



# Subnational Efforts to Reduce Transportation Emissions in North America

**COP25 – Blue Zone, Area 4, Room 2**

**Thursday, December 12, 2019 (15:00 – 16:30 CET)**



GEORGETOWN  
CLIMATE CENTER

**IQCarbone** **ESG**  
Institut québécois du carbone

**UQÀM**  
École des sciences de la gestion  
Université du Québec à Montréal



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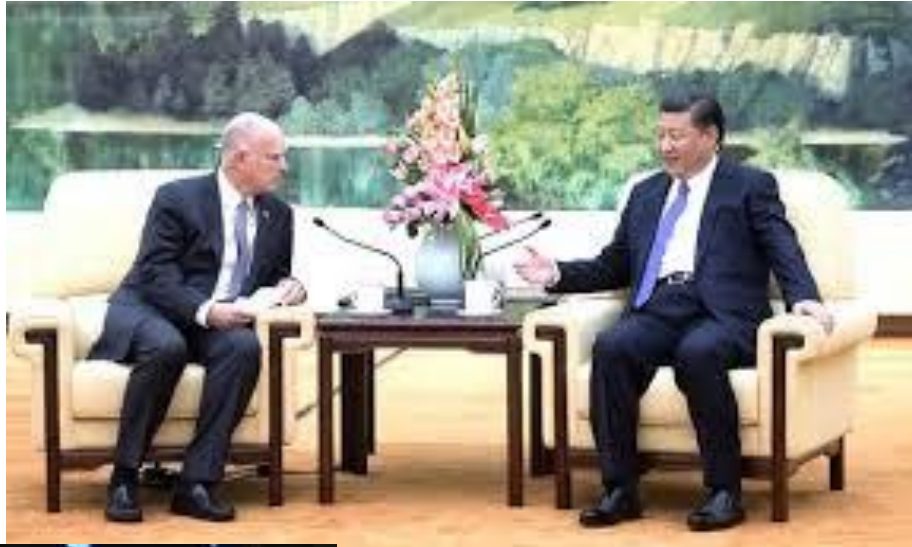
## Subnational Efforts to Reduce Transportation Emissions in North America

- Moderator: Matthew Goetz, Senior Associate, Georgetown Climate Center
- Christine Kirby, Assistant Commissioner, Massachusetts Department of Environmental Protection
- Jean Lemire, Emissary for Climate Change, Northern and Arctic Affairs, Government of Québec
- Tim Sexton, Assistant Commissioner and Chief Sustainability Officer, Minnesota Dept. of Transportation
- Andrew McAllister, Commissioner, California Energy Commission
- Anu Hittle, Climate Change Mitigation and Adaptation Coordinator, Hawaii Dept. of Land and Natural Resources
- Fan Dai, Director, California-China Climate Institute, University of California, Berkeley
- Mark Purdon, Professor, ESG-UQAM & Executive Director, IQCarbone

Fan Dai, Ph.D.  
Director, California-  
China Climate Institute  
University of California,  
Berkeley

# CA-China Zero Emission Transportation Collaborative

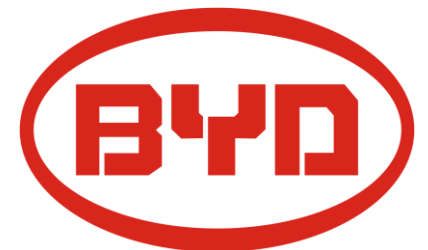
# CA-China Zero Emission Transportation Collaborative



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----intergovernmental, cross-Pacific partnership to accelerate the transition to ZEVs powered by carbon-free energy sources and a cleaner transportation system faster, more broadly, and more efficiently

