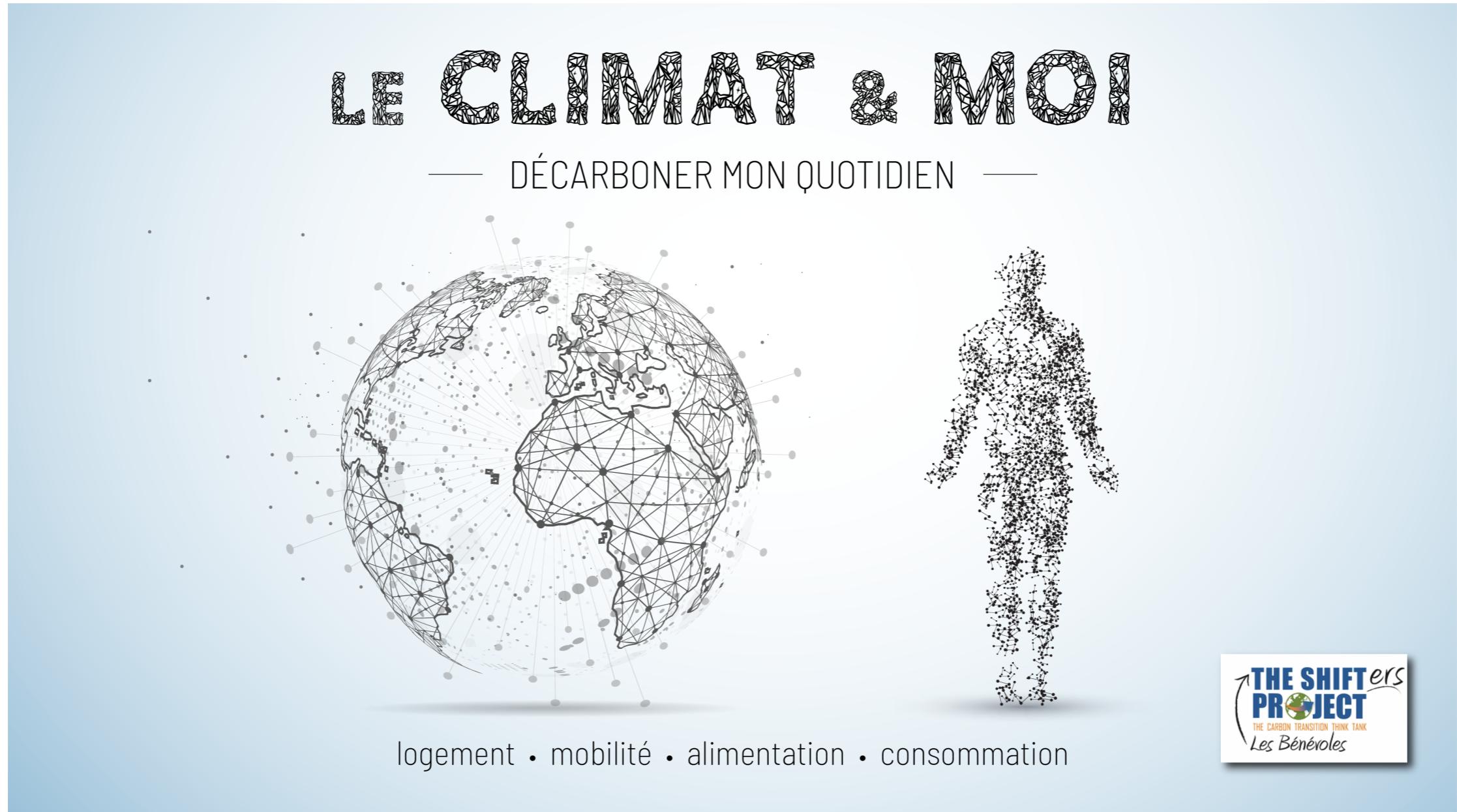


# ENVT3065 Sustainability challenges

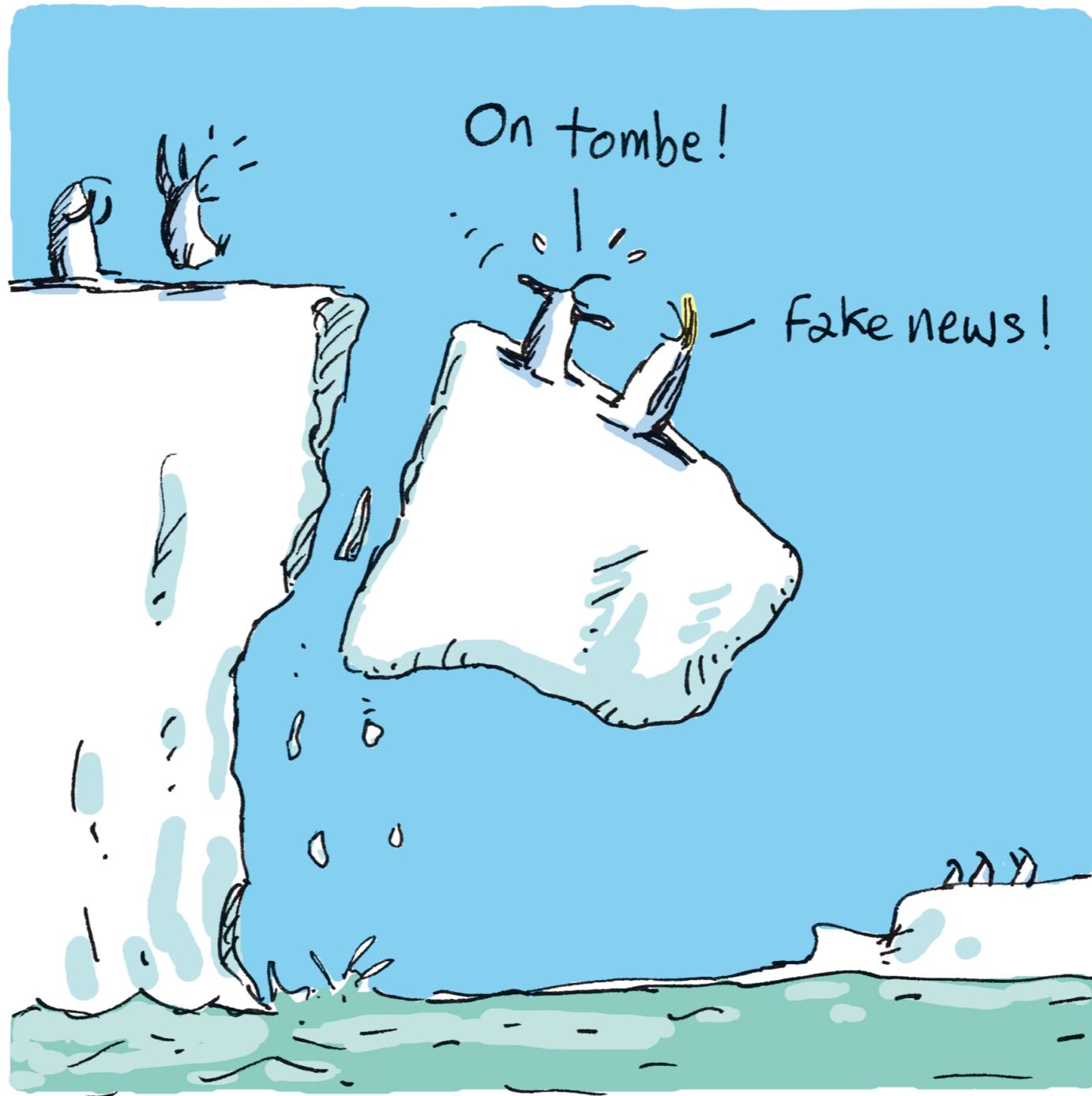
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Source: <https://theshiftproject.org/equipe/#benevoles>

# ENVT3065 Sustainability challenges

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# **ENVT3065 Sustainability challenges**

