Nanotechnology	6	66

Source¹³

Start-up consulting at universities can play a role in strengthening the green economy in light of the following motivating factors:

■ Institutional framework

Sustainable entrepreneurship is becoming an increasingly important aspect in teaching and research. Promoting sustainability should also be an objective for start-up consulting at universities. This makes it possible to overcome the lack of orientation towards sustainability that exists in some universities' mission statements.

■ Integration into coaching processes

Thus far, sustainability has tended to be integrated into the coaching process by chance and in individual cases, where this occurs thanks to start-up coaches who are keen on sustainability and are intrinsically motivated to do so. This means that processes and resources need to be established in order to systematically expand sustainability expertise in start-up consulting.

■ **Additional services not directly related to established coaching processes**

Individual workshops, talks and competitions relating to sustainability-oriented business models and start-ups are offered in many cases. These formats are a key starting point when it comes to raising awareness among those interested in founding a start-up and reinforcing the extent to which sustainability is integrated into start-up support programmes. However, this is not integrated into start-up consulting at universities on a systematic and ongoing basis in many cases due to limited time and financial resources as well as a lack of clearly defined responsibility for this area. A key contribution towards integrating the formats into established coaching processes can be made by offering them on a regular basis.

■ **Information and further training required for integration into existing services and formats**

Due to the fact that resources in start-up consulting at universities are limited, there is a risk that start-up consultancy services and the consulting process could become 'overloaded'. While there is a great deal of interest in establishing sustainability-oriented consulting expertise, scant time and financial resources, a lack of specialist expertise and further training offers as well as a lack of knowledge regarding sustainability-oriented tools and methods for developing business models make it difficult to achieve systematic integration. Providing training to start-up consultancy services offers significant potential, in particular in terms of helping to integrate sustainability into start-up initiatives.



**Sustainability in
university start-up
support programme:
a conceptuel
framework**

In order to promote a sustainable start-up culture and, in particular, to boost sustainability in start-up consulting, it is vital to involve systems relating to promoting and supporting sustainability at universities in their entirety. Thus far, only limited research results are available regarding the existing and potential development of structures for an effective university support system. Two approaches are currently being pursued at universities:¹³

- (1) An additive approach without a systematic link to start-up support and sustainability
- (2) An integrative approach, for example by tying the areas of start-ups and sustainability into scientific research and teaching as well as transfer activities.

With this in mind, Tiemann, Fichter and Geier (2018) developed a conceptual framework that pinpoints the elements of a university support system for promoting green start-ups. The conceptual framework has been extended and adapted here in order to analyse the role that start-up consultancy at universities plays in strengthening a sustainability-oriented start-up culture in particular. To this end, we have focused on integrating elements that, in light of the objective of this brochure, primarily take into consideration the specific support services for those interested in founding companies and sustainability-oriented start-ups at universities.

The elements of the conceptual framework for promoting sustainability in university support for start-ups consist of the following internal elements at higher education institutions:

- (1) Institutional framing
- (2) Raising awareness and training
- (3) Start-up consulting and support
- (4) Non-university partnerships

The respective elements of the conceptual framework are introduced and explained in brief in the following section. In the context of this brochure, the conceptual framework offers an insight into essential issues and challenges that arise for universities in the respective areas. In addition, the conceptual framework provides a basis for presenting examples of good practice for integrating sustainability into university support programmes for start-ups.