Working Group members



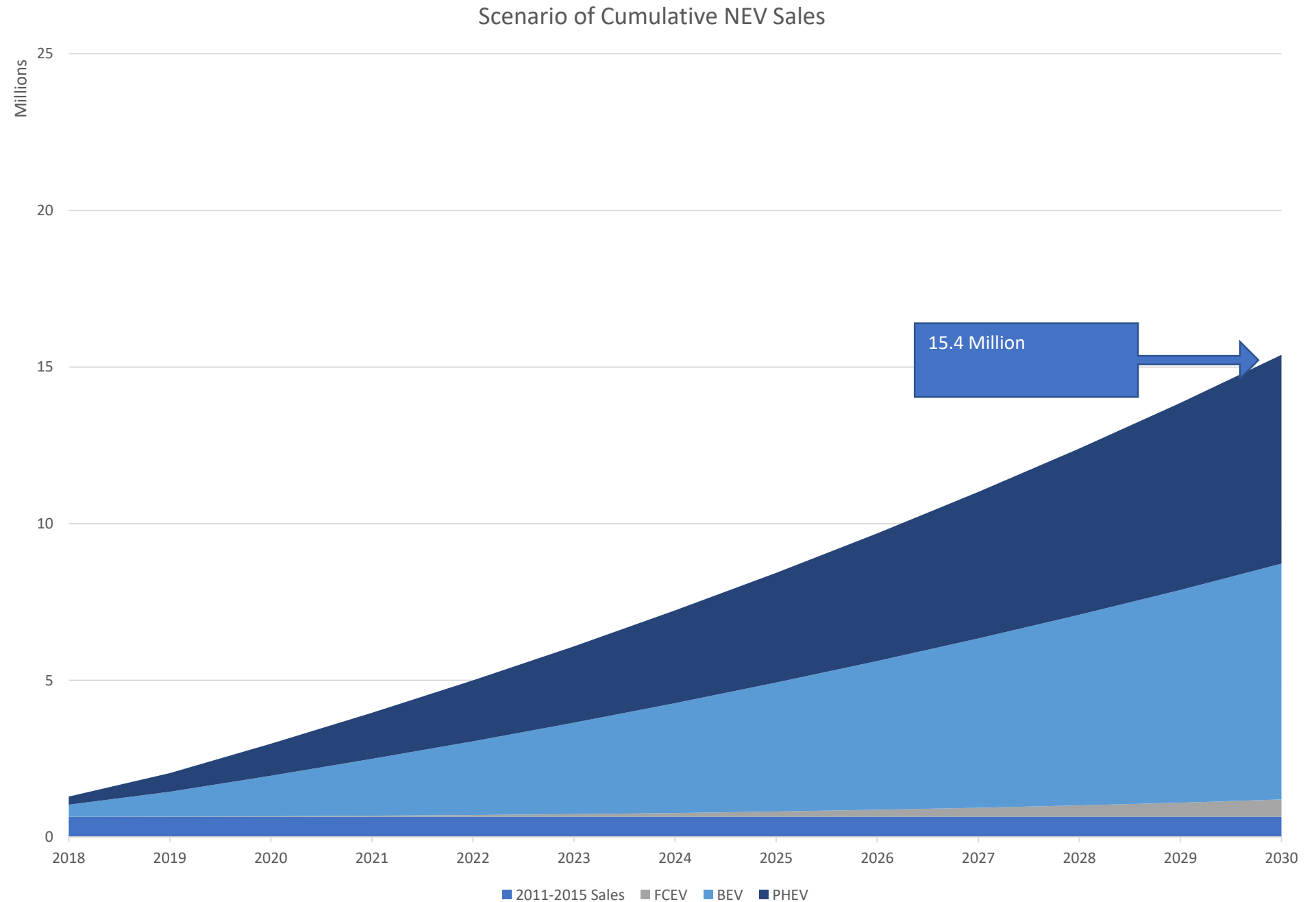
# China's and California's ZEV Goals

	California	China's MIIT*
<b>Regulatory Territory</b>	10 States (28% of U.S. market)	Nationwide
<b>Regulated OEMs</b>	For OEMs with annual sales>20,000---full requirement For OEMs with annual sales 4,500<20,000-- flexibility	Production/Imports > 30,000 (70 OEMS are now covered)
<b>2019-2020 Minimum Mandate Credits</b>	7%, 9.5%.....22% (2025)	10%, 12% (2019-2020):2019's deficit can be met in 2020
<b>An OEM with 100,000 passenger cars in sales/production in 2019</b>	For example, Nissan Leaf (R=AER 160 miles=2) will need 3,500 vehicles	A BEV with 256 km=3.258-3.87 will need 3,069-2,066 vehicles
<b>Target for each year</b>	Sales volume	Production and Sales
<b>Electric Range --PHEV minimum/maximum limits (blended vs PHEVs)</b>	10-50 miles (10 mi AER minimum-UDDS Driving Cycle) 10 miles=0.4/0.6 credits. 50 mile PHEVs= 0.8 or non-blended=1.0	--Above 80 km=2 credits --Between 50km and 80 km --(European) driving cycle B (non-EV mode must be below 79% of equivalent ICE vehicle=2 credits or 1 credit and non-tradeable)
<b>Life of Credits</b>	Permanent	Valid only in same year
<b>Minimum ZEV Requirement (BEVs and FCEVs)?</b>	Yes 2% (2018), 4% (2019), 6% (2020)	No. PHEVs alone can meet the NEV requirement.



# Projected Cumulative NEV Sales in China (2018 – 2030)

CARB, 2018



## A case in Shenzhen's fleet electrification

- 100% EV buses by 2018 (16,000)