**Whats is for you sustainability ?**

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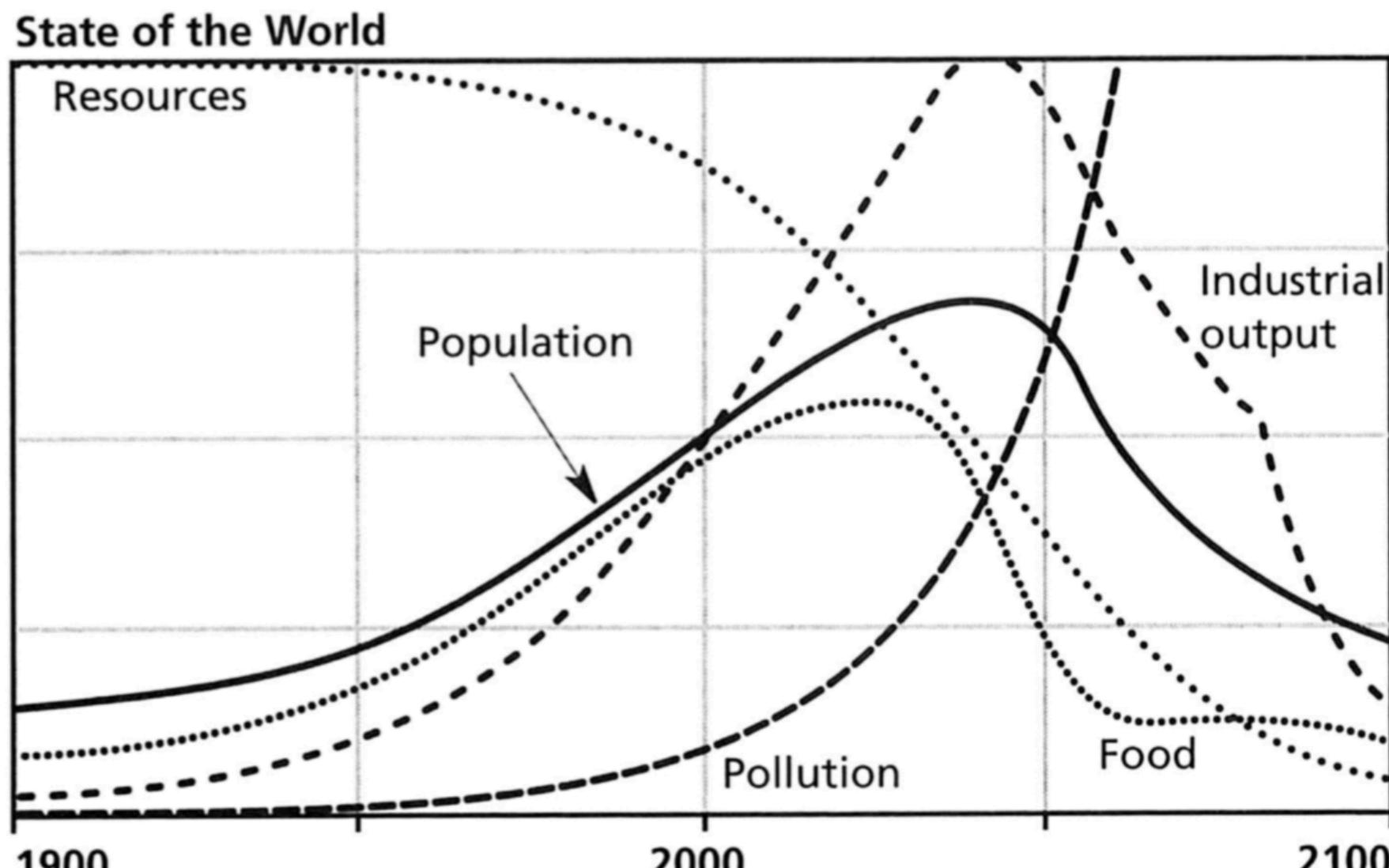


**TODO: <https://www.wooclap.com/fr/>**

# ENVT3065 Sustainability challenges

Limits to growth: is it possible to achieve sustainability ?

