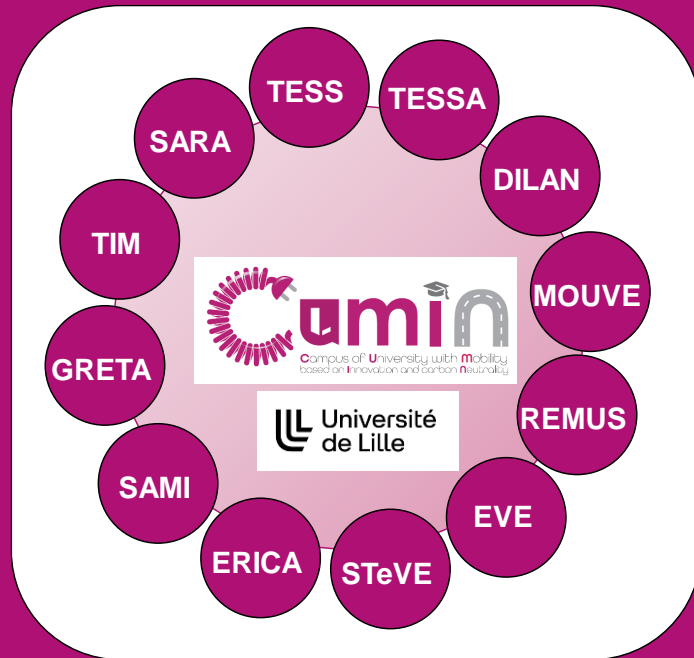




CUMIN - eCampus

<https://cumin.univ-lille.fr/>



“eCampus”: an international
laboratory on sustainable
mobility on university
campuses

Audrey Groleau
Loïc Boulon
Sylvie Miaux

Université du Québec à Trois-Rivières

Outline



What is the eCampus?



Ph.D Theses Completed and in Progress

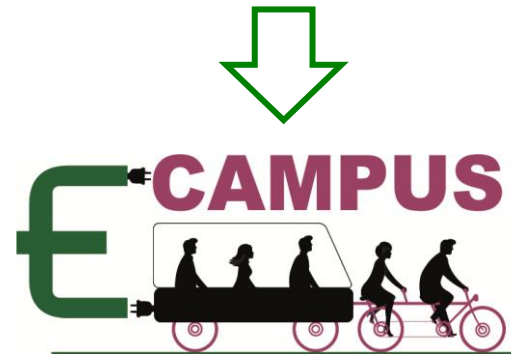


Some Preliminary Results of our Most Recent Carbon Footprint Analysis

What is the eCampus?



CUMIN program
(Campus Universitaire à Mobilité
Innovante et Neutre en carbone)
L2EP / TVES / CRISAL



Develop campuses that
embody and enact
the mobility of the future



IRH / mobility based on H₂
LCV / mobility analysis
Corridor Vert interdisciplinary
initiative



Ph.D Theses Completed and in Progress

2023-2026, Swapnil Revankar

Stratégies de recharges de véhicules électriques en conditions climatiques sévères (codirection A. Bouscayrol et R. German L2EP, L. Boulon and A. Groleau, IRH)

Funding : Région « Hauts-de-France » / Chaire de Recherche UQTR Sénior sur les Sources d'énergie pour les véhicules du futur

2018-2021, David RAMSEY

Simulation d'un véhicule électrique et son environnement pour étudier la consommation d'énergie sous différentes conditions climatiques

(codirection A. Bouscayrol, L2EP, L. Boulon, IRH)

Funding : Région « Hauts-de-France » / Chaire de Recherche du Canada sur les Sources d'énergie pour les véhicules du futur