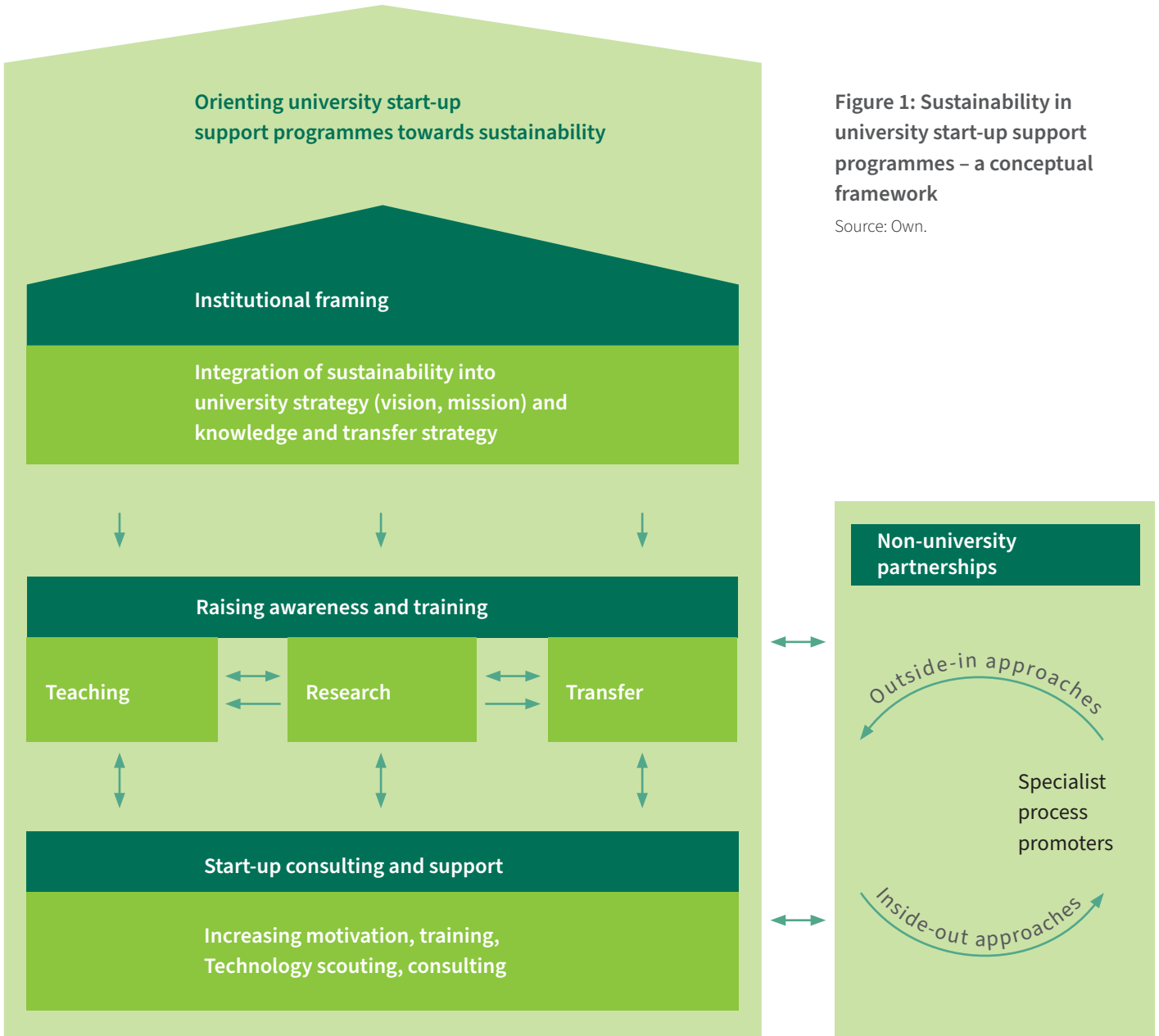


Figure 1: Sustainability in university start-up support programmes – a conceptual framework

Source: Own.

(1) Institutional framing

What general conditions, guiding concepts and institutional structures can enhance sustainability in start-up support programmes at universities?

In many cases, sustainability and start-up consulting are not explicitly linked with one another in a university's guiding concept, strategy or development plan. For this reason, there is often a lack of impetus for integrating sustainability into the support system for start-ups. If a university places high value on sustainability and supporting start-ups, the institution's management should ensure that both aims are closely interlinked with each other and explicitly incorporated, for example, into the university's guiding concept, mission statement and knowledge, technology and transfer strategy. The institution's management should also take a systematic approach in reviewing whether efforts to drive sustainability are already integrated into the institution's start-up support programme, for instance in mission-oriented innovation strategies at the national, regional and local level and, if so, what conclusions can be drawn for the institution's support system based on the sustainability requirements and, for example, the Sustainable Development Goals.

(2) Raising awareness and training

How can an awareness of and training for sustainability-oriented start-ups be made part of start-up teaching, research and transfer at universities?

In addition to teaching and research, transfer processes at universities are playing an increasingly important role as the third pillar of a university's work. Teaching and research relating to start-ups can be a major key to success in terms of raising awareness and providing training for sustainability-oriented start-ups. Efforts to incorporate the results of research on green start-ups in teaching and transfer activities are to be viewed as a welcome occurrence from the perspective of internal interactions at universities. This gives students and key players from the internal university ecosystem the opportunity to benefit from the results of research and to become more aware of the importance of and the challenges and opportunities that come with a sustainability-oriented start-up culture.

(3) Start-up consulting and support

What support services for green start-ups are conceivable and necessary in start-up consulting at universities?

Start-up consulting at universities plays a central role when it comes to improving the available support and boosting sustainability in the support programmes the institutions provide for start-ups. In many cases, an institution's start-up consulting is embedded in its transfer area at the institutional level, or close partnerships are formed. It also makes sense to focus such activities in these areas. This conceptual framework specifically highlights the support activities carried out in start-up consulting at universities in order to emphasise the role it plays in establishing a sustainability-oriented start-up culture. Based on the institutional framework and activities aimed at raising awareness and providing training in the areas of teaching, research and transfer, we can define the following tasks for university start-up consulting:

- Boosting motivation: enhancing and improving motivating factors and information services that encourage students and scientific staff to found a sustainable company.
- Qualification: imparting the knowledge and skills needed to successfully start a company. In particular, reinforcing entrepreneurial ways of thinking and taking action in light of increasing sustainability requirements.
- Technology scouting: internal and external scouting for new technology and knowledge-based sustainability innovations. Speaking to scientific staff about potential for new start-ups that can be combined with research results to solve sustainability-related challenges.
- Start-up consulting: offering in-depth start-up consulting for developing competitive and sustainable business models. Providing or coordinating the necessary infrastructure, for example, as part of the services provided by an incubator at a university.

(4) Non-university partnerships

To what extent can networking activities and non-university partnerships enhance start-up consulting at universities with respect to their expertise around the topic of sustainability?

A systematic network management system and non-university partnerships in the context of green start-ups can support the development of internal expertise on sustainability. Furthermore, external partnerships can drive the development of tailored support services for green start-ups. It is important to make a distinction between outside-in and inside-out approaches in this context. In an outside-in approach, start-up services at universities often collaborate with external institutions to integrate additional sustainability expertise in the services they offer, for example. In an inside-out approach, transfer is the main objective, which might involve partnership projects between start-up teams at universities and industrial partners from the green economy.



**Examples of good
practice
for integrating
sustainability in
university start-ups
support programmes**

The few higher education institutions that have explicitly promoted sustainable entrepreneurship and sustainability-oriented start-ups up so far pursue this based on very different approaches. Their support services consist of individual formats and range from incorporating sustainability at the institutional level via specific teaching and research through to integrated offers relating to sustainability in their start-up consulting.

The examples of good practice presented below have been selected and analysed using various approaches. In Germany, the analysis primarily looked at higher education institutions receiving EXIST-IV* funding and institutions that are members of the DENKFABRIK Hochschulen und Entrepreneurship** (THINK TANK for higher education institutions and entrepreneurship) network. Information was acquired using a systematic search of the web as well as structured interviews (via email or phone) with the start-up consultancies at the respective universities. The examples from countries outside Germany included here are to be primarily viewed as a supplement to the good practice elements presented from start-up support programmes in Germany.

