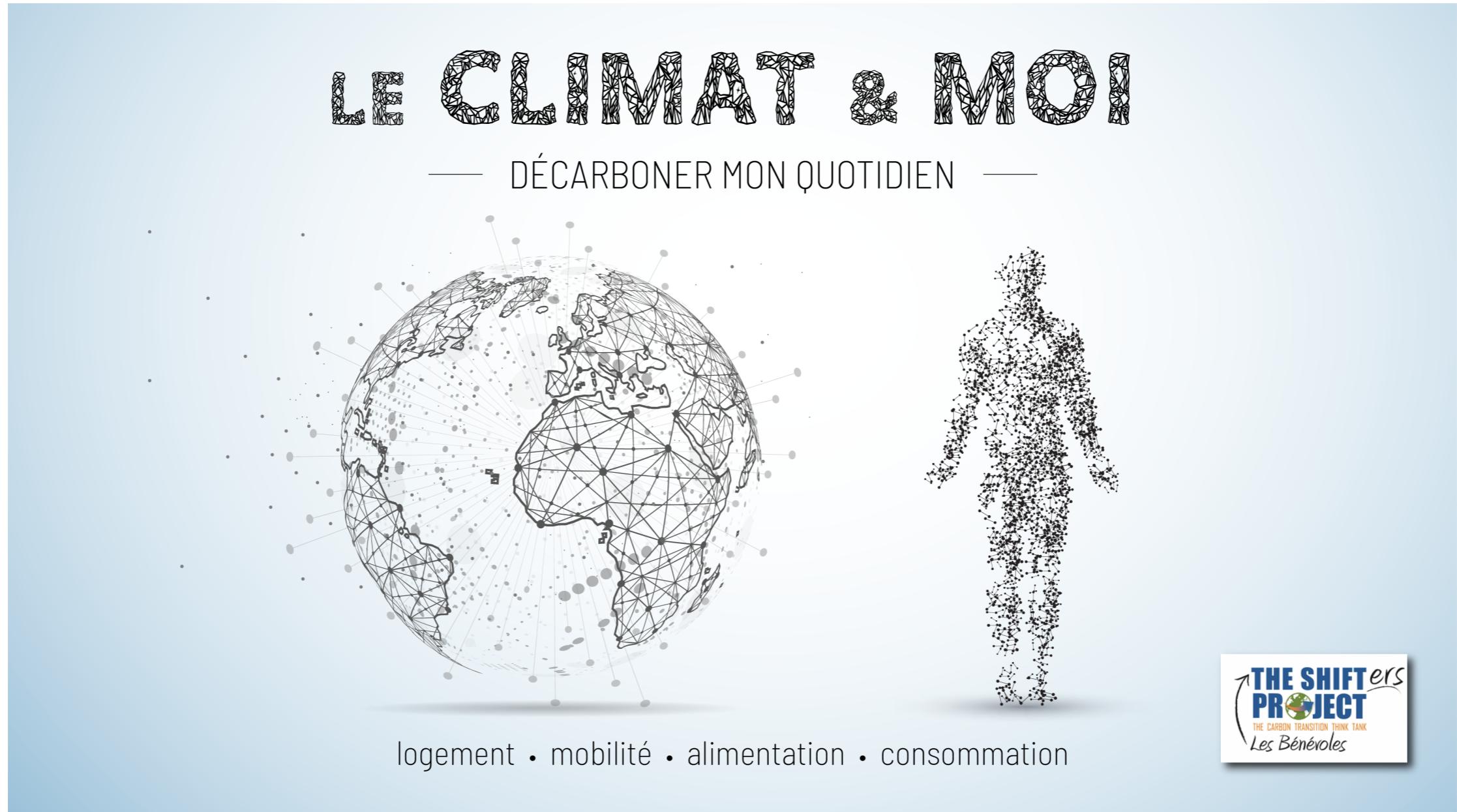


# ENVT3065 Sustainability challenges

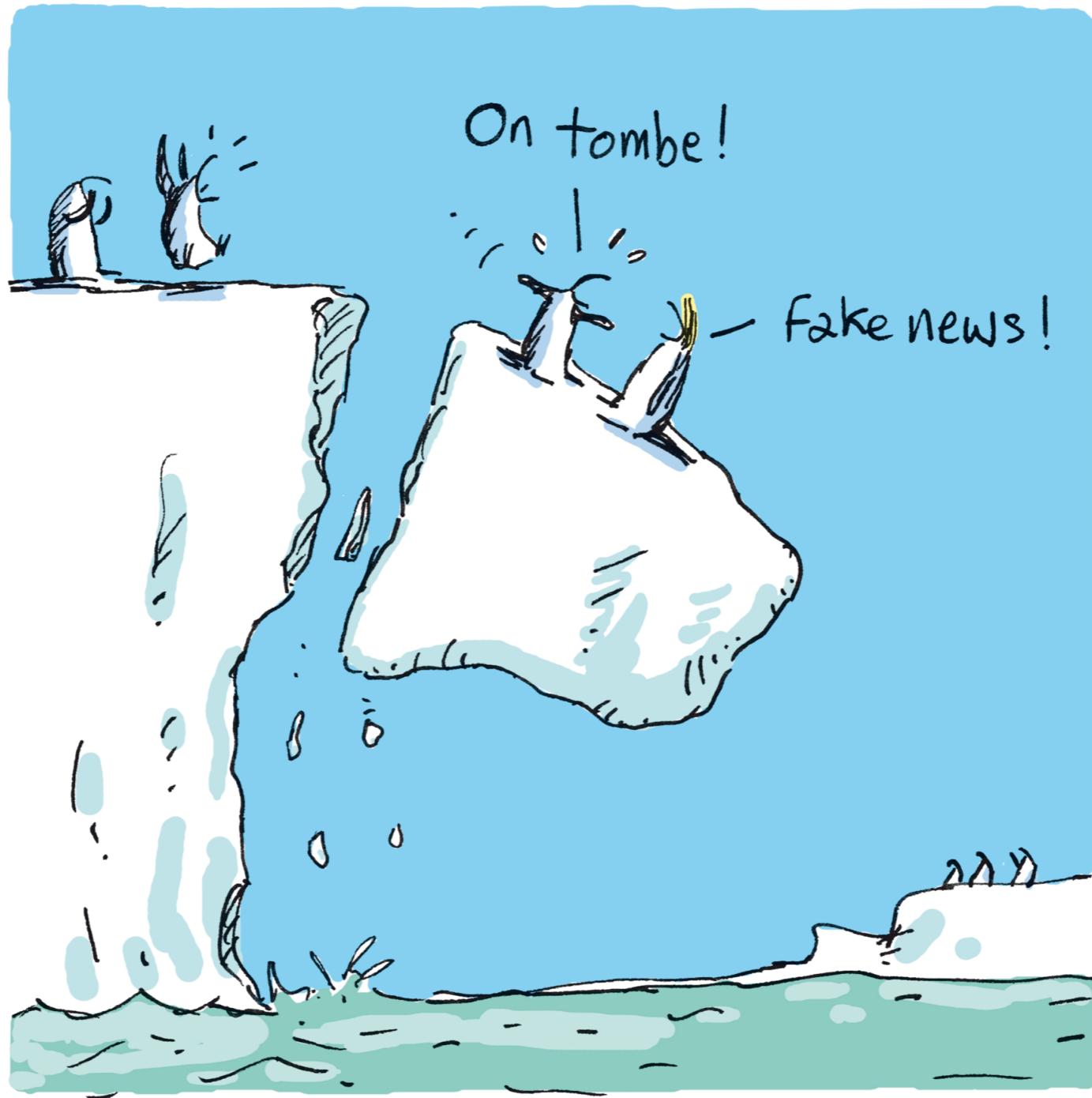
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Credits: <https://theshiftproject.org/equipe/#benevoles>