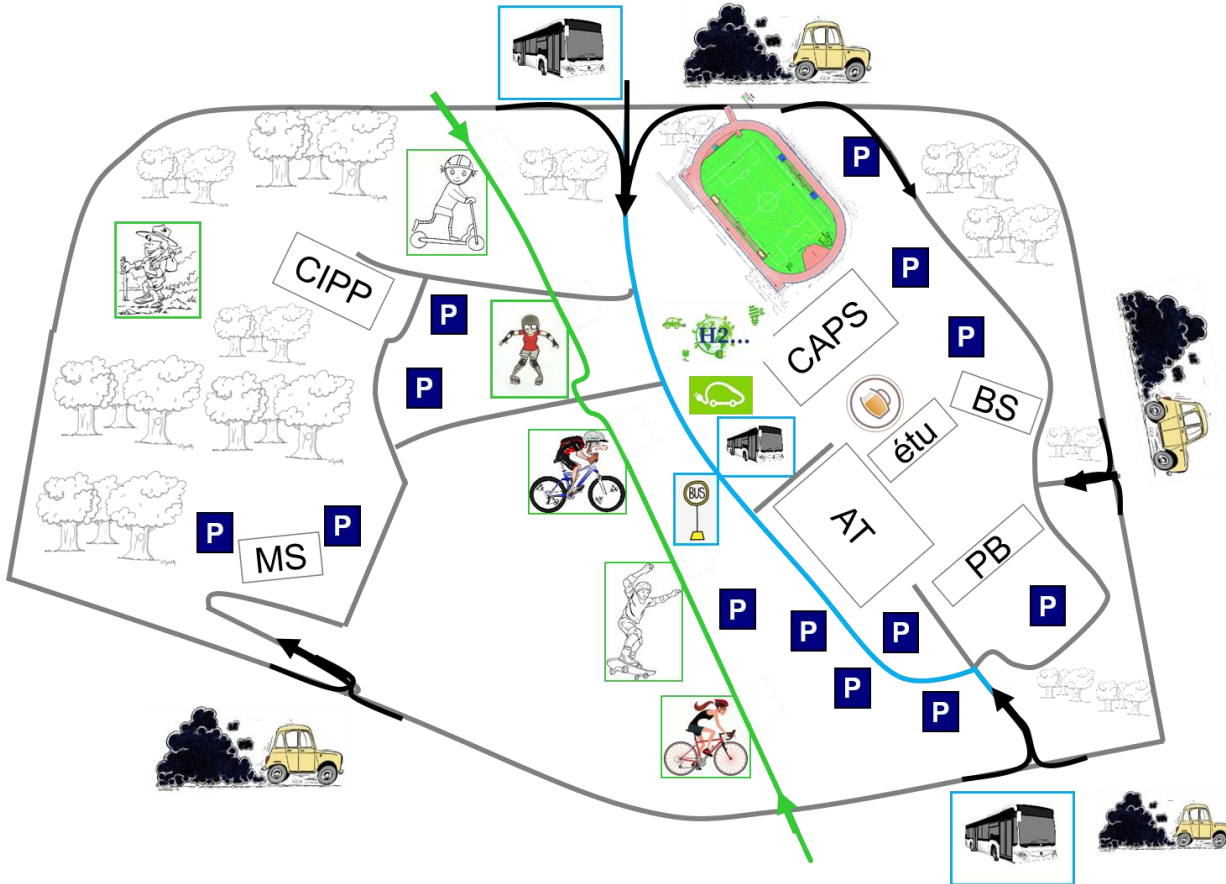
2014-2017, Clément DEPATURE

Commandes par inversion d'un véhicule à pile à combustible et supercondensateurs (codirection A. Bouscayrol and W. Lhomme L2EP, L. Boulon et P. Sicard, IRH)

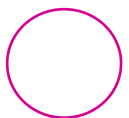
Funding : Région « Hauts-de-France » / Conseil de recherches en sciences naturelles et en génie du Canada