- 99% EV Taxis by 2019 (21,000)
- Charging facilities
- Challenges





# Our agenda



ZEV (including hydrogen) infrastructure: exchange on planning for anticipated demand for charging (including spatial and temporal analysis); hydrogen fueling station investments; the role of public and private sector investment; utilities' roles; ways to serve multi-family dwellings



Hydrogen fuel cell vehicles: Vehicle technology and policies ---Chinese commitment and transition to renewable hydrogen; accelerated scaling/deployment of hydrogen vehicles in both commercial and passenger vehicles.



Zero-emission freight and transit: shore power; electrifying ground equipment at airports and ports; large-scale ZE fleet fueling; medium- and heavy-duty vehicle technologies and policies.



## Joint Clean Climate Transport Research Partnership

**Website:** [www.jcctrp.org](http://www.jcctrp.org)

**Email:** [secretariat@jcctrp.org](mailto:secretariat@jcctrp.org)

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Executive Director  
Institut Québécois du carbone (IQCarbone)

- **Goal**

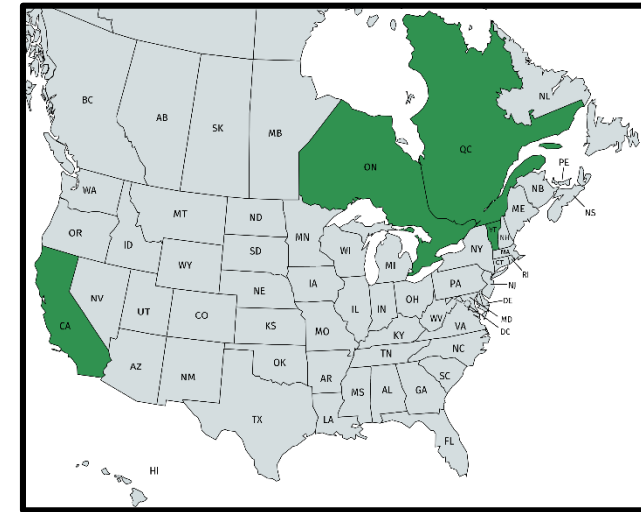
- To identify technical, economic and political factors shaping the potential for environmentally effective, economically efficient, and politically viable low-carbon transport and climate mitigation policy. The JCCTRP is addressing this goal by bringing together modeling and policy researchers in various jurisdictions into engagement with decision-makers.