The research was unable to identify any universities that promote and support sustainability in their start-up support programmes at every level of the conceptual framework as well as integrating this aspect in a targeted, systematic manner. Nevertheless, we were able to identify select forms of funding that can lead the way in this area, and examples of these are presented below. The respective examples of good practice are assigned to individual elements of the conceptual framework in order to make suitable activities for enhancing start-up support programmes at universities available with a focus on taking action. While individual examples of good practice relating to institutional framing as well as raising awareness of and providing training relating to sustainability in start-up support programmes at universities had already been identified in previous analyses,¹⁵ this brochure primarily focuses on sustainability-oriented start-up consulting, which had been rather neglected in the corresponding literature until now. Due to the heterogeneous nature of the institutions and the wide range of respective activities, it is not always possible to make clear-cut distinctions when categorising the examples given that multiple examples are simultaneously relevant to various areas of the conceptual framework. The examples always relate to the institution's support system. Offers from entirely private providers with no links to universities are not included in this brochure given that the interests and objectives of public and private offers are different in many cases. There is no question that opportunities and formats from the private economy aimed at promoting green start-ups can be relevant in helping university start-up consulting to manage networks and partnerships. This brochure, however, primarily presents activities that were initiated by the universities themselves or developed in partnership with them.

*Existenzgründungen aus der Wissenschaft (EXIST) is a funding programme set up by Germany's Federal Ministry of Economics and Technology (BMWi) to improve the basic conditions for start-ups at universities and independent research institutions: <https://www.exist.de/EXIST/Navigation/Karte/SiteGlobals/Forms/Formulare/karte-potentielle-formular.html>

**DENKFABRIK Hochschulen & Entrepreneurship is an independent, inter-university initiative and organisational platform in Germany for employees who are involved in teaching entrepreneurship and offering start-up services: <https://www.denkfabrik-he.org> (in German)

The following examples of good practice do not aim to serve as a comprehensive description of the support system provided for green start-ups by start-up consultancies at universities in Germany. The acquired insights are primarily drawn from publicly accessible sources and the answers provided in response to our interview questions. For this reason, activities that were not communicated on the universities' websites or by the start-up consultancies interviewed could not be identified either.

The following figure links examples of good practice in terms of a focus on sustainability in start-up support programmes at universities to the respective elements from the conceptual framework that was developed.

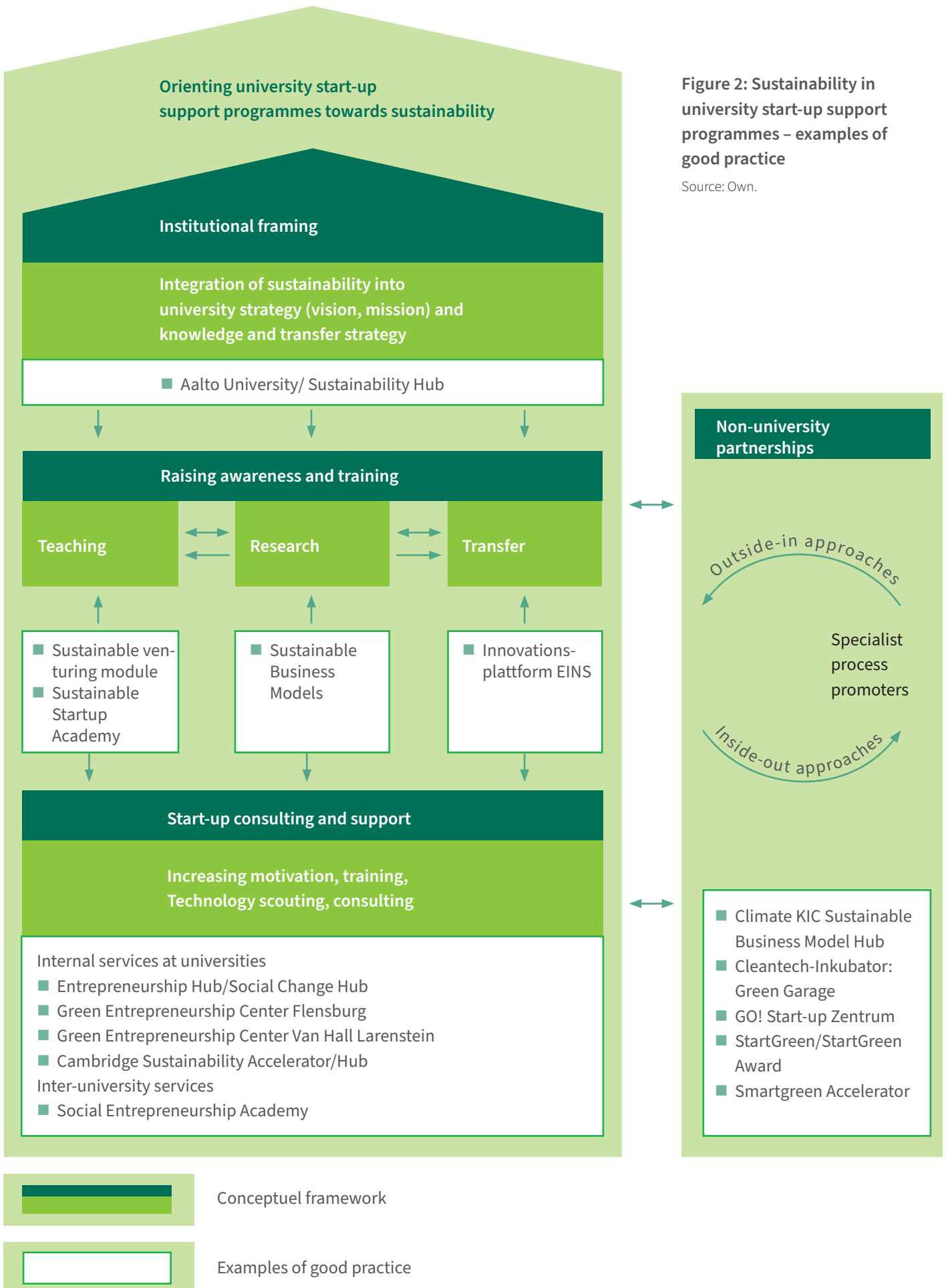


Figure 2: Sustainability in university start-up support programmes – examples of good practice

Source: Own.