UQTR campus

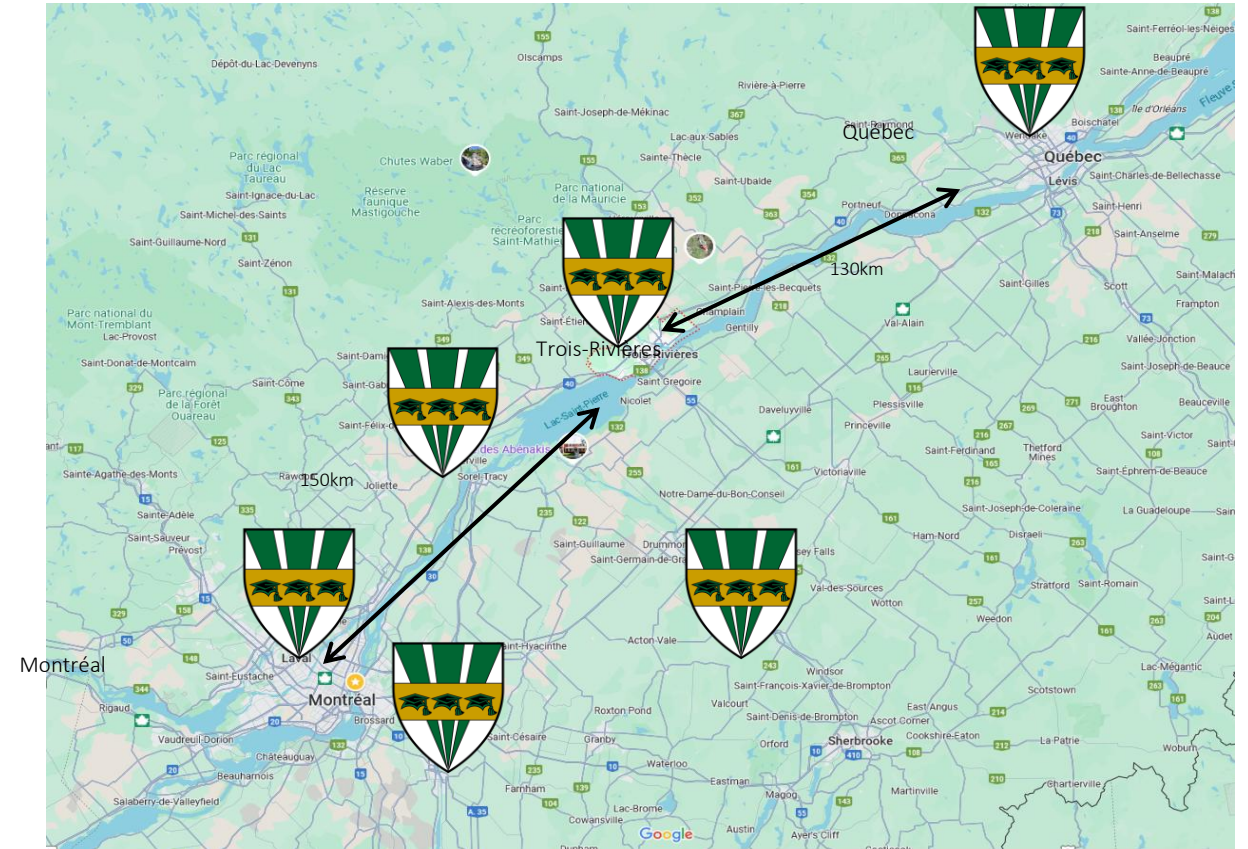


- 15 000 students
- 2000 employees
- 15 buildings
- 0,25 km²
- Large wooden areas
- A cycle path
- A local bus hub
- Many parkings
- -30°C (January) to +30°C (July)
- 4 months under the snow



Our “Campus” is Actually... many Campuses...

- Employees travel between campuses...
- Some students also do...
- Many students live outside the area.
- 95% of the electricity produced in Québec is hydroelectricity
- Very low CO₂ emissions linked to buildings (emergency generators + load shedding during peaks in electrical power demand)



Some Preliminary Results of our Most Recent Carbon Footprint Analysis



Perimeter of the study:

Trois-Rivières campus (buildings, waste management, etc.)
Mobility (housing-campus, inter-campus, professional mobility)



93% of greenhouse gas emissions:

43% linked to housing-campus mobility of students
5% linked to housing-campus mobility of employees
25% linked to intercampus mobility
20% to professional mobility (90% by plane)



5% of emissions linked to the campus itself



A Few Questions...



