

# BUNDLINJE 2.0

## SUSTAINABLE BOTTOM LINE 2.0



<b>City &amp; organisation</b>	Copenhagen, Gate21 and DTU (Technical University of Denmark)
<b>Urban challenge(s) addressed</b>	Circular Economy & Urban Biodiversity
<b>Name/title of learning practice</b>	TBæredygtig Bundlinje 2.0 (Eng. Sustainable Bottom Line 2.0)
<b>Type of case study</b>	For students: Curricular For SMVs: Life-long learning
<b>Programme level learning practice/ case study</b>	Region (Capital Region of Denmark)

**Note:** This case study reviews the program Sustainable Bottom Line 2.0 which is a joint collaboration between NGO Gate21 and the Innovation Pilot program from Technical University of Denmark (DTU) aiming at innovating business models including green and circular business models for SMEs by establishing university-NGO-SME collaborations.

The case study addresses the program from two perspectives 1) from Gate 21, and 2) from DTUs Innovation Pilot. The dual perspective is a requisite as DTUs innovation pilot-course is not addressing urban challenges per se, and because Gate 21 is not establishing educational programs.

# BACKGROUND AND HISTORY

**Years of establishment:** Established 2019, running from 2021 and forward.

## **Motivation behind intervention**

### **Sustainable Bottom Line 2.0 (from the website):**

"Converting outdoor areas to new nature can be a path to a greener business model. This can result in lower electricity bills and water consumption, less maintenance, fewer operating expenses, improved working environment, fewer sick days and other recreational values. There is something to be gained both environmentally and socially."

### **Innovation Pilot (from the website):**

"The course is about applying innovation theory and models in practice and solving concrete engineering innovation challenges in collaboration with a company. The course works systematically with innovation as an exploratory process aimed at building up knowledge as a basis for seeing new opportunities. Important part of this work is to thoroughly investigate the problem and its context and see the problem from different perspectives (reframing). Another important element is to develop value-creating solutions that take into account the context in which the solution should be implemented. Visits and interviews with key stakeholders are an important part of the work and activities out of the house must therefore be expected.

## **General content of intervention**

### **Sustainable Bottom Line 2.0 (from the website):**

"Sustainable Bottom Line 2.0 works to help companies in some of the areas that are most harmful to the environment, and where there is the greatest potential for companies to save on the bottom line."

### **Target group:** Sustainable Bottom Line 2.0: SMEs

Innovation Pilot: Mandatory course for all bachelors of engineering students on the 5th and 6th semesters.

## **Length of the course:**

Sustainable Bottom line 2.0: The counseling process runs over approximately two months, and requires the company to set aside time for 1-2 meetings with counselor

Innovation Pilot: 13 weeks

## **Average number of students attending:**

Sustainable Bottom Line 2.0: 80-100 SMEs

Innovation Pilot: N/A

# URBAN CHALLENGES ADDRESSED AND THE CONTEXT

**Which urban challenge:** Circular Economy & Biodiversity

## **Why was it addressed**

Lise-Lotte Schmidt-Kallesøe: "We are perceiving all challenges from a sustainability point of view. We are here to aid Denmark achieving their New Global Climate Action Strategy".

## **How is it addressed**

Lise-Lotte Schmidt-Kallesøe: "We are generally looking at Energy saving potentials in SMEs. That could be Emission factors in kg CO<sub>2</sub>-equivalent per unit but we would rather identify the less calculative and look at soft factors like the specific SMEs maturity level from entering the program and until they finish."

# ORGANISATIONAL DESIGN

## **Stakeholders involved**

Sustainable Bottom line 2.0 (from the website): "The project is supported by the European Regional Development Fund in collaboration with the Capital Region of Denmark together with municipalities, industry actors and knowledge institutions.

The project partners are Ballerup Municipality, Egedal Municipality, Gentofte Municipality, Copenhagen Municipality, Rudersdal Municipality, the Environment and Energy Center in Høje-Taastrup, HORESTA, Wonderful Copenhagen, the Hotel and Restaurant School, Danish Construction, Groconsult & EnergiTjenesten Øst.

The knowledge partners are DTU, Cphbusiness and AAU. The project is led by Gate 21."

For the particular biodiversity-program at Sustainable Bottom Line 2.0, Gate21 has established a collaboration with architect and urban planning firm SLA who helps with screening the biodiversity-conservation potential within each specific SME.