# ENVT3065 Sustainability challenges

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# **ENVT3065 Sustainability challenges**

**Whats is for you sustainability ?**

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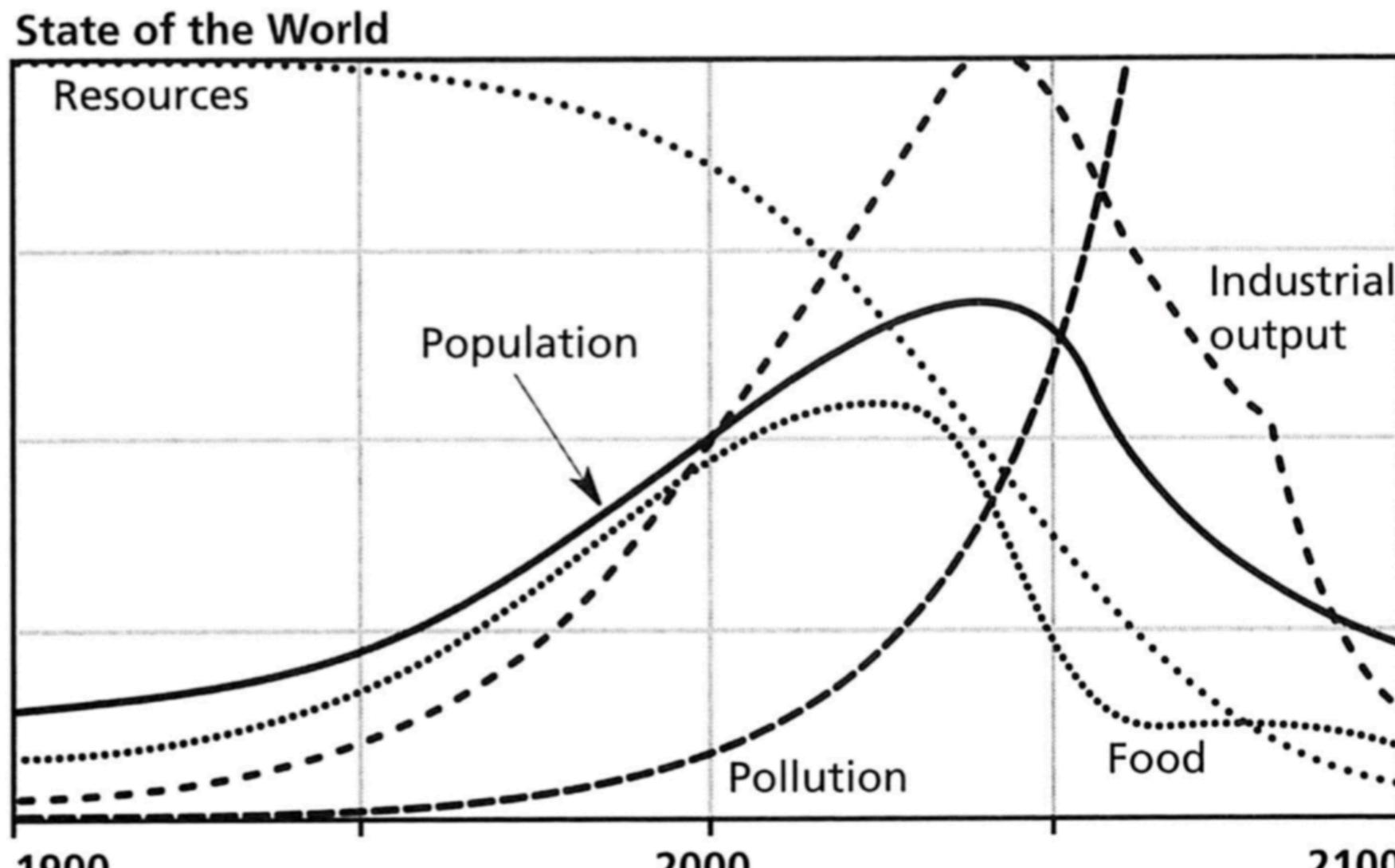


**TODO: <https://www.wooclap.com/fr/>**

# ENVT3065 Sustainability challenges

Limits to growth: is it possible to achieve sustainability ?

