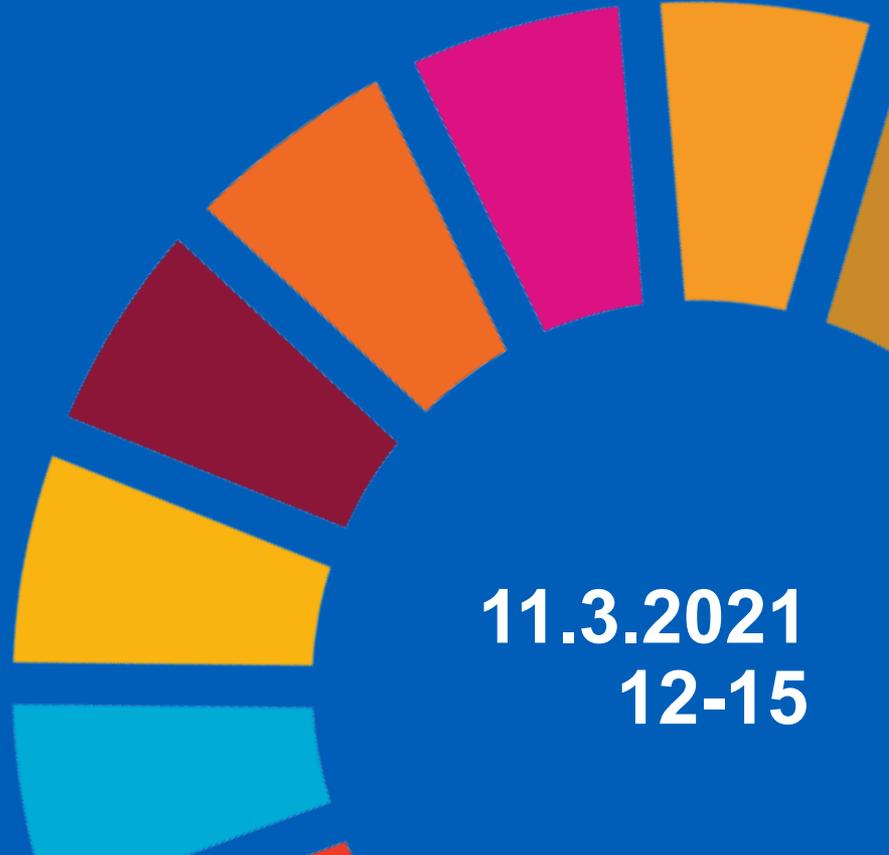


Sustainability in Teaching -course

Session 1



Aalto-yliopisto
Aalto-universitetet
Aalto University



11.3.2021
12-15

Session outline

1. Course starter and introduction

2. Getting to know each other

Break

3. Basics of sustainability and sustainable development

Break

4. Sustainability in your fields: First reflections

Code of conduct for this course

Being present

- Turn off your email and mobile phone
- Keep video on at least 1) when talking 2) during breakout rooms (BR)
- Taking care of well-being
- During breaks – take a real break (get on your feet, leave the room, watch out of the window, go out,...)



Aiming for respectful dialogue

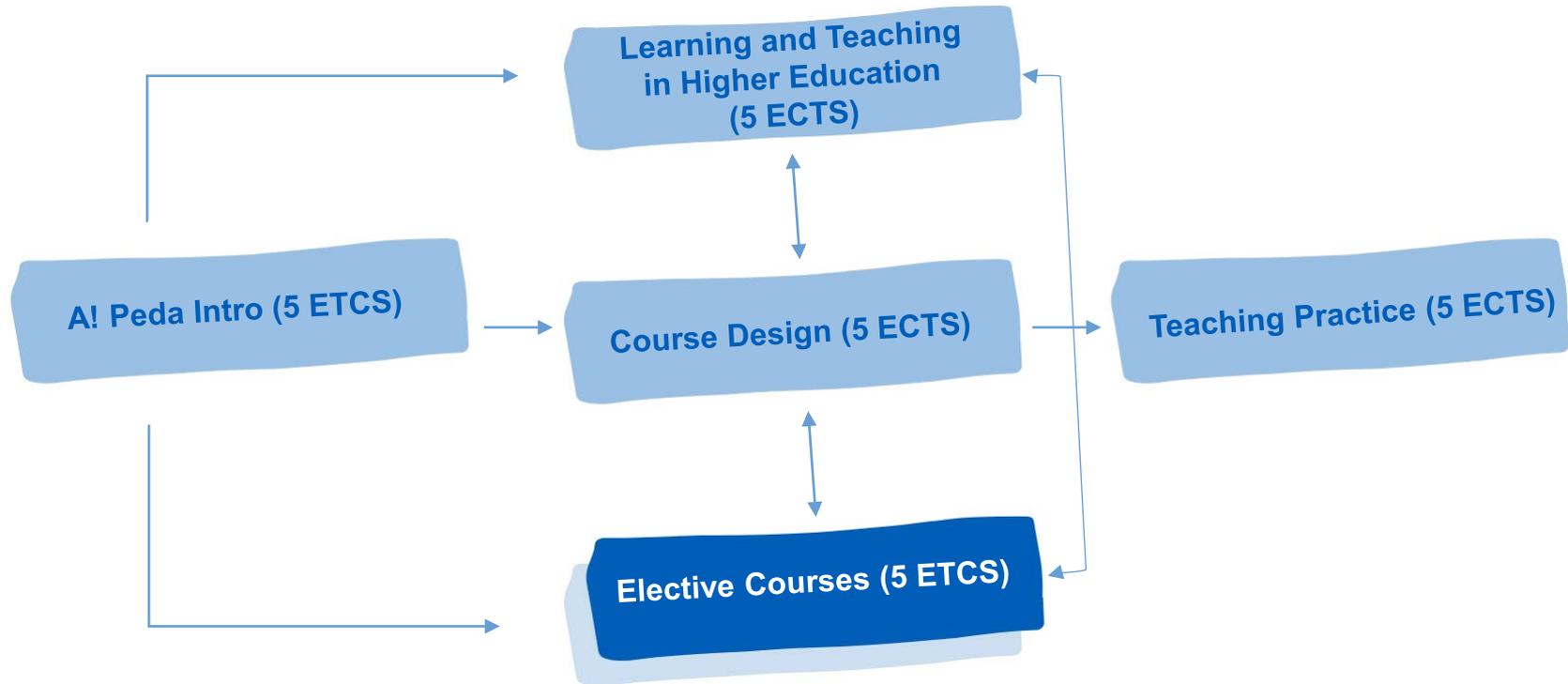
Sustainability as a topic includes conflicting perspectives.