Data quality?



Scientific equipment?



What is being carbon neutral exactly?

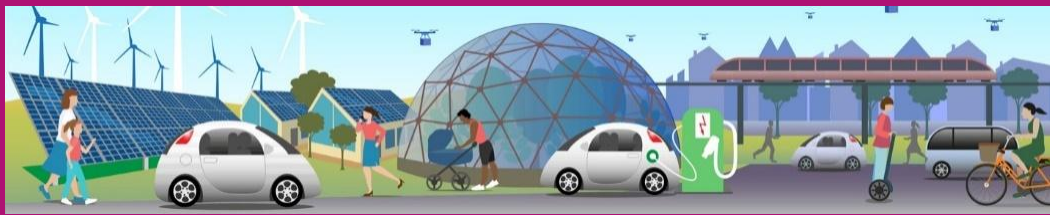


How can we compensate?

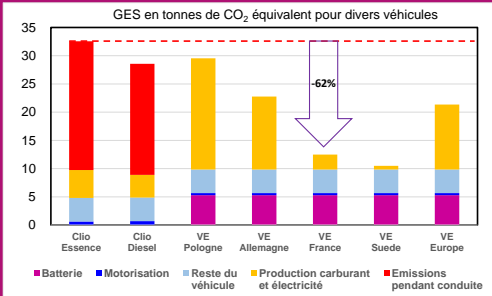


What about winter (heating, load shedding during peaks in electrical power demand, biking or walking in the snow)?

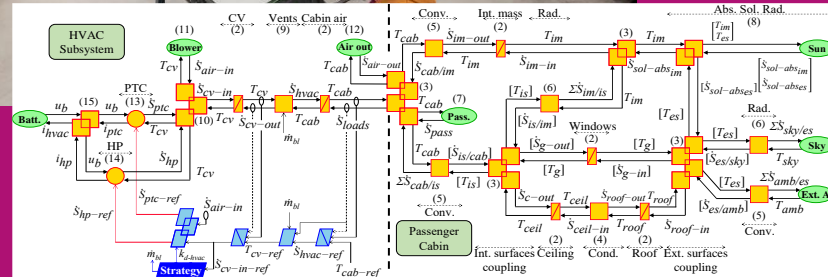
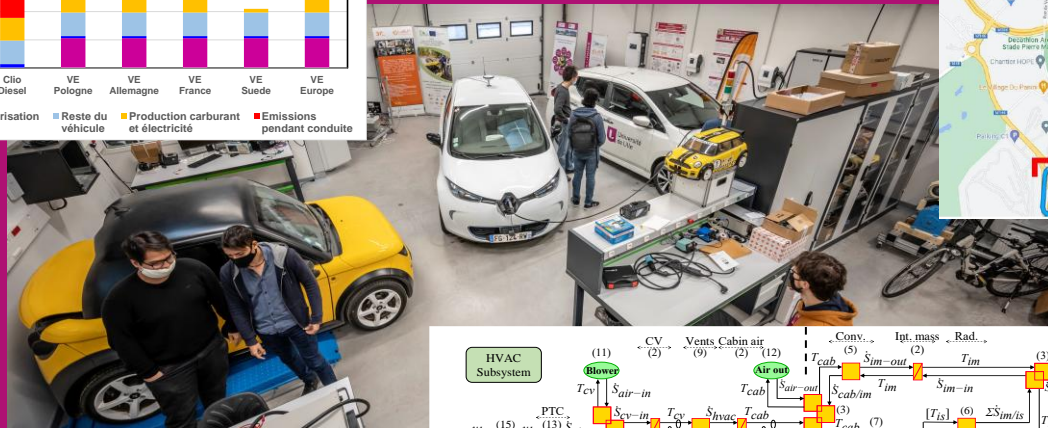




<https://cumin.univ-lille.fr/>



Our university as an exciting living lab towards eco-cities through an innovative transdisciplinary framework !



CUMIN portfolio

