



# Concordia University – Vietnam: Building partnerships toward a sustainable future

## Event summary

December 12<sup>th</sup>, 2023



## Opening remarks

In light of the 50<sup>th</sup> anniversary of the establishment of diplomatic relations between Canada and Vietnam, Concordia International hosted the *Concordia – Vietnam: Building partnerships toward a sustainable future* event, which aimed at sharing important contributions that Concordia and Vietnamese researchers are making to sustainable development, as well as at exploring collaboration opportunities. The event offered a panel discussion between researchers from Concordia University and from Vietnamese universities who are actively engaged in sustainability-related research. In the



opening remarks, Prof. Graham Carr – President and Vice-Chancellor of Concordia University -

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*“International scientific collaboration is a crucial element for finding solutions in different contexts.”*

Prof. Graham Carr - President & Vice-Chancellor, Concordia University

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highlighted the commitments that both, Canada and Vietnam, have made to sustainability, energy efficiency and decarbonization. In doing so, he invited Concordia University and Vietnamese universities to join forces to fight climate change, of one the most pressing challenges of humanity.

Dr. Rémy Quirion - Chief Scientist of Quebec - echoed this remark and highlighted the importance of envisioning the cities of the future given the growing urban population around the world, especially in the South. He also stressed the need of scientists to develop the capacity for effectively informing policies. ***He also praised Concordia for being a leader in sustainability*** Finally, Ms. Thi Be Nguyen - Executive Director of the Canada-ASEAN Business Council - referred to the crucial contribution that industry can make to sustainability by partnering with universities and governments.



## Panel 1: Building water and energy resiliency

The first panel was moderated by Dr. Alex Visscher (Professor and Chair, Chemical and Materials Engineering at Concordia University). Panelists shared their perspectives on local challenges in terms of water management and energy efficiency, as well as the efforts being done through research to address them. In regards to **water management**, a common element between Quebec and Vietnam is that they have vast fresh water reservoirs that are being affected by eutrophication due to excessive algae growth. Dr. [Catherine Mulligan](#) (Director of the [Concordia Institute for Water, Energy and Sustainable System](#), Concordia University) shared her work of the development of different technologies to address this problem in different lakes of Quebec. [Dr. Hoang Thi Thu Huong](#) (Head of the Department of Environmental Science and Technology, School of Chemistry and Life Science, Hanoi University of Science and Technology) shared the main water management challenges faced in Vietnam and highlighted the common need to work more on monitoring technologies and the prevention of eutrophication. In terms of **renewable energy**, [Dr. Karim Zaghbi](#) (Professor, Chemical and Materials Engineering at Concordia University) talked about [Volt-Age](#), one of the largest electrification-of-society initiatives in Canada currently led by Concordia.



He also referred to the crucial role that the university is playing through its [collaboration centres](#), which seek to link research, innovation and industrialization of batteries and hydrogen. Dr. Zaghbi mentioned that some of the technologies that he has developed are being used in Vietnam by companies like Sumitomo and [Vinfast](#). He also highlighted the strategic role that Canada and Quebec will play in the

Some of the main collaboration opportunities in **energy and water resilience** between Concordia University and Vietnam would be in the following domains:

- Monitoring technology of water reservoirs.
- Prevention and treatment of eutrophication.
- Waste water treatment.
- Energy technologies and policies to support decarbonization and the transition towards net zero environments.

development of the next generation of batteries and green supply chain thanks to the large investments that will be done over the next year (approx. USD 100 billion). [Mr. Le Ngoc Anh Minh](#) (President of [ASEAN-Vietnam Hydrogen Club](#)) referred to the very important role that industry can play in the energy transition process that Vietnam wants to accomplish. He stressed the urgent need of effective policies and a clear roadmap for Vietnam to accomplish its net-zero target by 2050.

## Panel II: Envisioning the cities of the future



As an introduction to second the panel, Concordia's Plan Net Zero initiative was presented through a short [video](#). The panel was moderated by Ms. Natalie Voland (President of Gestion Immobilière Quo Vadis). Panelists shared their work on next generation cities, emphasizing the importance of decarbonization technologies. [Dr. Ursula Eicker](#) (Director of the Concordia Institute of Water, Energy and Sustainable Systems, Concordia University.) mentioned that although Canada has pledged to reduce gas emissions by 45% by 2030, the per capita carbon footprint remains quite high. Researchers from Concordia's [Next Generation Cities Institute](#) are contributing with novel solutions like Tools4Cities, which helps engage different stakeholders to