When learning about sustainability, these conflicting views are the path to increased understanding (Thomas 2009).

In order to learn from the differences, our aim is to build an atmosphere, where there is space for both deep consensus and respectful disagreement (Limbach 2002).

Aalto University Pedagogical training

(25 cr)



Learning outcomes:

After the course you..

- **understand** the basics of the sustainability crisis, the concepts of sustainability/sustainable development and the sustainable development goals (SDG), and relate them to one's own specific subject field
- **identify and apply** different approaches to integrate sustainability into teaching on course or programme level
- **reflect** on how key competencies for sustainability can be utilised in developing teaching in one's own subject field
- **design and apply** learning outcomes, learning activities and assessment methods for integration of sustainability relevant themes in teaching
- **reflect** on the role of values and emotions in teaching in relation to the sustainability crisis



Timeline of the course (changes possible)

Reading task for respective week	Mon	Tue	Wed	Thu	Fri
	7.3.	8.3.	9.3. Pre-assignment (questionnaire) Introduction	10.3. Reading task: Sustainability.no w-material	11.3. Session 1: Introduction to sust. & Sust. in field specific context
Wiek et al 2011	14.3.	15.3.	16.3.	17.3.	18.3.
	21.3.	22.3. Homework from session 1	23.3.	24.3.	25.3. Session 2: Integration of sustainability in higher education, Competencies
SDG-articles (tbc)	28.3.-1.4. Discussion with colleague (book time slot in time)				
Video	4.4.	5.4. Homework from session 2	6.4.	7.4.	8.4. Session 3: SDG framework

**COURSE
SESSION,**
at 12-15

**READING
TASKS**
(due
before
contact
sessions)

**Homework
assignment
DLs**

**OTHER
ASSIGNMENT**

Timeline of the course *(changes possible)*

Reading task for respective week	Mon	Tue	Wed	Thu	Fri
Tejedor et al	11.-15.4. Discussion with student (book time slot in time)				
Video	18.4.	19.4. Homework from session 3	20.4.	21.4.	22.4. Session 4: Teaching methods
Reading task (tbc)	25.4.	26.4.	27.4.	28.4.	29.4.
	2.5.	3.5. SULITEST Homework from session 4	4.5.	5.5.	6.5. Session 5: Teaching and assessment methods Values in teaching
Reading task (tbc)	9.5.	10.5.	11.5.	12.5.	13.5.
	16.5.	17.5. Homework from session 5	18.5.	19.5.	20.5. Session 6: Dealing with emotions and anxiety Closing
Deadline of final reflection:					

COURSE SESSION,
at 12-15
EET

READING TASKS
(due before
contact
sessions)

**Home work
assignment
DLs**

**OTHER
ASSIGNMENT**

Ways of working during sessions

Group work in breakout rooms

- random groups /designated group (same for the entire course)
- every breakout room session has an alternating chair

BR Chair duties

- Handing out the floor, keeping track of time
- Securing respectful dialogue
- Taking notes (if applicable), reporting to the whole group

BR Reporter for Flinga / other tools

- Notes and reporting of breakout room work (if applicable)

Using the Zoom chat

- Thanking, commenting, asking, thanking, sharing, encouraging





Ways of working between sessions

MyCourses:

- Platform for all learning materials, submissions of assignments

Working with your own course:

- If task/assignment not applicable to your course, use an imaginary "basic course" in your field

Written homework:

- Assignment based on session themes + reflective writing after each session (instructions in MC), dl Tue noon before session

Discussion area in MyCourses

Other assignments

Completion of the course

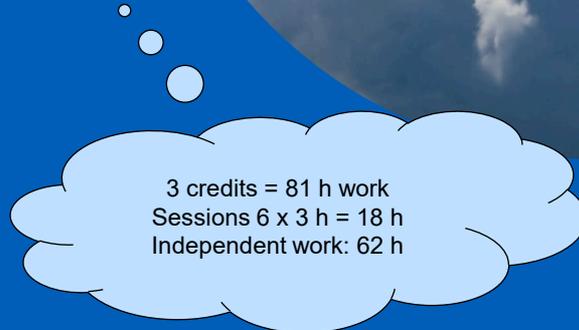
3 ECTS credits

Attendance and active working during the sessions

Attendance: 80 %, i.e. 1 session absence

All assignments completed

Grading: Pass/fail



Using the course assignments for research purposes

With your permission, we would like to use the course assignments as research data.

The aim of the research project is to develop better support for educators for integrating sustainability into their teaching.

The results of the project will be utilised in the development work of sustainability integration within Aalto University and published in peer-reviewed journals.

In practice:

- We will open a webropol form asking your informed consent for data collection.
- You can choose whether or not you give a consent to use the material in an anonymized form in the research
- Your decision on the consent does not affect your course attainment in any way.
- You can answer at any time during the course, latest on 3 June.