## **Resources required (human, capital, physical)**

Lise-Lotte Schmidt-Kallesøe: "Gate21 is responsible for screening applications. Applicants have to be SMEs located in The Capital Region of Denmark. Specifically, Gate21 looks at what they term maturity potential which is a concept that derived from their previous project Sustainable Bottom Line 1.0. [...] The maturity potential refers to the impact rate that the particular SME can reach from entering the program and from finishing. Hence, high-rate maturity SMEs can be disqualified because they are already at a place where the program is unable to help them."

# LEARNING DESIGN

## ECTS

Sustainable Bottom Line 2.0: N/A

Innovation Pilot: 10 ECTS

## Learning objectives

Sustainable Bottom Line 2.0 (Lise-Lotte Schmidt-Kallesøe): "We are tackling circular economy and biodiversity from a holistic perspective. It means that they have no specific learning objectives from the beginning of the SME-collaboration."

**Instead, Sustainable Bottom Line 2.0 offers a range of possible interventions which can be related to (from the website):**

- packaging;
- logistics;
- recycling;
- waste management;
- compliance and certification;
- sustainability management;
- biodiversity;
- food waste management;
- and green marketing.

Lise-Lotte Schmidt-Kallesøe further addresses the collaboration with students from Innovation Pilot: "When we collaborate with DTU-students from the Innovation Pilot-program they can help innovate a range of climate-friendly solutions which for example could be to build rainwater reuse systems or recycle metal pieces, to mention a few examples."

## Innovation Pilot (from the website):

A student who has met the objectives of the course will be able to:

- Explain basic theory and methods in innovation and business understanding as well as cooperation and communication
- Explain and apply the course's innovation theory foundation in connection with an innovation process
- Investigate and map the context of a given problem in order to understand for example market, value creation, trends, needs and technological opportunities

Set up vision and goals for an innovation process by looking at the innovation challenge from different perspectives and using relevant innovation methods

- Organize and design an innovation process to solve a concrete innovation challenge and explain and evaluate the chosen process and method based on theory

- Use relevant innovation methods and tools for key elements of the innovation process.
- Analyze, evaluate and describe possible solutions to an innovation challenge from a business, technological, organizational and user perspective.
- Select and argue for a chosen innovation solution and describe how to implement the solution as well as the business potential and budget.
- Work and collaborate across engineering disciplines and organize cooperation in a heterogeneous project group
- Illustrate and present results of project work orally for relevant stakeholders
- Communicate a solution proposal as a written presentation that includes a documented prototype as well as analyses and considerations on business, user, organizational and technological issues and furthermore considers the implementation of the proposed solution.

Evaluate and reflect on co-operation in an interdisciplinary team, including the role of own and others in the innovation process in order to understand how the team communicates, plans, makes decisions, solves problems, manages discrepancies, and manages professional and personal differences as well as how own and others' competencies are used in the solution of a concrete task.

### Training methodologies:

Sustainable Bottom Line 2.0: Within the program, "all regional fund-financed priority axis 3 projects must use the Sustainable Bottom Line Measurement Tool as a method for reporting the effects of the new green business models to Erhvervsstyrelsen [Eng. Danish Business Authority].

From the website: "The Sustainable Bottom Line measurement tool was developed by DTU as part of the first Sustainable Bottom Line project, and it is also DTU that supports the use of the tool. The Sustainable Bottom Line Measurement Tool is a life cycle-based tool that can also include effects in companies' value chains. DTU is a partner in Sustainable Bottom Line 2.0.

Within Sustainable Bottom Line 2.0's biodiversity-program architect firm SLA helps screen SMEs green/urban areas with the purpose of converting the widest possible area to biodiverse-friendly areas. The screening intervention follows a 3-phase formula: Dialogue - screening - rapport to enable maximum benefit for all parties."

However, Lise-Lotte Schmidt-Kallesøe emphasises the importance of psychological aspects, and generally highlights the human factor in any form of climate-intervention: "Working with sustainability, climate issues and biodiversity, there are so and so many methods to reduce CO2 emissions and reach climate change effects. These are all calculative methods to reach our goals. However, for me, the most important factor is the human factor. If you want to change anything, you have to start with the mindset of the people inside the company. It is a pedagogical-psychological area, and the methodologies to address these factors vary from case to case".

### **Format:**

Sustainable Bottom Line 2.0 (from the website): "Each company must on average contribute approximately 90 hours spread over approximately one year from the time the SME signs up for the project for advice, etc. is completed. In the project, each SME receives an average of DKK 30,000 in advisory assistance within a green area, which we identify together. The project thus gives companies the opportunity to mature in a greener direction and get a greater sense of the company's potential for a more circular business.

[Sustainable Bottom Line 2.0's] "work with the companies follows these work packages, where we [they] start with an introductory meeting that aims to review the company's products and processes and end with a collection of effects from the advice that the company has received."