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Source: Limits to growth - The 30 year update

Credits: <https://www.clubofrome.org/publication/the-limits-to-growth/>

# ENVT3065 Sustainability challenges

## Motivations

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IPCC reports are more and more alarming -> **environmental** challenges.

Fossil energies are not unlimited -> **energy** challenge.

Raw materials are not unlimited -> **raw material** challenge.

There is an urgent need to act to **meet the sustainability challenges**.

**Education** is a powerful way to achieve this goal. We need engineers:

- aware of the complex challenges and capable of understanding, analyze and propose practical solutions
- capable of a systemic approach that combines several fields: climatology, energy, ICT, economy, mobility, psychology, etc

# ENVT3065 Sustainability challenges

## Instructors & teaching assistant

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Jonathan Dumas  
Ph.D. candidate &  
Teaching assistant  
Microgrids & local energy  
communities  
Applied Science Faculty

*Active member of the  
Shifters Belgium  
Active member of the ReD  
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group*

Bertrand Cornélusse  
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Microgrids & local  
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Xavier Fettweis  
Research Associate F.R.S.-  
FNRS  
Climatologist  
Science Faculty

Sylvain Quoilin  
Research Associate F.R.S.-  
FNRS.  
Smart Energy System  
Applied Science Faculty

# ENVT3065 Sustainability challenges

## Schedule & TEASER

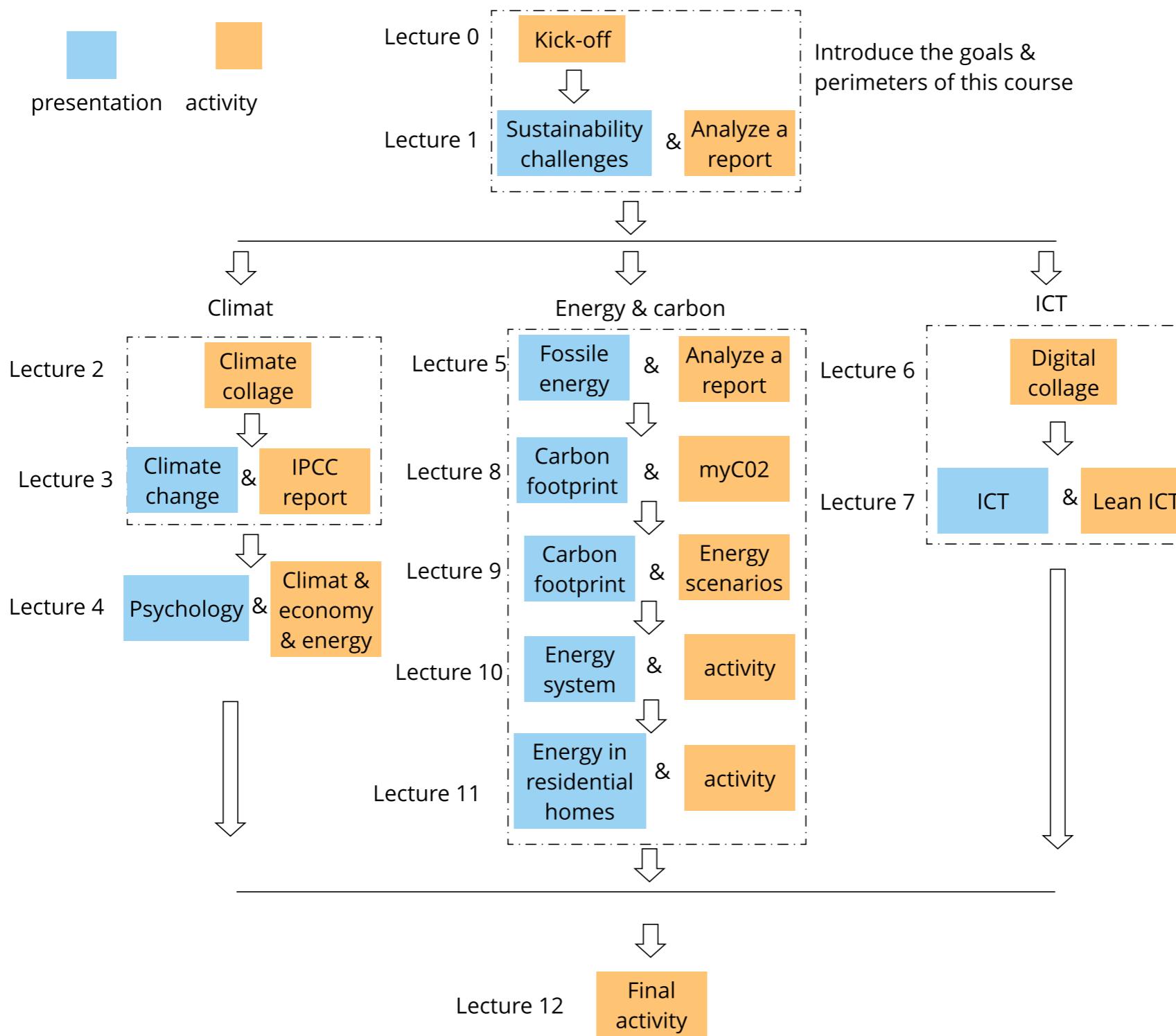
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Schedule, materials, agenda, and  
evaluation criteria [\*\*github!\*\*](#)