Your expectations

Sustainability in teaching, in general

“Looking forward to deepen my knowledge on the teaching of sustainability.”

“Overall understanding on what would be main or most important things we should be teaching on sustainability”

“I hope to generate more understanding about what to address, and how.”

Sustainability pedagogy

“I wish to learn more about relevant pedagogical approaches to enhance my capacity to teach sustainability-related issues to different learners.”

“I hope to learn a lot about sustainability issues and about how to include them in to course and teach them to the students.”

“I’d like to learn how to implement different sustainability aspects and topics in teaching in an immersive way, not just as separate add-on content.”

Concrete tools to apply in own teaching

“I hope to get concrete tools and examples how to apply sustainability teaching in different situations.”

“To get concrete material for my own coming teaching.”

Sharing and gaining new perspectives

“I want to understand and see, how other people understand sustainability. Also wish to look the problem from new directions”

“To hear other's ideas and views on these issues”

“To learn sustainability-related ideas and viewpoints from other domains than my own. Also interesting to have a dialogue with other participants about key topics of sustainability in teaching”



Warm-up

Write in chat (2 min):

What does sustainability mean to you?

Hold your answer until told to press ENTER



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Getting to know each other 1/2

General guidelines:

1st Breakout room: 10 min

- Random groups
- Room chair: first one in alphabetic (first name)

Topic of discussion:

- **Tell your colleagues what you wrote about sustainability in the chat. Elaborate.**
- *Round of spontaneous comments!*

Designated group

Group 1: Jenni, Matti K., Laura Cristina

Group 2: Julia V., Julia L., Simo

Group 3: Roope, Sandip, Heli, Johanna

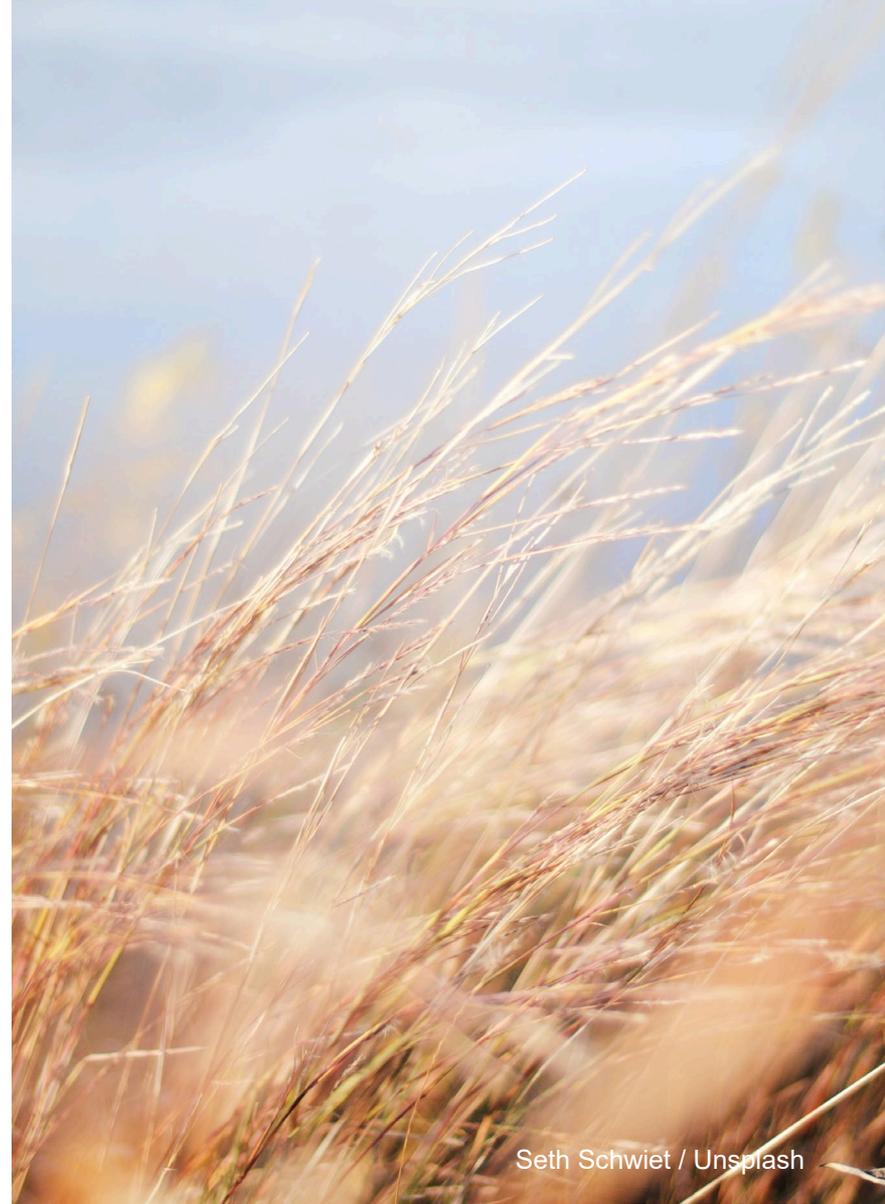
Group 4: Kirsi, Jaana, Kaj, Reetta

*Group 5: Camilla, Roza, Sven, Claudio,
Tuulia*

Group 6: Paulo, Fares, Matti P., Jaan



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Seth Schwiet / Unsplash

Getting to know each other 2/2

General guidelines:

2nd Breakout room: (10 min)

- Field specific groups
- Room chair: first one to celebrate birthday this year

Topic of discussion:

Introducing ourselves and the course we will be working on:

1. Your person: field of expertise, teaching experience
2. Tell about the course you will be working on during this course
3. Expectations on this course

Break



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Introduction to sustainability