Innovation Pilot (from the website): "The teaching method is based on blended learning, where a significant part of the theoretical teaching takes place as e-learning and the course days are organized as a mix of workshops, group work and corporate meetings. Later in the process there will also be work in the workshops in SkyLab and at the Ballerup Campus. The project groups are composed of engineering disciplines, and two business courses are conducted during the course. Teamwork and project work are essential parts of the course and the course's learning process. Students are therefore expected to take an active and constructive role in the organization of the team's project work."

### **Student support systems**

Lise-Lotte Schmidt-Kallesøe:

"The program works as a mentorship-program for students. The SMEs act as a green transition-mentor, you could say, which means that the SMEs help the students to solve their specific problem they have formulated through the Innovation Pilot-program. The students gain experience and knowledge about business and the industrial sector in Denmark. The SMEs take on the mentor role to help the students understand the business, but in return the SMEs receive a green business model".

### **Assessment methods**

Innovation Pilot (from the website):

"Evaluation of exercises/reports

Evaluation is based on e-learning exams, process reports, innovation presentation, and presentation. Final grade is an overall assessment of the mentioned elements. Examination language is English.

7 step scale , internal examiner"

### **Integration into curricula (if applicable)**

Students will apply theory into practice when transitioning the SMEs business operations into green business models. Taken from Innovation Pilot learning objectives (from the website):

"Explain and apply the course's innovation theory foundation in connection with an innovation process".

# HINDERS

## In relation to urban challenges

For biodiversity specifically, Lise-Lotte Schmidt-Kallesøe reflects on the lack of clear calculation methods to prove biodiversity impact: "Because of the Sustainable Bottom Line Measurement Tool, we have to prove CO2 potentials even though biodiversity works on other premises. Biodiversity is our newest topic within our program, and we are still learning how to develop the best setup to gain biodiversity effects. Of course, it's possible to argue that by converting an urban area into a green area, you can bind the CO2 in the greenery, but the effect is not sufficient from a purely CO2-impact point of view. Other important biodiversity factors need to be taken into account as well"

Lise-Lotte Schmidt-Kallesøe continues "[...] as of now, we need business cases to prove biodiversity impact."

## In relation to delivery of intervention

-Lise-Lotte Schmidt-Kallesøe: "The biggest supporting factor for us is local impact and local anchoring. [...] vice versa, the biggest hindering factor is the lack of local impact and lack of stakeholders who re-develop our inventions after the program ends".

# ENABLERS

## In relation to urban challenges: N/A

## In relation to delivery of intervention

Lise-Lotte Schmidt-Kallesøe: "The biggest supporting factor for us is local impact and local anchoring. With our precious project Sustainable Bottom Line 1.0, we experienced working with a SME who were standing with their arms crossed and did not necessarily believe any relevant intervention could be implemented, however after the first program, they were eager to join our 2.0-program, and they are now trying release some of their park area "back to nature" instead of cultivating it. Such a case is an example of local anchoring, where the SME partner sees the potential and understands that there are a lot of things you can do to reduce CO2 emissions and increase biodiversity".

# REFLECTION

## Success factors

Sustainable Bottom Line 2.0 (from the website):

"Climate adaptation, reduced need for maintenance, lowered CO2 emissions, and recreational value."

## Outputs, outcomes and impact

Sustainable Bottom Line 2.0

Lise-Lotte Schmidt-Kallesøe: "We are seeing the biodiversity trend is emerging at the moment, but we still need to see a more mature range of ways to increase biodiversity. For example, we are working with a range of golf unions, and the grass-practices all vary within each union. Some are burning the grass, some are spreading it on farm fields, and some are doing something else. We would love to establish a general way of utilising grass treatment the best way possible".

**Lessons learned and recommendations:** N/A

## Other

<https://www.gate21.dk/baeredygtig-bundlinje-2/projektetsraadgivere/>  
<https://www.gate21.dk/wp-content/uploads/2021/04/Biodiversitet-1.pdf>

<https://kurser.dtu.dk/course/62999>  
<https://innovationpilot.dtu.dk/studerende/kursets-opbygning>

**Note:** The information contained on this description was extracted from the "Case Study report" (published by the Urban GoodCamp consortium in March 2022), available at: [https://www.urbangoodcamp.eu/uploads/1/6/2/1/16214540/ucamp\\_-\\_case\\_study\\_report\\_1.pdf](https://www.urbangoodcamp.eu/uploads/1/6/2/1/16214540/ucamp_-_case_study_report_1.pdf)

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