transform cities following a transdisciplinary approach. For instance, [CityPlayer](#), one of the tools developed by Dr. Eicker's team, uses gamification to allow citizens and decision-makers to visualize potential solutions using publicly available data. The team has also developed simulation and modeling tools to assess different urban scenarios. [Dr. Trinh Tú Anh](#) (Director of the [Institute of Smart City and Management](#) at University of Economics, Ho Chi Minh city) shared how the institute's mission also focuses on urban planning for decarbonization. Her team also uses 3D simulation tools and adopt a "learn by doing" approach to shape the unknown future of cities. [Dr. Andreas Athienitis](#) (Director, Concordia Centre for Zero Energy Building Studies, Concordia University) shared that Concordia is working with the Canadian Academy of Engineering on the [Roadmap to Resilient Ultra-Low Energy Buildings with Deep Integration of Renewables](#), which includes three research cases that inform national and international policy. He also shared examples of energy technologies that can help buildings achieve net zero energy consumption, even under conditions of extreme cold. [Dr. Tran Tien Khan](#) (Director of International Affairs & Scientific Development, Dong Nai Technology University) presented the pillar of Vietnam's roadmap for building the cities of the future: smart energy systems, carbon neutral environments, reduction of emissions and scalable circular economy models. As part of the smart energy system, Vietnam is building a circular hydrogen economy with storage and infrastructure as a priority.

Some of the main collaboration opportunities in the field of **next generation cities** between Concordia University and Vietnam would be in the following domains:

- Living labs to develop decarbonization technologies and strategies.
- Sharing net zero roadmaps and lessons learned.
- Design and implementation of sustainability policies for cities.
- Smart energy grids and hydrogen infrastructure.

## Closing remarks

Despite the distance and their different contexts, Quebec and Vietnam share similar sustainability challenges and are aligned in terms of research interests. Student and faculty mobility programs could play an important cross-politization role between Concordia and Vietnamese organizations to advance knowledge and strategies for climate adaptation. Living labs emerge as a pragmatic approach to test and validate emerging technologies. It is quite clear that as cities evolve over the next years, they will need to focus on providing smarter services and business need to develop new business models. The Financial system will be challenged to keep up with these transformations as cities re-invent themselves. The **main call to action** of the event is to continue the conversation to “create something extraordinary” between Concordia and Vietnamese universities.

The recording of the entire event is available on the [Youtube](#) channel of Concordia’s [4<sup>th</sup> Space](#).



## List of Panelists

<b>Panel I: Building water and energy resiliency</b>	<b>Panel II: Envisioning the cities of the future</b>
<ul style="list-style-type: none"> <li>• <b>Moderator:</b> Prof. Alex De Visscher, Professor and Chair, Chemical and Materials Engineering, Concordia University.</li> <li>• Prof. <a href="#">Catherine Mulligan</a>, Director of the Concordia Institute of Water, Energy and Sustainable Systems, Concordia University.</li> <li>• Prof. <a href="#">Hoang Thi Thu Huong</a>, Head, Dept. of Environmental Science and Technology, School of Chemistry and Life Science, Hanoi University of Science &amp; Technology.</li> <li>• Prof. <a href="#">Karim Zaghbi</a>, Dept. of Chemical and Materials Engineering, Concordia Univ.</li> <li>• Mr. <a href="#">Le Ngoc Anh Minh</a>, Founder &amp; Chairman Vietnam ASEAN Hydrogen Club.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Moderator:</b> <a href="#">Natalie Volland</a>, President, Gestion Immobilière Quo Vadis.</li> <li>• Prof. <a href="#">Ursula Eicker</a>, Director of the Next-Generation Cities Institute, Concordia University.</li> <li>• Prof. <a href="#">Trinh Tú Anh</a>, Institute of Smart City and Management, University of Economics Ho Chi Mihn City.</li> <li>• Prof. <a href="#">Andreas Athienitis</a>, Director, Concordia Centre for Zero Energy Building Studies, Concordia University.</li> <li>• Prof. <a href="#">Tran Thien Khanh</a>, Director of International Affairs &amp; Scientific Development, Dong Nai Technology Univ.</li> </ul>

## **List of participating organizations**

1. Bull's Eye Modeling
2. Canada-ASEAN Business Council
3. CGI – Montreal
4. COGI-PME Inc.
5. Concordia University
6. Consulate General of Canada, Ho Chi Minh City
7. Dong Nai Technology University
8. Ecofes
9. Fonds de recherche du Québec
10. Future Earth
11. Global Affairs Canada
12. Hanoi University of Mining and Geology
13. Hung Yen University of Technology and Education
14. Hanoi University of Science and Technology
15. HEC Montreal
16. Industrial University of Ho Chi Minh City
17. Institute for Circular Economy Development, National University
18. Institute of Smart City and Management – Univ. of Economics
19. International University - National University
20. Ministère de relations internationales et de la Francophonie
21. Nha Trang University
22. Quo Vadis Immobilière
23. Ton Duc Thang University
24. University of Transport and Communications
25. Vietnam ASEAN Hydrogen Club