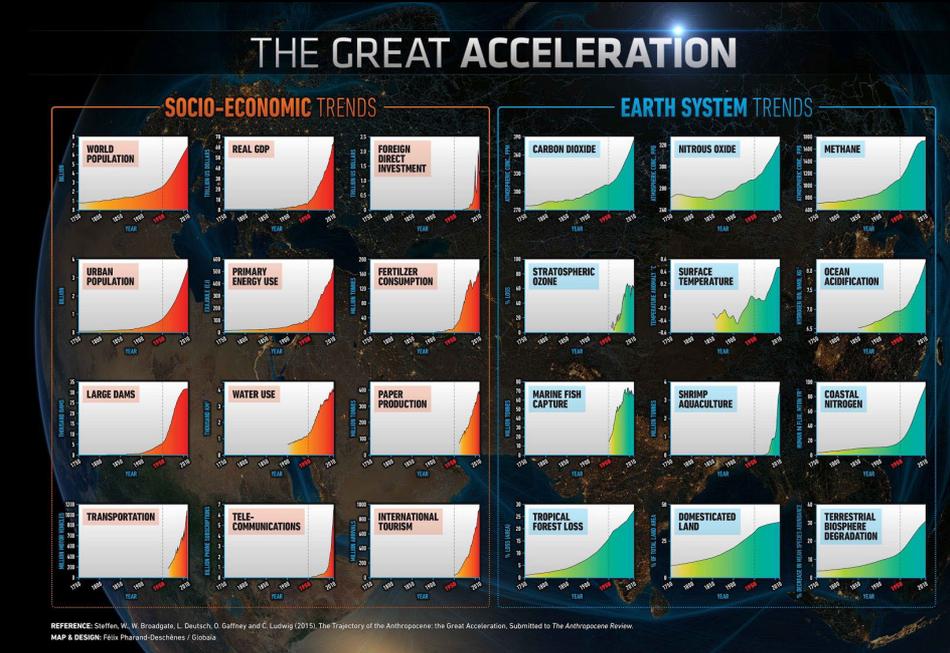
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Anthropocene – the Epoch of Man

(CRUTZEN 2002)



Indefinite growth on a finite planet?



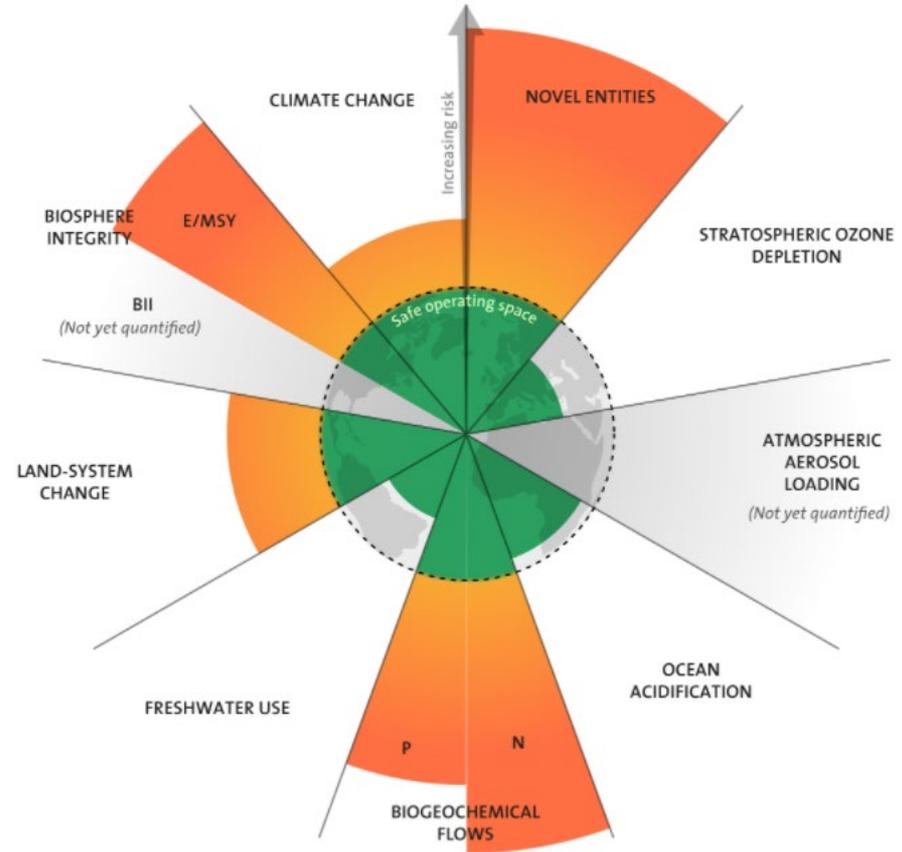
Planetary Boundaries

- Earth system = life supporting processes
- Defining and quantifying a safe operating space for humanity
- Nine boundaries

January 2022: 14 scientists concluded that humanity has exceeded a planetary boundary related to environmental pollutants and other “novel entities” including plastics.

