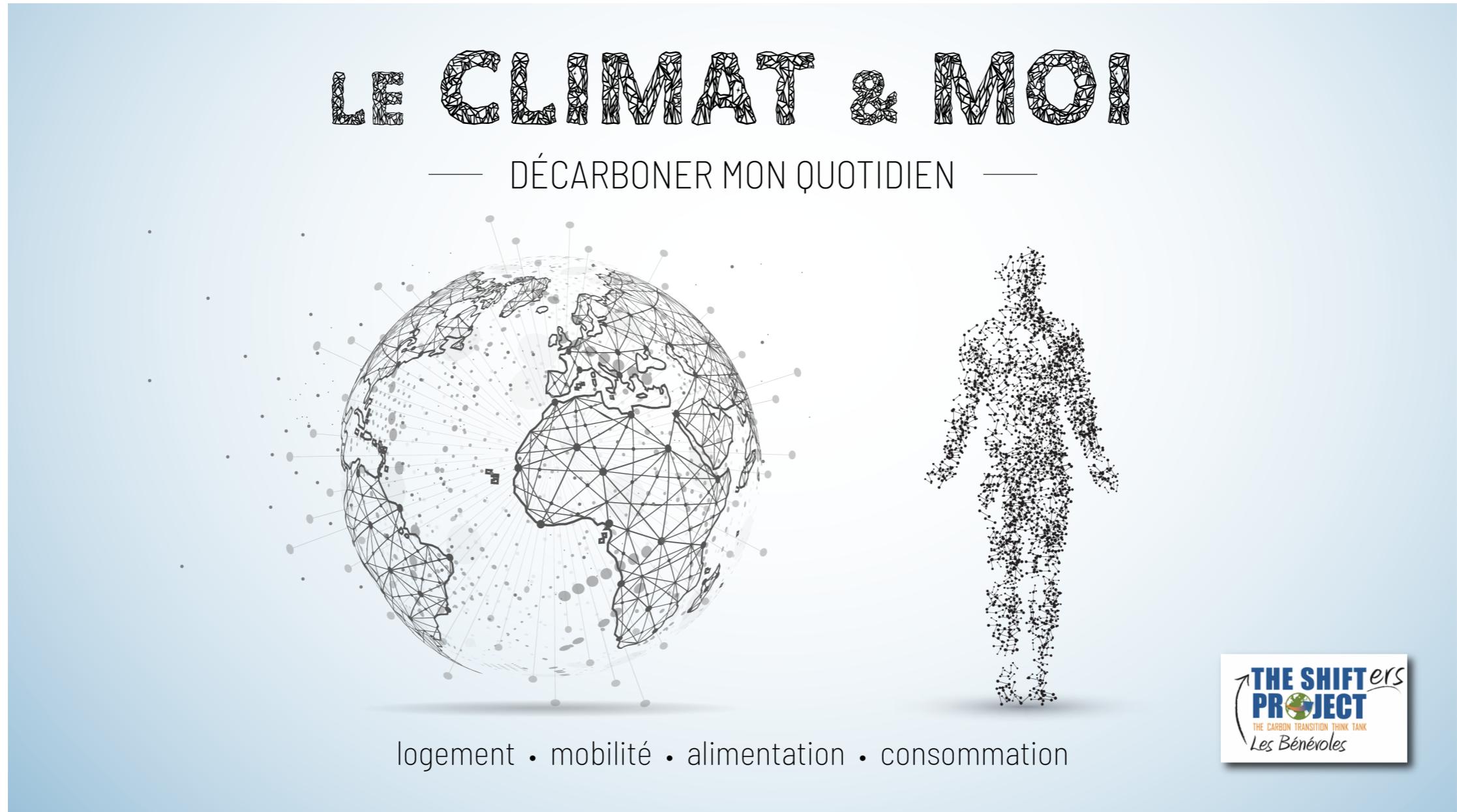


# ENVT3065 Sustainability challenges

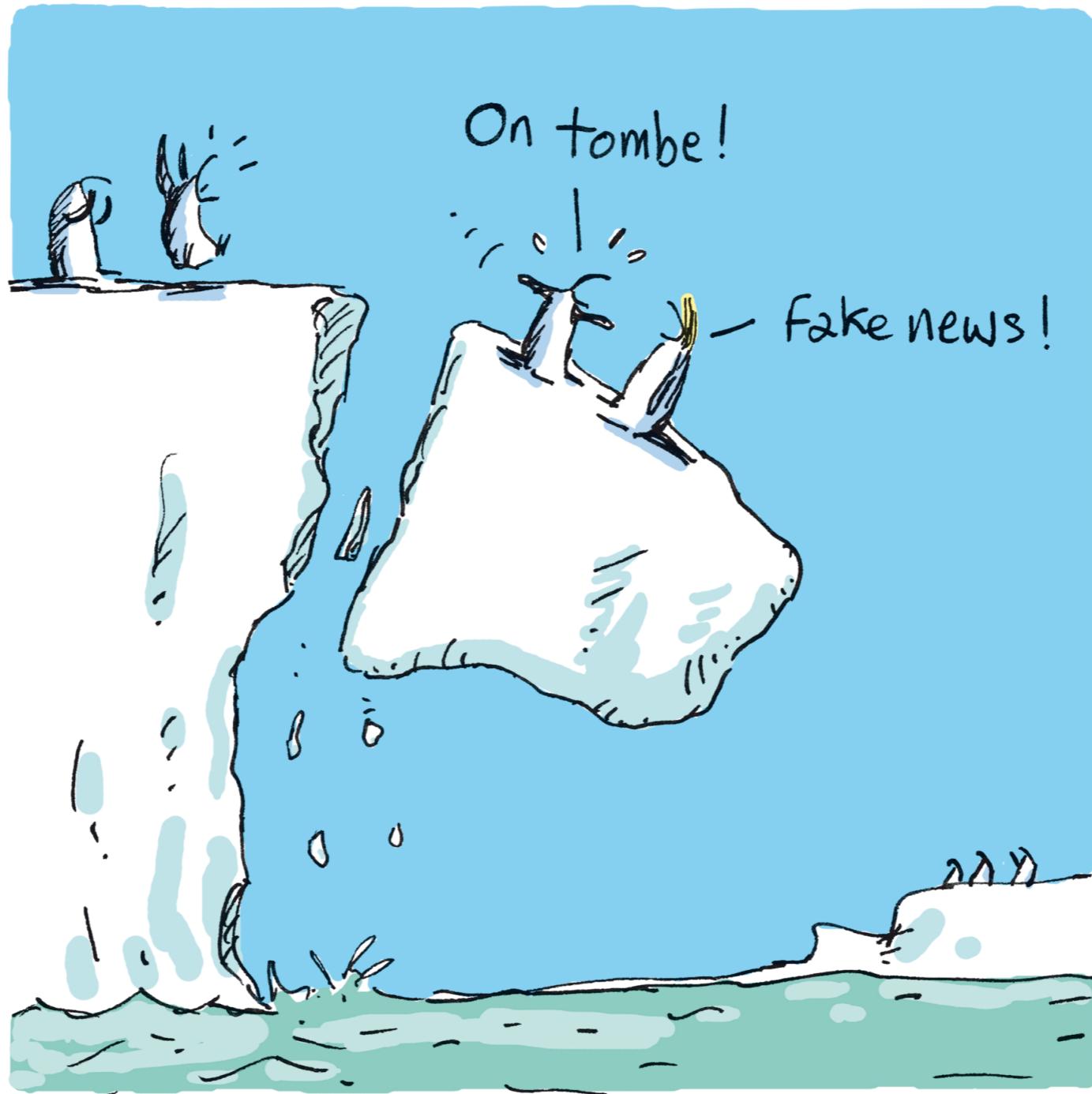
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Source: <https://theshiftproject.org/equipe/#benevoles>

# ENVT3065 Sustainability challenges

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# **ENVT3065 Sustainability challenges**