Institutional framing

Institutional framing

Institutional framing

Aalto University/ Sustainability Hub

Brief description

Aalto University in Helsinki has a comprehensive funding and support system for those interested in founding a start-up and actual start-up initiatives. This system is reinforced by the integration of internal and external actors, which makes it a good example of what a start-up culture at a university can look like in practice. Providing funding for sustainable development is key for both a university's strategy as well as in the context of teaching, research and transfer.

A new strategy for promoting sustainable development for the entire university was approved at Aalto University in 2019. It was the first Finnish university to officially support the Sustainable Development Goals and to evaluate the proportion of teaching events that linked into the Sustainable Development Goals.

Aalto University courses with SDG content
1–3 most relevant SDGs chosen per course



Quelle: <https://www.aalto.fi/en/sustainability/sustainability-reports>



The Aalto Sustainability Hub was set up in 2018 in order to address complex challenges around sustainability. It aims to strengthen interdisciplinary efforts to collaborate on research and promote sustainability in teaching, the university's development and in other areas at the university. Based on this approach, the Hub is designed to create an interdisciplinary understanding of holistic solutions that are required to ensure a sustainable future.

Functions/ services

The 'A Grid' start-up community serves as the first point of contact for start-ups and those interested in founding one. According to the university, its start-up ecosystem is one of the largest among higher education institutions in Europe. This ecosystem is embedded in the university's structures, as highlighted a number of times in its response: 'A Grid is part of Aalto's ecosystem for entrepreneurs, rated by MIT among the top five rising stars globally.' The support services as a whole include a diverse range of partnerships with internal players at the university. Aalto is also systematically pursuing partnerships with national and international partners.

Further information

<https://www.aalto.fi/en/sustainability>

<https://www.aalto.fi/en/news/aalto-establishes-a-sustainability-hub-to-address-the-challenges-of-sustainable-development-0>

<https://www.aalto.fi/en/sustainability/sustainability-reports>

Raising awareness and training

Carl von Ossietzky University of Oldenburg: Sustainable venturing module

Brief description

Teaching that sparks an interest in topics relating to sustainable entrepreneurship among students as well as imparting skills and providing training that are relevant for setting up sustainability-oriented start-ups are a key element when it comes to strengthening a start-up culture oriented towards sustainability at universities. These awareness-raising and training activities in the teaching context offer a good foundation for moving the start-up ideas developed during teaching forwards with the support of a university's start-up consulting.

One example is the Sustainable venturing master module, which is geared towards students who are interested in start-ups and innovative solutions in the sustainable economy area. The module's goal is to build up entrepreneurial expertise relating to the development and implementation of environmental innovations and sustainable business ideas. Entrepreneurial development and implementation of environmental innovations can involve both the founding of new companies and organisations as well as the development of new solutions and business ideas on the part of established companies and organisations (corporate venturing). Over 170 students have participated in the module since 2009 and have worked on 50 sustainable business ideas together with partners in practice.

Functions/ services

Students collaborate with companies and start-ups to develop sustainable business ideas. In addition, business ideas that are already being overseen by the Start-up and Innovation Centre at the University of Oldenburg are in some cases also transferred into the module and developed further here. This makes partnerships inside and outside the university vitally important for successfully completing the module. Scouting activities for sustainability-oriented business ideas ensure that the business ideas make a contribution towards solving challenges around sustainability. During the module, students apply specific tools and methods for assessing sustainability or orienting the development of business models towards sustainability. The module as a whole provides targeted support to help students develop sustainable entrepreneurship skills and evaluate this in the course of the module.

In particular, the module promotes the following skills and expertise on the part of the students and the companies:

- Developing requirements for solutions in the context of sustainable development
- Sustainability-oriented approaches for generating and evaluating ideas
- Developing and implementing entrepreneurial, innovative solutions
- Creating systematic links between economic and environmental objectives
- Developing 'green' business fields and markets from a strategic perspective

Further information

<https://uol.de/en/innovation/current-teaching/all-courses/eco-venturing-module>

Raising awareness
and training

Research

University of Groningen: Sustainable Start-up Academy

Brief description

The Sustainable Start-up Academy at the University of Groningen aims to motivate students to establish their own sustainable start-up. The Academy is offered by the Centre for Sustainable Entrepreneurship at the University of Groningen. The Centre for Sustainable Entrepreneurship offers students, scientific staff and companies additional formats that contribute to the development of skills and expertise in the area of sustainable entrepreneurship.

Functions/ services

The Sustainable Start-up Academy enables participating students to learn about and try out practical methods and tools involved in founding a sustainable start-up, in addition to the existing academic curriculum.