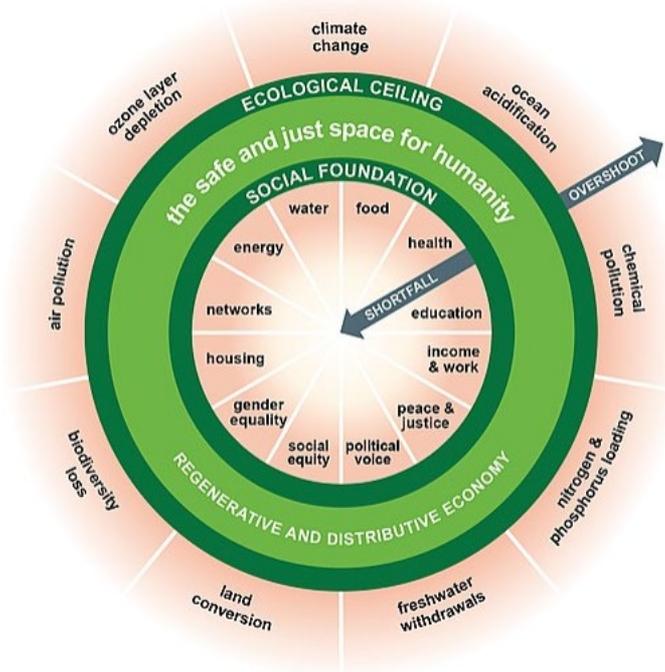


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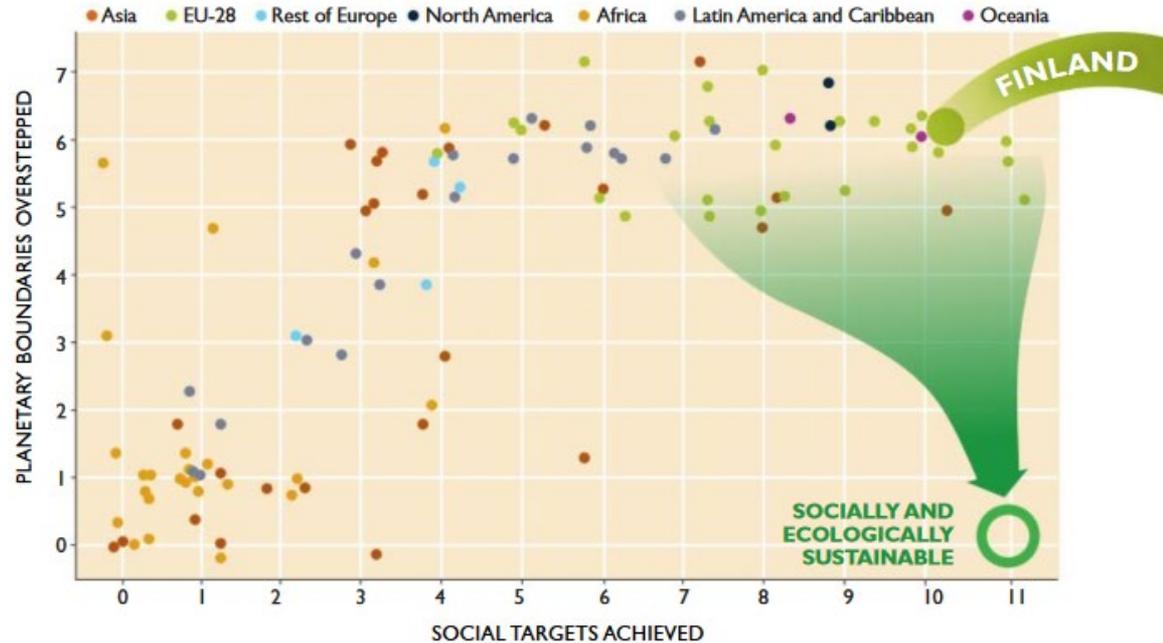


PB origins: Rockström et al 2009, updated Steffen et al 2015b)
Persson et al. (2022). Outside the Safe Operating Space of the Planetary Boundary for Novel Entities. *Environ. Sci. Technol.* 2022, 56, 3, 1510–1521

Safe and just operation space for humanity: *The doughnut model*



Raworth 2017



SYKE Policy Brief 2018, based on O'Neill et al 2018

Sustainability crisis

- Complex
- Interconnected + reinforcing
- Including conflicts of values
- Including contradiction
- Involving uncertainty
- Unprecedented magnitude
- Large scale – global
- Long-term and pervasive
- Human induced



Small group discussion

General guidelines:

Breakout room: (15 min)

- Field specific groups
- Room chair: last one to celebrate birthday this year

Topic of discussion:

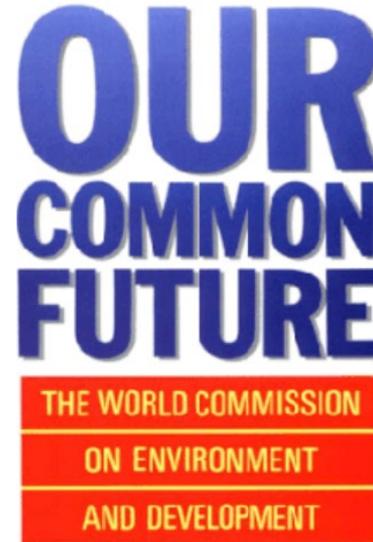
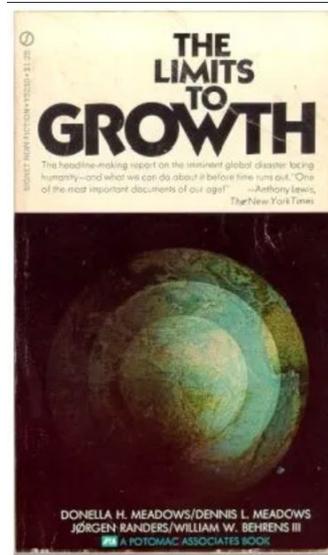
Based on your advance readings and previous discussions:

- What did you learn about sustainability from the advance readings?
- Was there something new or surprising for you?

Sustainability and sustainable development: “recent concepts with a long history” (Spindler 2013)



Von Carlowitz:
Sylvicultura
oeconomica, 1713.