**Whats is for you sustainability ?**

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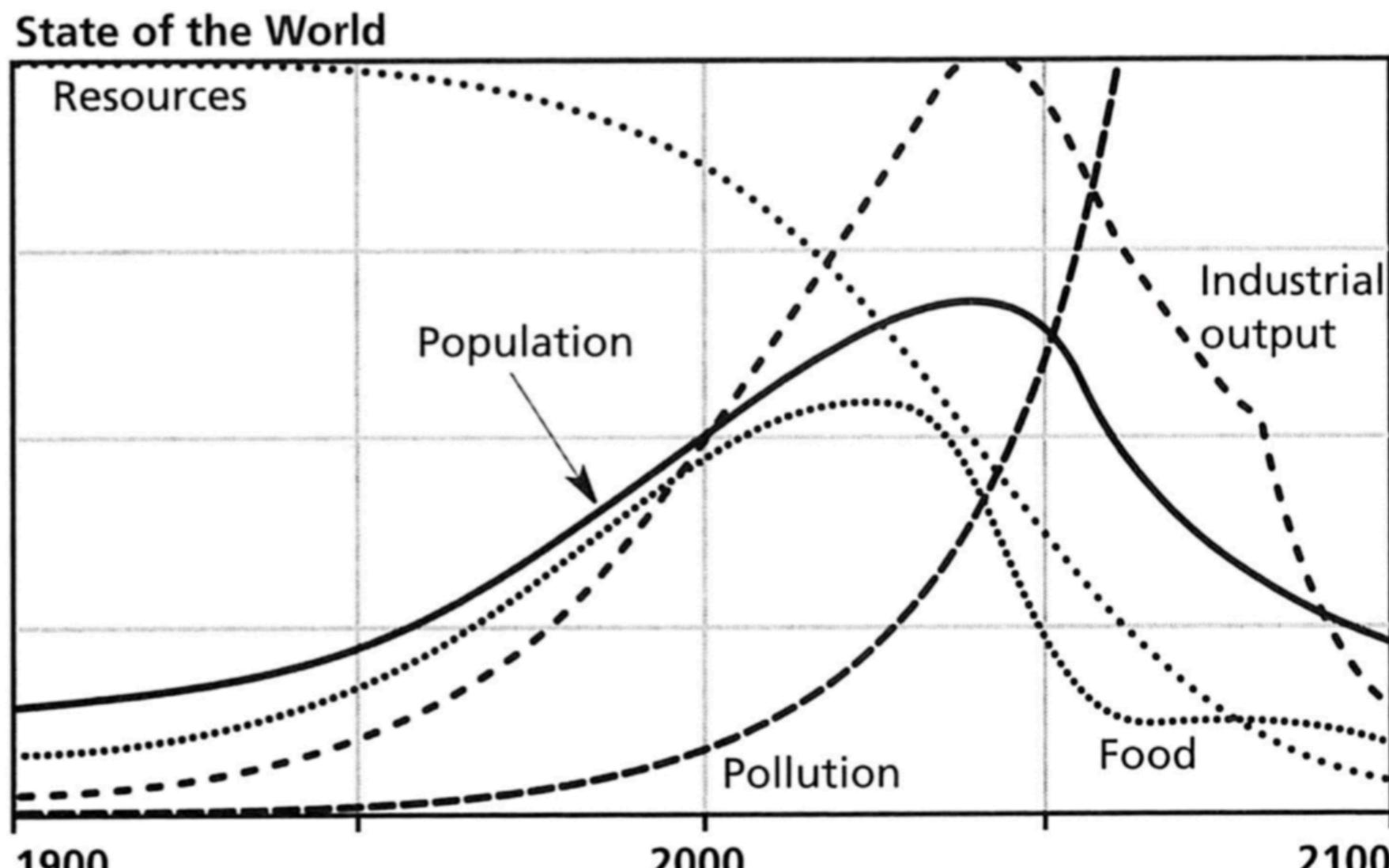


**TODO: <https://www.wooclap.com/fr/>**

# 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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IPPC 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, etc

# ENVT3065 Sustainability challenges

## Schedule

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<https://github.com/jonathandumas/ENVT3065-sustainability-and-challenges>

### 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:

- activity: in small groups (4-5) try to depict the interactions between energy, climate & economy [30 min]
- presentation: interactions between energy, climate & economy [1h30]
- activity: discussion on the video « Modéliser l'avenir de l'humanité - Heureka » <https://youtu.be/nAO21ec1lqc> [1 h]

### 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 : ?

### 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

Us

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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  
Permanent FNRS researcher

# **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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