Lasting one semester, the programme consists of seven workshops and a competition. The workshops comprise elements and phases that are known to be involved in the process of developing a business model and founding a start-up:

- Session 1: Business Idea Generator – one half day
- Session 2: Business Ideation & Launch Game – two half days
- Session 3: Lean Business Modelling – two half days
- Session 4: Early Adaptors to Early Majority – one half day
- Session 5: Pitching & Team Design – two half days
- Session 6: Funding – one half day
- Session 7: Sustainable Start-up Award – one half day

Further information

<https://www.rug.nl/cf/centre-for-sustainable-entrepreneurship/education/start-up-academy?lang=en>

Carl von Ossietzky University of Oldenburg: Sustainable business models

Brief description

Scientific research relating to sustainable entrepreneurship is of key importance in terms of strengthening a sustainability-oriented start-up culture at universities given that, for example, research results on support systems and services for sustainable entrepreneurship can be incorporated into teaching and start-up consulting at universities. Besides scientific publications, specific tools and methods are also developed in this field of research to support sustainability-oriented start-up initiatives and business models. Among other things, relevant tools and methods can encourage the creation of sustainable business ideas, place a focus on the sustainability of the business models and boost the transformation of existing business models.

One example of a tool that supports the development of sustainable business models is the Sustainable Business Canvas, which was created in the course of a research project. The Sustainable Business Canvas is used for various purposes, including teaching and internal and external support for start-ups in Germany as well as abroad.

Functions/ services

The Sustainable Business Canvas is an integrated approach that addresses both conventional and sustainability-oriented issues and topics in conjunction with the development of business models. The tool is based on the Business Model Canvas according to Osterwalder and Pigneur (2011).

In comparison with the traditional business model canvas, the Sustainable Business Canvas also looks at the significance of developing a vision and mission, competitors and stakeholders for a sustainability-oriented business model. Open-source workshop materials and guidelines to help trainers prepare for workshops are available for the Sustainable Business Canvas.



Source¹⁶

Further information

<https://start-green.net/tools/sustainable-business-canvas/> (in German)

Raising awareness
and training

Transfer

TU Berlin: EINS innovation platform

Brief description

In addition to teaching and research, the transfer process is a key component of the university ecosystem at higher education institutions. The transfer of knowledge and technology is becoming more and more relevant in terms of a university's ability to innovate and compete. For this reason, start-up consulting services at universities are in many cases integrated into the structures of the university transfer system or work in collaboration with them. Universities are increasingly expanding their transfer activities by involving external actors in this process.

The Entrepreneurship, Innovation, Network, Sustainability innovation platform is a co-working space at TU Berlin that the Centre for Entrepreneurship (CfE) has been developing since 2019. The platform's goal is to make 'entrepreneurship and intrapreneurship that has a sustainable impact in three senses – economic, social and environmental – something which is taught, researched and possible in the practical setting'.

Transfer is a key element at the co-working space. Based on this, the aim is to use an open-infrastructure concept to make it easier for external actors from business, politics and civil society to get involved so that entrepreneurial solutions for overcoming challenges in society can be developed on a transdisciplinary basis.

Functions/ services

In its mission statement, TU Berlin embraces sustainable development and supports the Sustainable Development Goals. By offering the EINS innovation platform, TU Berlin's start-up support programme is aiming to align the university's start-up support and transfer activities more closely with the three pillars of sustainability.

- 1,000 m² of co-working space with 80 workstations for approx. 14 to 16 start-ups, a prototyping workshop (maker space) as well as office and seminar rooms and event space
- Depending on the grant programme, the aim is for start-ups to carry out their activities in the EINS co-working space for 12 to 18 months
- Link to the services offered by the Centre for Entrepreneurship with corresponding consulting and support offers: <https://www.entrepreneurship.tu-berlin.de/menue/willkommen/> (in German)

A further example of activities designed to boost the transfer concept at TU Berlin is 'Gründen mit Impact. Sensibilisierung und Qualifizierung von Studierenden für nachhaltige Gründungsvorhaben' (Starting companies with an impact. Raising awareness and training students for sustainable start-up initiatives), a project supported by third-party funds and carried out by the Centre for Entrepreneurship. Among other aspects, this project aims to raise students' awareness of sustainable entrepreneurship by offering formats such as information days, networking events and lecture series.

Further information

<https://www.tu.berlin/en/topics/entrepreneurship/2020/mai/eins/>

Start-up consulting and support for green start-ups

Leuphana University of Lüneburg: Entrepreneurship Hub/ Social Change Hub

Brief description

The Entrepreneurship Hub is a start-up service aligned with Leuphana University of Lüneburg's humanistic, sustainable and action-oriented mission statement. In this same vein, the Entrepreneurship Hub's website emphasises that, in particular, start-up initiatives are to focus on maximising benefits, not minimising profit. The Entrepreneurship Hub also collaborates with the Centre for Sustainability Management (CSM) at Leuphana University of Lüneburg. Among other services, the CSM offers events and seminars around sustainable entrepreneurship.

The Social Change Hub (SCHub) at Leuphana University of Lüneburg offers a specific form of support by promoting social and societal involvement on the part of students. In addition to its own services, SCHub initiates partnerships inside and outside the university. SCHub supports students in developing, fleshing out and implementing their own ideas in the form of one-off projects, initiatives, associations and non-profit limited companies or in setting up business models. The Social Change Hub pursues the goal of contributing to efforts to raise awareness of and promote social entrepreneurship. Its primary focus is boosting motivation and generating ideas for projects, concepts and business models that benefit society. Thanks to this approach, the Hub addresses the social dimension of sustainability in particular. Its event formats, however, also look at the other dimensions of sustainability.

Functions/ services

- Consulting and coaching
- Workshops and seminars, e.g. for developing ideas
- Networking with practitioners
- Support in searching for financing opportunities
- Serving as a go-between for partnerships and degree theses

Further information

<https://www.leuphana.de/en/portals/schub.html>

<https://www.leuphana.de/kooperationen/entrepreneurship.html> (in German)

Consulting and support

Internal services at universities

Flensburg University of Applied Sciences: Green Entrepreneurship Center

Brief description

Flensburg University of Applied Sciences and the University of Flensburg have teamed up at the Green Entrepreneurship Center at the Dr. Werner Jackstädt Centre for Entrepreneurship and SMEs Flensburg to provide opportunities geared towards those interested in establishing green start-ups and pursuing green innovations.