United Nations

A/RES/70/1



General Assembly

Distr.: General
21 October 2015

Seventieth session
Agenda items 15 and 116

Resolution adopted by the General Assembly on 25 September 2015

[without reference to a Main Committee (A/70/L.1)]

70/1. Transforming our world: the 2030 Agenda for Sustainable Development

Concepts

Sustain

- (latin: *sustinere*): uphold, support, to continue supporting over a timespan

Able

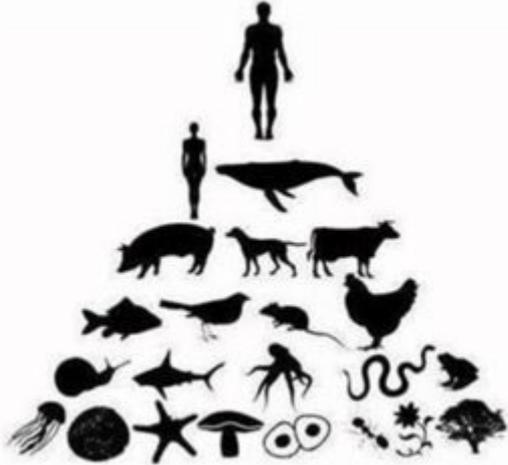
- (latin: *habilis*): have the capacity or power to do something

Sustainability

- Target state
- Characteristics of a system
- The ability to uphold to an indefinite future (*cp. German Nachhaltigkeit – lastingness, durability*)



What is being sustained?



World as a resource
Anthropocentric



Interconnected

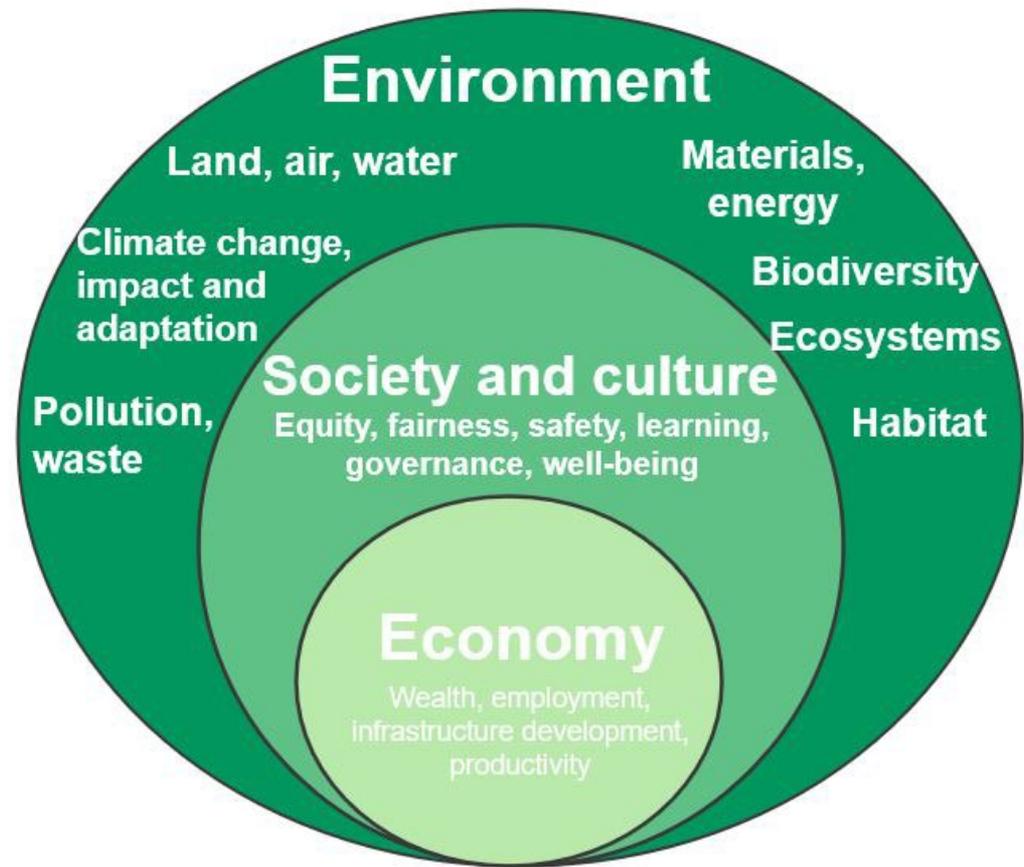


Regenerative
Ecocentric

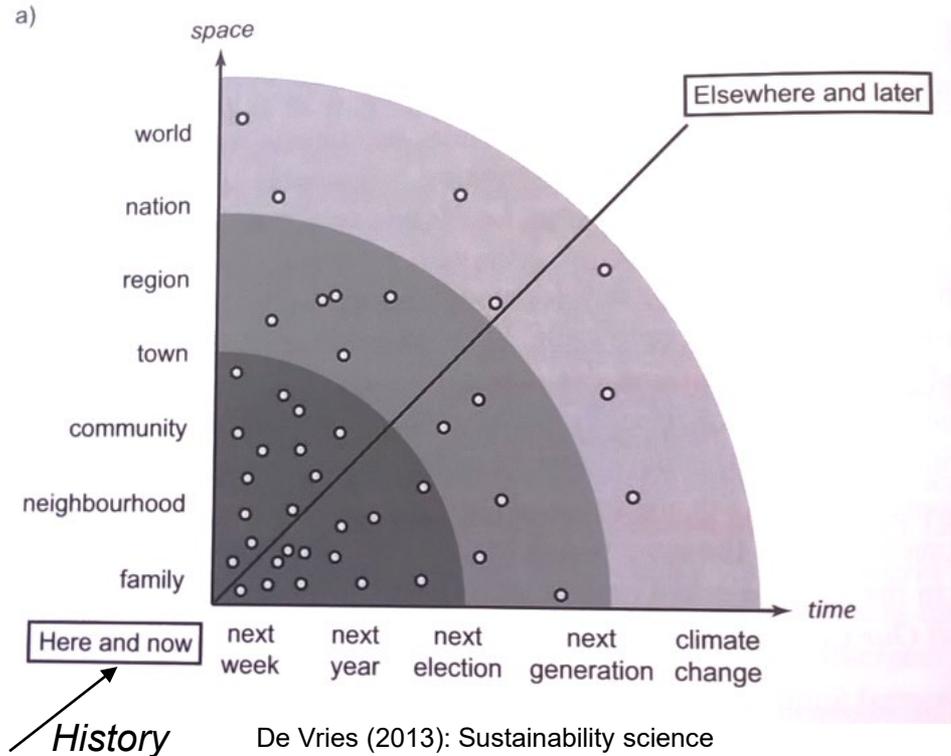
Dimension of sustainability

Ecological
Social
Economic

- Planetary boundaries as basis for a sustainable planet
- Strong sustainability (cp. weak sustainability)