**TEASER!**

# ENVT3065 Sustainability challenges

## Course MAP



# ENVT3065 Sustainability challenges

## Course learning outcomes

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At the end of this course, students will have learned:

- to define the concept of sustainable development;
- to define the issues related to climate and energy problems
- identify the problem, by nature transverse, to be treated;
- Restate the current ecological and social context by objectifying it with factual data and relevant orders of magnitude;
- adopt a critical approach to compare energy sources via the EROI and the carbon footprint;
- take a critical look at the ICT;
- understand the issues and possible ways to save energy, materials, etc.

# ENVT3065 Sustainability challenges

Climate & digital collages !

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<https://climatecollage.org/>



<https://digitalcollage.org/>

# ENVT3065 Sustainability challenges

## Climate collage

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**42 cards** representing the different components of **climate change** & **collaboratively work** to identify cause and effect relationships based on **IPCC** (Intergovernmental Panel on Climate Change) reports.

In a 3-hour-long workshop, participants gather around a table in teams of 4 to 8.

## TEASER

### The 4 stages of the workshop

- 1** **1h - BUILD** : Discover and link the cards to create the collage.
- 2** **1h - CREATE** : Take ownership of the collage by adding illustrations and a title.
- 3** **15' - PRESENT** : Deliver a concise presentation to consolidate your knowledge.
- 4** **45' - DEBRIEF** : Share with other players your feelings, opinions, questions and solutions.



# ENVT3065 Sustainability challenges

## Digital collage

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The Digital Collage is a fun and collaborative 3-hour-long workshop centered on **collaboration and collective intelligence** (similar in format to The Climate Collage).

<https://digitalcollage.org/>

### How the workshop operates



1st part :  
**Comprehension**



2nd part :  
**Creativity !**



3rd part :  
**Debriefing**



4th part :  
**Solutions**

# ENVT3065 Sustainability challenges

Questions ???

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