The International Green Entrepreneurship Forum has also been held at the Center since 2014. This networking forum designed for the areas of politics, science, business and the public sector aims to drive the transition to a sustainable economy.

Functions/ services

Sustainability is relevant in terms of raising awareness among those interested in launching start-ups and providing them with training and support as well as networking and research. Among others, the GEC offers the following support services with links to or a focus on sustainability for start-ups and those interested in launching them. They include:

- MINT Green Entrepreneurship elective
- Green IdeaLabs (workshops for generating green business ideas)
- Green ProLabs (advanced workshops for business ideas)
- Green Round Tables (networking events for those interested in start-ups)
- Green Train-the-Trainer Workshops (training for start-up supporters)
- Green Accelerator (training/networking programme for green business ideas)

Further information

<https://hs-flensburg.de/forschung/forschungsprojekte/startup-sh> (in German)

<https://venturewaerft.com/map>

Consulting and support

Internal services at universities

Van Hall Larenstein University of Applied Sciences, Leeuwarden & Velp, the Netherlands: Green Entrepreneurship Center

Brief description

The Green Entrepreneurship Centre (GEC) at Van Hall Larenstein University of Applied Sciences in the Netherlands aims to promote entrepreneurial thinking and action on the part of students and alumni and to advocate sustainable ways of doing business. The GEC supports those interested in start-ups and start-up initiatives that are geared towards sustainable, innovative entrepreneurship.

Functions/services

The Green Entrepreneurship Centre advocates sustainable entrepreneurship and places a special focus on start-ups founded by students. The Centre aims to boost a sustainable economy based on approaches such as advancing a circular economy and climate targets. It sees internationalisation, innovations and partnerships as key success factors in this context. The SDGs serve as the guiding framework for the GEC's activities.

- Start-up training programme
- Entrepreneurship certificate
- Workshops and master classes
- Minor sustainable entrepreneurship/future-oriented entrepreneurship
- Support for financing queries
- Events

Further information

<https://www.vhluniversity.com/research/knowledge-centres/green-entrepreneurship-centre>

Consulting and support

Internal services at universities

University of Cambridge, UK: Cambridge Sustainability Accelerator and Hub

Brief description

The Cambridge Sustainability Accelerator in the UK has been working since 2019 to help start-ups as well as small and mid-sized companies with the process of integrating sustainability as a core aspect of their business activities and developing sustainable product and process innovations. The Accelerator was set up by the Cambridge Institute for Sustainability Leadership (CISL) at the University of Cambridge.

From 2021, the Accelerator is being expanded to include a CISL Sustainability Hub. The Sustainability Hub is primarily designed to promote partnerships between SMEs, science and start-ups aimed at developing entrepreneurial solutions to overcome challenges around sustainability.

Functions/ services

The CISL Accelerator offers

- Online and in-person programmes (e.g., online Accelerator programmes such as ‘Innovators for sustainable fashion’ and ‘Innovators for change. Resilience in times of disruption’).
- Events
- Webinars (e.g., ‘Understanding impact’)
- Hackathons
- Innovation sprints

The Accelerator addresses the following topic areas in particular:



Source: (CISL Accelerator 2020)

Further information

<https://www.cisl.cam.ac.uk/work-with-us/accelerator-and-sustainability-hub>

Consulting and support

Inter-university services

Social Entrepreneurship Academy, Munich

Brief description

The Social Entrepreneurship Academy (SEA) is a networking organisation founded in 2010 by four universities in Munich and their start-up centres (Munich University of Applied Sciences, Ludwig Maximilian University of Munich, the Technical University of Munich and Bundeswehr University Munich) Under the motto 'Education for Societal Change', the Social Entrepreneurship Academy provides training for social entrepreneurs, students and those interested in start-ups. This means that all the offers and services provided by the Social Entrepreneurship Academy link into sustainability – while prioritising the public welfare and a focus on society in keeping with the concept of social entrepreneurship.

Functions/ services

All of the offered services and opportunities place a focus on promoting social innovations by combining social thinking and entrepreneurial action. The SEA covers the following topics:

- Providing information
- Knowledge sharing and training, MOOCs, master classes
- Start-up consulting
- Generating and scouting ideas
- Start-up competition
- Global Entrepreneurship Summer School
- Hackathons
- Network management

The SEA provides advice not just to students but also to companies, foundations and NGOs, for example. It also offers further training and train-the-trainer seminars for other universities so that similar services can also be set up at the respective institutions.

Further information

<https://seakademie.org/en/>
<https://seakademie.org/en/about-us/our-mission/>

Non-university
partnershipsNon-university
partnerships

Non-university partnerships

Climate-KIC: Sustainable Business Model Hub, Europe

Brief description

EIT Climate-KIC is the largest public/private partnership project in the EU, aiming to make a contribution towards developing a carbon-free economy and minimising the impacts of climate change by promoting innovations and new business models. EIT Climate-KIC has supported over 1,000 climate-friendly start-ups in Europe since 2010. The project provides advice on the idea generation process, brings project consortia together, assists in the preparation of project applications and coaches start-up teams.

Climate-KIC Europe has a total of over 400 global partners in 25 countries, including universities, companies, cities and NGOs. Climate-KIC operates in 13 locations in Europe.

‘Our mission is to catalyse systemic change through innovation in areas of human activity that have a critical impact on greenhouse gas emissions – cities, land use, materials and finance – and to create climate resilient communities.’