- One fixed, finite system (planet)
- Nested temporal and spatial scales
- Past + present -> future



Development

- Process
- Human action for intentional change towards something better
- **Change towards sustainability?**

Sustainable Development is...

“...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland Report, WCED 1987: 43)

“...development that meets the needs of the present while safeguarding Earth's life-support system, on which the welfare of current and future generations depends.” (Griggs et al 2013)

“...enough for all, for ever.” (<https://www.biosphere.org.au/sustainable-future/>)

“Sustainable development is an oxymoron”. (Brown 2015)

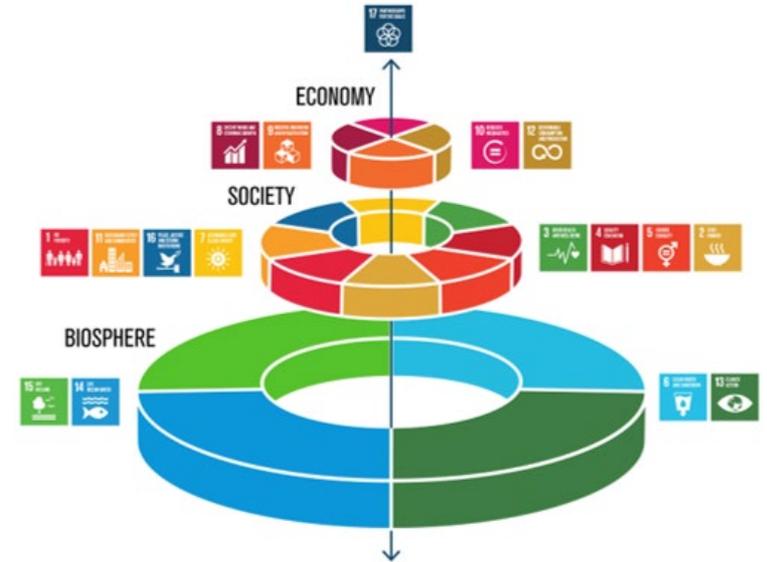
Human centric
Value laden
Political
Contested

Sustainable development is *“constructively ambiguous”* (Robinson 2004)



Sustainable development goals (SDGs)

- UN Agenda 2030 for Sustainable Development (in force since 2016)
- Summary of complex environmental, socio-political and technological problems
- Political compromise
- Holistic, thematic

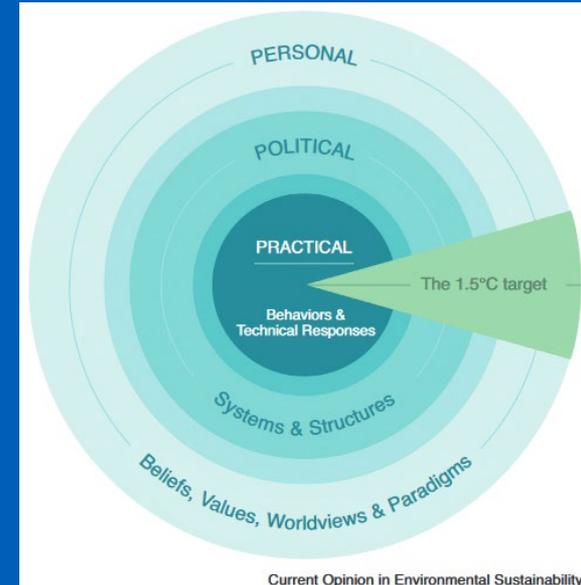


Change towards sustainability

- Deliberate, unintended
- Incremental, disruptive, collaborative/cooperative

Spheres of sustainability transformation (O'Brien, 2018)

- **Practical** (technical, behaviours -> direct contribution to desired outcome)
 - **Political** (systems and structures -> facilitates/constrains practical)
 - **Personal** (beliefs, values, worldviews -> influence understanding of practical and political)
- Personal and political generate conditions for practical transformations
- All must be recognized



Break



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Group discussion and reflection

General guidelines:

Breakout room: 15 min

*Room chair: second in
alphabetics (first name)*

*Reporter: last in alphabetics
(first name)*

*Reporter: Documents discussion
in Flinga in separate notes →
See link in chat*

*Everyone can add, comment,
question in Flinga!*



Questions:

How does your field connect and contribute to *unsustainability* and pathways *for* sustainability?

1. What are the most pronounced (un)sustainability issues in your field – now?
2. What about in the future?
3. What areas/spheres of change does your field contribute to?

➤ Reporter posts the field specific considerations on the Flinga Wall in separate posts.

