



Karlstad University  
Risk and Environmental Science

## Course outline: Sustainable development - with focus on Climate Change (CCGA01), Spring 2020

### Theme 4: Societal transformation to sustainability

The fourth theme of the course is centered around sustainability transformation and various transformation pathways.

**Study period: 4 May to 5 June**

### Learning Outcomes

Upon completion of this theme of the course, students should be able to:

- give an account of the concept sustainability transformation
- outline sustainability transformation strategies for a systemic point of view
- critically examine Sustainable Development Goals and climate action strategies
- take a position on how they themselves and the society at the individual and political levels can transform to sustainability

### Lectures / Seminars

Below are the preliminarily planned lectures and seminars and their content:

#### Lecture 4.1 Resilience: Persistence, Adaptation, TRANSFORMATION

- Looking at transformation through a resilience lens
- Understand transformation, gradual and abrupt transformation
- Regime shifts and (Positive) Social Tipping Points

#### Lecture 4.2 Urgency of sustainability transformation

- Status of Planetary Boundaries, transgressed boundaries
- Evolution of atmospheric greenhouse gas concentrations in Holocene and Anthropocene
- Carbon budget, climate targets and our progress

#### Lecture 4.3 Sustainability transformation strategies

- Climate solutions across sectors
- Co-benefits of climate solutions
- Sustainable Development Goals: trade-offs and co-benefits



Karlstad University  
Risk and Environmental Science

#### **Lecture 4.4 Agencies for sustainability transformation**

- Conventional, formal and recognized actors of sustainability transformation
- Emerging and distributed actors of sustainability transformation
- Climate governance at scale and its impact

#### **Seminar 4.1 Implementing sustainability transformation strategies through agencies**

Students will delve into the solutions and agencies in details, and will identify solutions implementable through each agency (group work + presentation)

#### **Lecture 4.5 Social tipping points instrumental for climate action**

- Social tipping points and constituted systems
- Levers and leverage points
- Geographic scales and time windows for social tipping points

#### **Assignment 4: Climate mitigation and sustainable society**

The course has already dealt with the basics of sustainable development, the ongoing climate change and climate change adaptation. This theme will particularly focus on climate change mitigation and sustainability transformation. Your assignment is to do the following:

Choose one of the following *areas* of focus:

- Forests in Scandinavia
- Rain forests in tropical areas
- The food system (anywhere in the world)
- Biological diversity (anywhere in the world)
- Water consumption (anywhere in the world)
- Energy production (anywhere in the world)
- Agriculture in Europe
- Tourism (anywhere in the world)
- City planning (anywhere in the world)
- Business, industry and commerce (anywhere in the world)

Identify and choose concrete examples of measures/strategies for sustainability transformation (planned or completed) that aims to reduce greenhouse gas emissions and strive towards sustainable development in your chosen *area*. You will need to search for complementary information in addition to the course literature in order to elaborate on the specific measure/strategy.



Karlstad University  
Risk and Environmental Science

Describe, explain and discuss the following questions:

- What *area* have you chosen and how will it be affected by a changing climate and a changing world?
- How are people using the *area* and how does our way of life inhibit sustainable development of this area?
- What measure(s)/strategy(ies) for sustainability transformation have you chosen and in which ways is it intended to reduce greenhouse gas emissions and strive towards sustainable development in your chosen *area*?
- What pro's and con's and what challenges can be linked to your chosen measure/strategy for sustainability transformation? Motivate your answer!
- There are 17 Sustainable Development Goals (SDGs). Identify at least two goals that you think that your chosen measure/strategy for sustainability transformation can help achieving. Motivate why you think this way and give examples of how this is manifested. Also, expand on any potential trade-off with SDGs that you encounter.
- Finish your paper with a discussion chapter where you reflect on what you have discovered and try to put it in a bigger perspective. Importantly, reflect on your own role, be it as an individual of a society or as a professional, towards this transformation.

For *areas* that do not specify a place in the world you are free to set your own limits. Considering the number of words you work within it might be difficult to give a thorough answer if you for example choose "Tourism in the whole world" as an *area* of focus. We would instead encourage you to choose "Tourism" in a smaller area that you find interesting and relevant to write about and find information on.

To get into the theme we recommend that you, apart from searching for relevant sources related to your measure/strategy, read the article by Steffen et al. (2015). Planetary boundaries: Guiding human development on a changing planet, and the report The sustainable development goals report, UN (2019). You may also find it useful to read the following articles: Bhowmik et al. (2020). Powers of 10; Kriegler et al. (2018). Transformations to Achieve the Sustainable Development Goals; Otto et al. (2020). Social tipping dynamics for stabilizing Earth's climate by 2050.

### **Deliverable:**

Hand in your paper on Canvas (link will be available soon). You have 800-1200 words at your disposal. Reference list, title page and table of contents do not count towards the word limit. It is recommended to structure the paper with headings that reflect the questions. Use



Karlstad University  
Risk and Environmental Science

Times New Roman/Calibri, font size 12, single spacing). References should follow the Harvard style. For detailed instructions, please see <https://libguides.kau.se/harvard-english>.

***Deadline date for Assignment 4: 5 June 20.00 (8pm)***