Functions/ services

As an example of EIT Climate-KIC’s work, the foundation has offered online training on sustainable business models since 2010. The training looks at tools, methods and case studies as well as research results that could be relevant to the development of sustainable business models. The online learning courses offer a mix of videos, exercises on developing sustainable business models and practical examples. Climate-KIC also offers a train-the-trainer workshop that prepares coaches for sustainability-oriented business model development.

Besides this, it teams up with universities to provide climathons and summer schools as well as accelerator programmes. Overall, a wide range of online and offline training is offered.

Further information

<https://store.climate-kic.org>

<https://dach.climate-kic.org/en/what-we-offer/education/>

Non-university
partnershipsNon-university
partnerships

Cleantech Incubator: Green Garage, Berlin

Brief description

Climate-KIC has been running Germany's largest cleantech incubator, the Green Garage, at the EUREF Campus in the Schöneberg district of Berlin since 2013. The EUREF campus is a real-world lab for the energy transition with numerous companies, start-ups and research institutes. For example, the EUREF gGmbH TU campus is an affiliated institute of TU Berlin with the topic clusters 'environment, climate, energy and mobility'. The Green Garage supports start-ups in the world's largest accelerator for cleantech with the goal of preparing them for the market at rapid pace.

Functions/ services

Initiated by Climate-KIC, the Green Garage in Berlin takes in new start-ups in the three-stage programme two times every year and supports these start-ups for 18 months at most (scholarships, grants, office space, business coaching, mentoring, consulting, etc.). The funding programme assists young companies in the initial phases of their incorporation with developing cleantech business models, tapping into markets for their products and charting a growth path.

The teams also benefit from start-up funding, training (on topics such as business development, for instance) and the extensive, Europe-wide Climate-KIC network.

Further information

<https://euref.de/en/entry/green-garage/>

Non-university
partnershipsNon-university
partnerships

GO! Start-up Centre Oldenburg

Brief description

The GO! Start-up Centre Oldenburg is an accelerator focusing on digitalisation, energy, health and sustainability. It was initiated by several support institutions in Oldenburg that work in the area of start-ups. The Start-up and Innovation Centre at the University of Oldenburg is a co-initiator and strategic partner of GO! and serves various functions, including establishing contact with university start-ups.

Teaching staff at the University of Oldenburg are involved in GO!, for example by offering workshop formats to review the relevance of sustainability for the respective start-up and incorporate it into its work.

Functions/ services

The GO! Start-up Centre offers an accelerator programme with six months of coaching including weekly workshops and other formats. There is also a co-working space at the site. Innovation sprints are set up for companies.

Activities such as workshops on sustainability-oriented business model development are offered as part of a joint effort with sustainability experts at the University of Oldenburg. The selection process determining which start-ups receive support also looks at how they link into sustainability-related aspects.

Further information

<https://www.gruenden-oldenburg.de> (in German)

Non-university
partnershipsNon-university
partnerships

StartGreen Platform and StartGreen Award

Brief description

StartGreen is the online information and networking portal for the green start-up scene in Germany (e.g., green start-ups, green entities making investments and providing capital, sustainability-oriented start-up centres). The portal was created as part of a research project involving the University of Oldenburg and is set to be continued by the Borderstep Institute once the project funding has come to an end. The network makes itself available for an exchange of knowledge and experiences between all the organisations on the green start-up scene. For example, a number of higher education institutions and university start-up consulting services have set up a profile on StartGreen.

Functions/ services

StartGreen serves as a hub for news and events related to the topic of sustainability-oriented start-up activities and creates its own video posts, analyses and reports. Start-ups and organisations from the start-up ecosystem can visit the networking area to connect with each other. The online portal plays an important role in sharing information regarding sustainable content. StartGreen sees itself as the portal for the green start-up scene and aims to not only be used by players on this scene but to actively involve them. Its long-term goal is the transition to a green economy.

The StartGreen Award supports innovative start-ups in the area of climate protection and sustainability and enhances their profile. The start-up award for sustainability solutions was awarded in Germany for the fifth time in a row in 2019.

Further information

<https://start-green.net> (in German)

Non-university
partnershipsNon-university
partnerships

Smart Green Accelerator, Freiburg

Brief description

The Smart Green Accelerator promotes collaboration between start-ups and innovation-driven companies in the green economy. The Smart Green Accelerator is part of the Start-up BW campaign launched by the state of Baden-Württemberg. It is being run as a public/private partnership between the Ministry of Economic Affairs, Freiburg's FWTM business development association and the Grünhof start-up centre. The German and international network aimed at strengthening the start-up support system consists of industrial players, R&D institutions, start-up experts, financing entities and politicians. The University of Freiburg supports the Accelerator as a networking partner.

Functions/ services

The Accelerator supports start-ups established in the green economy as they work to develop partnerships as well as providing coaching programmes and access to funding instruments. Its focus is on supporting start-up initiatives in the areas of green energy, green industry, green food and green city.

Further information

<https://smartgreen-accelerator.de/en/>



**Approaches for
integrating
sustainability
in university start-up
consultance**

A shift from a purely economic paradigm in start-up support programmes to a sustainable paradigm that supports economic, environmental and social objectives in equal measure should be the aim when it comes to boosting sustainability in all companies founded at universities. In light of this, it is important that the sustainability paradigm mentioned is already taken into consideration in the institution's strategic alignment and institutional framing. In this case, sustainability is no longer simply viewed as an add-on by the players involved but rather as a fundamental component of the consulting process. The expertise required for this purpose can be systematically developed along with specific tools and methods.