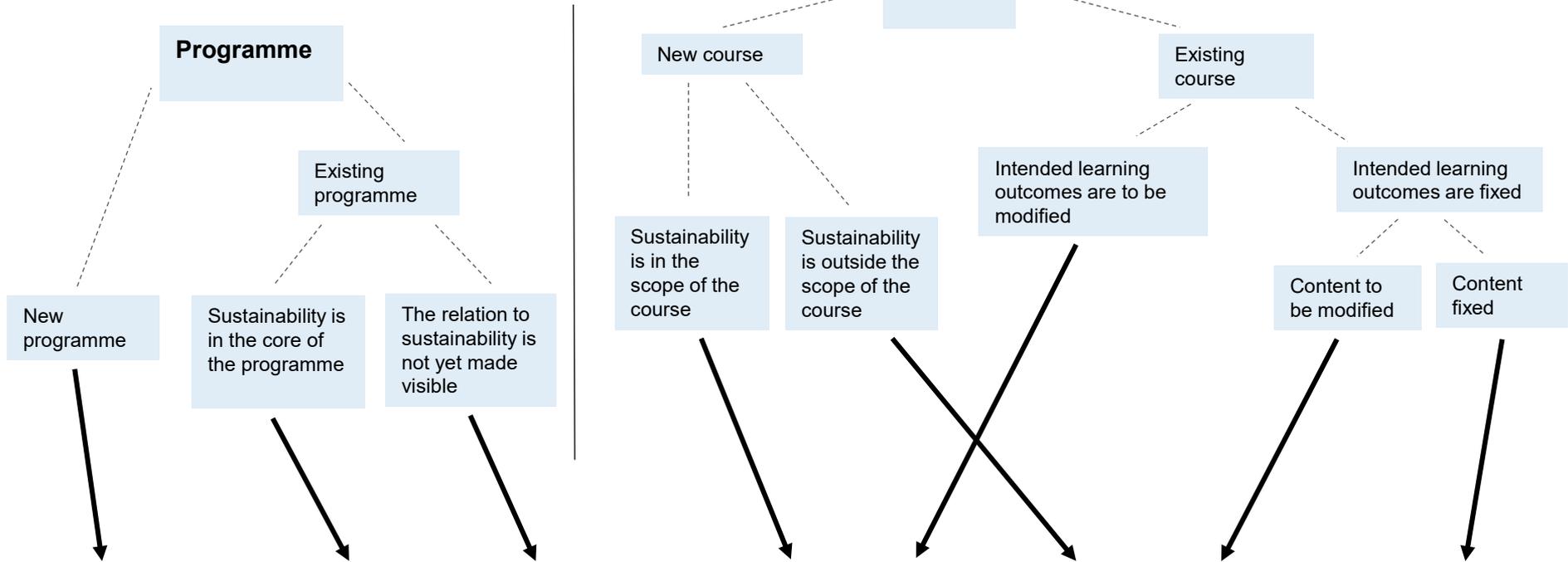
For home assignment ...

- Thinking of your own position – what is your approach to sustainability integration, what are your possibilities to do adjustments?

You can use the following chart as an assistance! See next slide...

Looking for my starting point for sustainability integration

I work on a...



Analysing the future

What kind of future is desirable in our operating environment? How could we accelerate the transitions needed through education? What kind of capabilities do our graduates need in 2030 and onwards?

Programme analysis and adjustment

You have already applied sustainability to the programme. Analysis of desired graduate capabilities, curriculum mapping might help you to identify possibilities for improvements.

Building common understanding

In a programme where sustainability is not yet been discussed the process starts by building common understanding among the programme staff and stakeholders.

Intended learning outcomes

Think about the learning outcomes, what should student learn in relation to the topic of the course? You can also apply “*Content approach*” or “*Encountering sustainability*”

Content approach to sustainability

Even though the course ILOs do not cover sustainability you can try to identify what kind of sustainability related topics are relevant for the course. You can also apply “*Encountering sustainability*”

Encountering sustainability

You could try setting sustainability as a context of an assignment. This could benefit students’ learning on topics that are relevant for them professionally or personally.

Next week...

- Reading task: Wiek et al 2011 (pdf in MyCourses).
- Home assignment: Instructions and assisting questions in MyCourses (dl 22.3. noon)

Next session Fri 25.3.2022!

Literature

Brundtland report: G. H. Brundtland et al, "Our common future", World Commission on Environment and Development (1987)

James H. Brown, The Oxymoron of Sustainable Development, BioScience, Volume 65, Issue 10, 01 October 2015, Pages 1027–1029, <https://doi.org/10.1093/biosci/biv117>

Crutzen P.J. 2002. Geology of Mankind. Nature 415(January):23

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Griggs, D., Stafford-Smith, M., Gaffney, O. et al. Sustainable development goals for people and planet. Nature 495, 305–307 (2013). <https://doi.org/10.1038/495305a>

Steffen et al. (2015b). Planetary Boundaries: Guiding human development on a changing planet. Science Vol. 347 no. 6223

O'Brien, K. (2018) Is the 1.5°C target possible? Exploring the three spheres of transformation, Current Opinion in Environmental Sustainability, 31: 153-160
<https://doi.org/10.1016/j.cosust.2018.04.010>.

O'Neill, D.W., Fanning, A.L., Lamb, W.F. et al. A good life for all within planetary boundaries. Nat Sustain 1, 88–95 (2018). <https://doi.org/10.1038/s41893-018-0021-4>

Robinson, John. 2004. Squaring the circle? Some thoughts on the idea of sustainable development. Ecological Economics 48, no. 4:369-384.

Rockström, J., et al, "A safe operating space for humanity", Nature 461: p472–475, (2009)

Raworth, K., "A Safe and Just Space for Humanity: can we live within the doughnut", Oxfam Discussion Papers (2012)

Thomas, I. 2009. Critical Thinking, Transformative Learning, Sustainable Education, and Problem-Based Learning in Universities. Journal of Transformative Education, 7, 245–264.

De Vries (2013): Sustainability science

Independent Group of Scientists appointed by the Secretary-General, Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development, (United Nations, New York, 2019) https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf

Questions, comments



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