- **Partner organizations**

- Leading universities, private research institutions, businesses and non-profit organizations
- **Quebec, California, Ontario and Vermont**
- Includes jurisdictions of the WCI, RGGI and TCI

- **Funding**

- Recipient of a prestigious Partnership Development Grant from the Canadian Social Sciences and Humanities Research Council (SSHRC)



## Quebec



équiterre

HEC  
MONTRÉAL



JOHN & MOLSON  
SCHOOL OF BUSINESS



## California



## Vermont



## Ontario



# Phases of JCCTRP Research

- **Phase 1**
  - July 2018 – February 2019
  - **Objective:** Characterize Existing Approaches to the Economic and Political Analysis of Low-Carbon Transport and Climate Change Mitigation Policy
- **Phase 2**
  - March 2019 – March 2020
  - **Objective:** Jointly Develop of Modeling Scenarios for Low-Carbon Transport and Climate Change Mitigation Policy and Undertake Preliminary Analysis
- **Phase 3**
  - March 2020 – June 2020
  - **Objective:** Road-map identifying technical, economic and political factors for effective, politically viable transport and climate policy and understanding their implications for emissions trading



# Phase 2 Working Groups

## 1) Carbon Pricing and Policy Sequencing

- Modeling Policy Sequencing using TIMES: carbon pricing, ZEV Mandates, LCFS, Vehicle Emission Standards
- Economic Advantages of Linking State/Provincial Carbon Markets

## 2) Urban Transit

- California *Sustainable Communities and Climate Protection Act*
- Model Regional Plan Climate Targets for California in Toronto using TRANUS transport and land-use change model

## 3) Transport-Energy Nexus

- Modeling the impact of electric vehicle penetration on energy demand in Quebec using UVermont transport-energy model

# Phase 2 Working Groups (cont)

## 5) Low-Carbon Fuel Standard

- LCFS comparison matrix for California, Canada, BC, including modeling differences

## 6) Comparative Policy

- Investigating role of modeling urban transport through comparison of Los Angeles, Sacramento, Toronto and Montreal

Public Outreach	Research Outputs	Events
Bilingual Website	Bilingual Policy Briefs	California Workshop (Feb 2019)
Bilingual Newsletter	Working Papers	Ontario Workshop (Nov 2019)
Public Seminars	Peer-reviewed Publications	Quebec “Symposium” (June 2020)

# Key Working Papers

- ***Forthcoming***
  - *Modeling Increased Electric Vehicle Demand in Quebec*
  - *Findings of an Interjurisdictional Survey on Modeling Approaches to Transport, Climate and Energy Policy*
- ***2019***
  - *Climate and Transportation Policy Sequencing in California and Quebec*
  - *Overview of Climate, Energy and Transport Policy in Quebec*
- ***2018***
  - *Decarbonizing Road Transportation in Ontario*

# 2020 Quebec Symposium on Global Climate and Transport Policy

- **Goal:** *Building on the Joint Clean Climate Transport Research Partnership (JCCTRP), the Symposium aims to bring together researchers and key stakeholders from Canada, the US, Europe and China to discuss global climate and transport policy in Montreal*
- **Date:** *10-12 June 2020*
- **Location:** *Université du Québec à Montréal (UQAM\_ campus in downtown Montréal*
- **Organization:**
  - JCCTRP workshop on Day 1 which will be capped-off with a public seminar and presentation of Road Map
  - Open conference on Day 2 showcasing the work of the JCCTRP, ZEV Policy Lab and TCI
  - Day 3 will allow participants from all three research bodies to identify collaborative research needs and opportunities.





Joint Clean Climate Transport Research Partnership  
Partenariat de recherche conjoint sur le climat et les transports

***Merci!***  
***Thank you!***  
***Gracias!***

**WEB:** [www.jcctrp.org](http://www.jcctrp.org)

**EMAIL:** [secretariat@jcctrp.org](mailto:secretariat@jcctrp.org)



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