Many higher education institutions already treat activities to support sustainability and entrepreneurship as a key task, a significant field of research or part of the institution's self-image. The leading start-up universities in Germany in particular provide a wide range of information on their start-up services as well as their teaching and research opportunities. Some universities also make a focus on teaching and research in the area of sustainability a prominent part of their mission statement and in the information they provide regarding the institution. At the same time, there are overall shortcomings when it comes to integrating sustainability. Our analysis of start-up consultancies at universities demonstrated that sustainability is not linked into the options offered by start-up consulting services in many cases, or that sustainability is integrated in a very fragmented manner. Moreover, the analysis made it clear that the existing services are frequently provided in response to demand or in specific cases and are not systematically integrated into the coaching process.

Challenges and opportunities around sustainability should therefore be integrated into all services offered as part of a university's start-up consulting.¹⁷ Only then can sustainable business models geared towards the future be initiated, promoted and developed in a targeted manner.

The presented examples offer an insight into a wide range of possible ways that sustainability can be implemented and integrated into start-up consulting at universities. The examples of good practice in particular are intended to provide inspiration for implementing individual activities at the respective institution. The support provided for start-ups at universities is very heterogeneous and diverse. As a result, universities can use this information as the foundation for developing specific courses of action adapted to the respective institutional context.

Outlook

The following aspects can play a part in continuing efforts to strengthen a sustainability-oriented start-up culture in the context of support provided to start-ups at universities.

Universities: boosting sustainability expertise in university start-up consulting

- Training start-up consultants: a start-up consulting team with expertise in sustainability is becoming increasingly important for universities aiming to maintain or expand on a leading position as supporters of innovative start-up initiatives. The German Start-up Monitor indicates that innovative founders are placing an increased focus on protecting the environment, climate and resources as well as social participation. Around 75 per cent of the start-ups are aiming to make a positive impact on society or the environment.¹⁸ This means that demand for sustainability expertise in university consulting services is also set to increase.
- Use of sustainability-related training offers, e.g., relating to tools and methods for developing sustainability-oriented business models: involving external expertise as part of targeted network management can also be a major key to success.
- Sustainability services for start-up teams: start-up consultancies at universities should develop sustainability-oriented options for start-ups and systematically integrate them into their coaching processes so they can provide targeted support for start-up initiatives that are keen to integrate sustainability and in order to make all start-up initiatives aware of the importance of taking sustainability into account when developing suitable business models.

Strengthening networks as promoters for a sustainability-oriented start-up culture

- Network management on the part of university start-up consultancies: start-up consultancies can carry out targeted network management themselves, e.g., so they can collaborate with regional and supra-regional experts, associations and training institutions that are useful in terms of expanding the respective sustainability-oriented start-up culture. Besides this, some start-up consultancies at universities are already networking with each other in the 'Hochschulen & Entrepreneurship' (Universities & Entrepreneurship) think tank. Among other things, the think tank offers a training and certification programme for start-up consulting. In addition to sharing experiences, awareness raising and training on the importance of orienting university start-up consulting towards sustainability could form part of networking activities and within the training programme.
- Need for research: so far, hardly any data or insights are available regarding the long-term economic, environmental and social effects of promoting start-ups at universities and the sustainability impacts achieved by the supported start-ups. There is a significant need for research in this area, which could be addressed, for example, by the members of Förderkreis Gründungs-Forschung e.V. (FGF), the leading and most important scientific association for entrepreneurship, innovation and SMEs in the German-speaking world.

Politics and start-up support systems: integrating sustainability

- A nationwide information campaign in Germany called ‘Innovation as a key to success for innovative start-ups’ could play a role in raising awareness of and boosting sustainability in start-up consulting at universities.
- Creating an overview of sustainability tools: so far, no overview exists of sustainability-oriented tools and methods for developing business models that are suitable for university start-up consulting, particularly with respect to their content, relevance and applicability. The range of information available could be compiled in a toolbox, for example. It would be important to review how responsibility for the tools and methods is set up at the institutions.
- An overview showing funding opportunities explicitly geared towards sustainability-oriented start-up initiatives could be created as a further support service for university start-up consulting.
- Federal and state programmes to support newly founded companies and start-ups: the extent to which start-up initiatives emphasise sustainability and the contribution that start-up initiatives make to efforts to solve sustainability-related challenges should represent explicit and relevant selection criteria for the start-ups to receive funding and the funded universities. Given this, the focus the respective university start-up consultancies place on sustainability should be a criterion not just in terms of consulting services but also in the actual awarding of federal or state resources for start-up consulting at universities.
- Embedding sustainability criteria in the start-up radar: the Stifterverband initiative’s start-up radar compares German universities’ profiles with respect to the support they provide to start-ups. So far, issues around sustainability have not been taken into consideration in the start-up radar’s assessment system, neither in terms of awareness of start-ups and the support provided to them nor from the perspective of the economic, environmental impacts of providing support to start-ups. Given the mission-oriented innovation policies of the EU (e.g., the Green Deal) and Germany’s federal government (e.g., the High-Tech Strategy 2025), action to integrate these aspects is urgently required and would represent an acknowledgement of the efforts of universities that are moving towards sustainability in the support they provide to start-ups. Among other approaches, the conceptual framework described in this brochure, which aims to enhance sustainability in the support universities provide to start-ups, could serve as a reference for the process of integrating sustainability into the start-up radar.

The presented examples of good practice have demonstrated that a wide range of information and support services for sustainability-oriented start-ups are already available at universities and in university start-up consultancies. Nonetheless, the potential that a focus on sustainability could offer in the support universities provide to start-ups often remains undetected and unused due to the fact that benefits offered by holistic support are not always recognised. This brochure responds to these factors by placing a particular focus on offering an overview of how sustainability could potentially be integrated into start-up consulting at universities and creates a basis for discussion in order to identify starting points for efforts to integrate sustainability into the respective university structures in a systematic manner.

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