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Source: Limits to growth - The 30 year update

# ENVT3065 Sustainability challenges

## Motivations

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

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 understand, analyse and propose practical solutions
- capable of systemic approach that combine several fields: climatology, energy, ICT, economy, mobility, psychology, etc

# ENVT3065 Sustainability challenges

## Instructors & teaching assistant

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Jonathan Dumas

PhD candidate & Teaching  
assistant

*Active member of the Shifters  
Belgium*

*Active member of the ReD within the  
sustainability group*



Bertrand Cornélusse

Associate professor



Xavier Fettweis

Research Associate F.R.S.-FNRS &  
Climatologist

# ENVT3065 Sustainability challenges

## Schedule & TEASER

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Schedule and materials [\*\*\*github !\*\*\*](#)

**TEASER !**

# ENVT3065 Sustainability challenges

Climate, digital & mobility collages !

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The Digital  
Collage



# 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 reports.

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 hours' workshop centered on collaboration and collective intelligence (similar in format to The Climate Collage).

<https://fresquedunumerique.org/>

### How the workshop operates



1st part :  
**Comprehension**



2nd part :  
**Creativity !**



3rd part :  
**Debriefing**



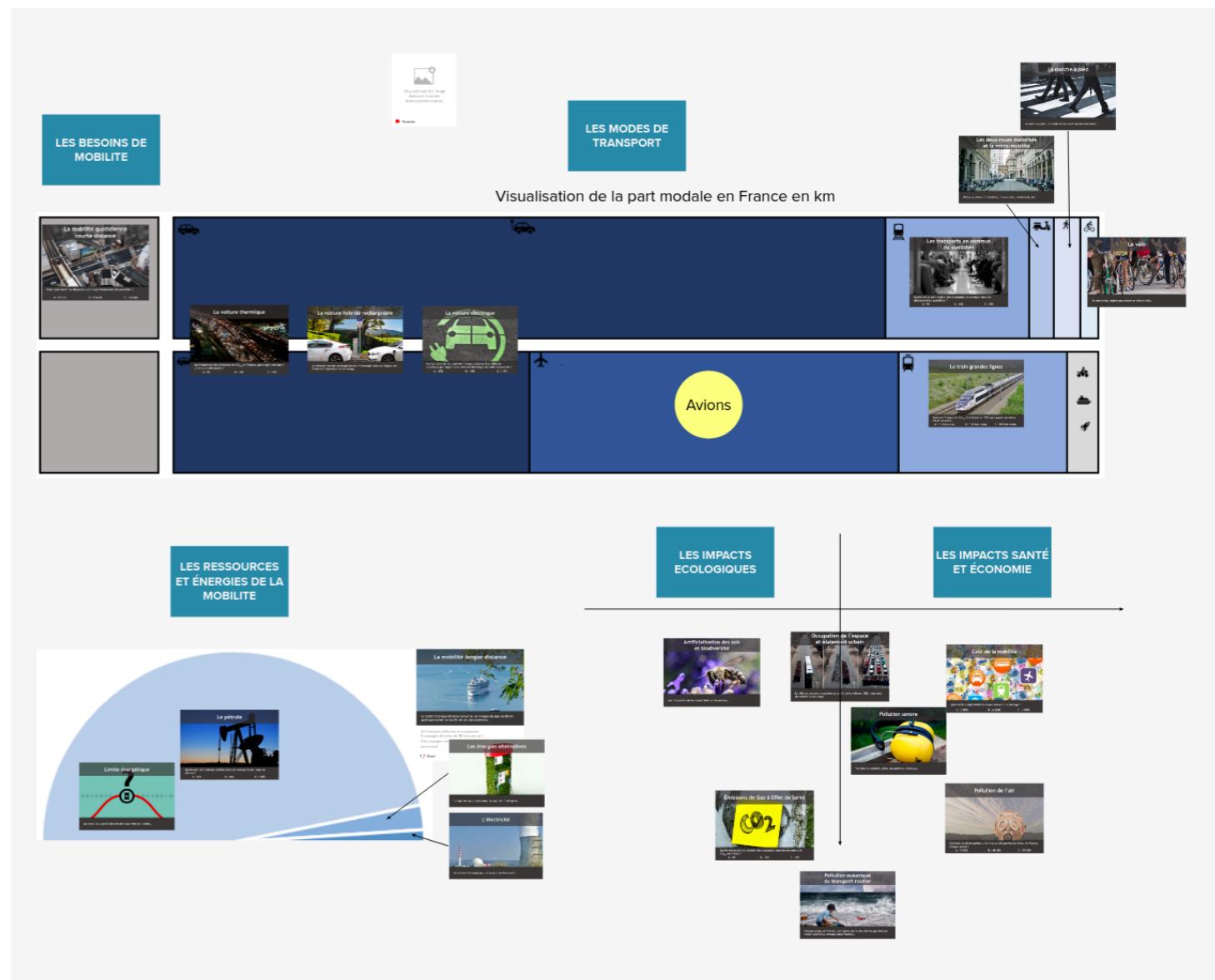
4th part :  
**Solutions**



## ENVT3065 Sustainability challenges

### Mobility collage

The Mobility Collage is a fun and collaborative 2 hours' workshop centered on collaboration and collective intelligence (similar in format to The Climate & Digital Collage).



# ENVT3065 Sustainability challenges

## Schedule

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### Lesson 1:

- kick-off presentation [30 min]
- ice breaker: each student present himself and ask to others what is sustainability for him, why he/she is there etc) [30 min]
- presentation: sustainability challenges [1h30]
- Q&A, debate or read and analyze a scientific article on this topic [1h00]

### Lesson 2:

- activity: climate collage (by groups of 8) [3 h]
- activity: in small groups (4-5) imagine new cards [1 h]

### Lesson 3:

- presentation: climate change (X. Fettweis) [2 h]
- activity: Q&A and debate Or discuss a summary of an IPCC report [1 h]

# ENVT3065 Sustainability challenges

## Schedule

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### Lesson 4:

- part 1 (presentation) Climate change and psychology by an expert
- part 2 (presentation) Interactions between climate, economy & energy or  
(activity) discuss the video « Modéliser l'avenir de l'humanité - Heu?reka »

### Lesson 5:

- presentation: fossil energy, issues for the society and industry [1h00]
- activity: analyze of the report <https://theshiftproject.org/en/article/eu-oil-depletion-2030-study/> [2h00]
- activity: presentation in small groups of the report [1h00]

### Lesson 6:

- Digital collage [3 h]
- activity: in small groups (4-5) imagine new cards [1 h]

# ENVT3065 Sustainability challenges

## Schedule

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### Lesson 7:

- presentation: sustainable ICT [1h00]
- activity: analyze of the report [analyze the report Lean ICT https://theshiftproject.org/en/article/lean-ict-our-new-report/](https://theshiftproject.org/en/article/lean-ict-our-new-report/) [2h00]
- activity: presentation in small groups of the report [1h00]

### Lesson 8:

- presentation : carbon footprint or discussion on the video <https://youtu.be/mj9Fma0dRoE> « Le capitalisme peut-il faire face aux défis environnementaux ? - Heu?reka « [1h00]
- activity: myC02 ? [2h00]
- activity : analyze the articles Transition énergétique et (dé)croissance économique and "Global potential of wind and solar energy with physical and energy return on investment (EROI) constraints; application at the European level (EU 28 countries)." [1h00]

# ENVT3065 Sustainability challenges

## Schedule

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### Lesson 9:

- presentation : You me & climate [1h00]
- activity: debate on the conference [1h00]
- activity: analyze in small groups the FABI Belgium Energy Outlook 2050  
<https://www.fabi.be/transition-energetique> [2h00]

### Lesson 10:

- activity mobility collage [3h00]
- activity: in small groups (4-5) imagine new cards [1 h]

### Lesson 11:

- presentation : ? (B. Cornélusse)
- activity : to be defined.

### Lesson 12:

- activity : build in small groups (2-3) the collage of this lesson [3h00]
- activity : peer grading of the collages [1h00]

# **ENVT3065 Sustainability challenges**

## **Evaluation**

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Build your own collage of this lesson and present it (groupe of 2-3) [50 %]

Participations to collages (climate, numeric, and mobility) [25 %]

Participations to activities of the lessons [25 %]

# ENVT3065 Sustainability challenges

Questions ???

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