



CNTA
Centre National du Transport Avancé

Créneau d'excellence
transport
terrestre avancé
ACCORD
Laurentides

PHEV'09





Presentation Title

PHEV'2009

The Contribution of Industrial Clusters to the Development of the Electric Car Industry – The Québec Experience*

* *Cluster of Excellence (créneau d'excellence): A strategic action plan for economic development by the Government of Québec aiming to build a competitive regional production system (ACCORD Program)*



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PHEV'2009

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L'Association



1- Introduction

From the CEVEQ to the CNTA

- Creation of the CNTA, priority of the action plan for Clusters of Excellence in advanced surface transportation.
- CEVEQ, as instigator and leader of this project, receives the mandate to build the CNTA.
- 2008: CEVEQ enlarges its mission and changes its name to become the CNTA.



2- Mission and Strategic Choices

Mission

Promote the development of HEV in view of environmental, economic and energy-saving benefits.

Strategic Choices

- **Multimodal Approach:** From the bicycle to the metro (subway), from the bus to the automobile ... sharing
- **Electric Mobility:** Preferred choice for sustainable transportation
- **Québec Network:** Develop and position a Canadian coalition
- **Industrial Strategy:** EV conversion/favouring the industrial cluster
- **Technological Alliances:** Building partnerships Europe North America
- **Coordinating Initiatives:** Organization accelerates winning conditions



3- CNTA\CEVEQ Initiatives

3.1- EV Demonstration Program

1999-2001

Projet *véhicules électriques*



10 participating business. 25 EV (Ford, Solectria)

100,000 km covered in 2 years

1st network of public and private charging stations in Canada

Currently the largest EV demonstration program in Canada



Electric Bicycle Evaluation: Montréal, Toronto, Québec, Saint-Jérôme.

369 Users – 55 E bikes – each user taking bicycle for 2 weeks.

Main Objective: Impact of E bikes on security of users, helping concerned authorities (TC, MTQ) to formulate appropriate regulations.



3.2- Global Standardisation: Regional Production Systems

- **2001-2002**
- **Bench Mark Advanced Surface Transportation (AST)**
- Next Energy, Michigan, USA
- WestStarCALSTART, California, USA
- “Surface Transportation Competitiveness Pole”, France (*Pôle de compét terrestre*)
- Austria Automobile Cluster, Austria
- Ontario Automotive Cluster, Canada
- Global Alternative Propulsion Center (GM, Opel), USA and Germany
- TUV Süddeutschland, Germany
- **AST Observed Best Practises**
- A regional/national strategy for AST is necessary
- A coordinating body is required: Creation of a national EV-EHV institute
- The participation of the private sector is essential





3.3- EV Pilot Projects: Regulation, Introduction

2000-2004



Segway HT: Examine human and technical factors – impact on security for users & pedestrians, identifying niches, environmental benefits. Exhaustive study over two years: laboratory and real conditions (144 users in 3 cities)



Québec program for introduction of hybrid and electric vehicles in car lots. 125 participating lot managers, 20 different EV users recorded.



Introduction program for low-speed vehicles. Evaluate integration of LSV in view of security and dependability as part of the flow of city traffic.





3.4- International Positioning: Network, Alliances

1996-2009

- 1996: Partnership with La Rochelle, European EV pilot city
- 1999: Collaboration agreement with the French “Advanced Mobility and Transportation Pole ” (*Pôle de compétitivité Mobilité et Transports Avancés*)
- 2001: Co-founder of the International Forum on Urban Mobility and Advanced Transportation (*Forum international Mobilité urbaine et transport avancé (MUTA)*). Six (6) forums held: 2002, 2004 et 2007 in Québec; 2003, 2006 and 2008 in France. 7th edition MUTA2010, France.



•2002 - 2009



- 2004: Collaboration agreement with Électricité de France
- 2006: Agreement with the Principality of Monaco, EV promotion
- 2009: Agreement with the French “Vehicle of the Future Competiveness Pole ” (*Pôle de compétitivité Véhicule du futur et Pôle MOVÉO*)





3.5- Creating an EV Association in Canada 2005

Creation of Electric Mobility Canada, an initiative of CEVEQ and the Centre for Sustainable Transportation



The Centre for Sustainable Transportation



Le Centre pour un transport durable

< A national association dedicated to the promotion of electric mobility in order to attain Canadian energy-saving and environmental objectives and to support industry, as part of our strategic vision ... The EV Road Map and the networking of regional clusters are also part of this necessary evolution ... >



Electric Mobility Canada

Mobilité électrique Canada

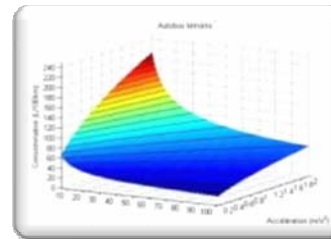
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3.6- Bus Expertise: Fleet Integration, analysis

- Écolobus: Electric bus, Québec City and RTC
 - Importing and road tests in winter conditions
 - Winterizing and conforming to Canadian standards
 - Integration and follow-up



- STM/STO – Analysis of a Full Fleet of Hybrid and Non-hybrid Buses
 - Evaluation of the efficiency of hybrid diesel-electric propulsion in the particular climatic and operational environments of the cities of Montréal and Gatineau.
 - Impacts on the environment, maintenance costs, operation costs
 - Data collection and analysis



3.7- Creation of AST Clusters of Excellence

Vision

2012 - Leadership in AST strategic action in Québec and the “Québec AST Project Major Attraction Pole” in Canada (*Pôle d’attraction majeure des projets TTA*)

2017 - World competitive leader in AST



Atouts

Unique concentration of assemblers

Unique Canadian test laboratories for road vehicles

Electric vehicle laboratory test city



Fields for Strategic Action

Tests, certification and approval

Advanced motorisation: Electric and hybrid electric drive chains





3.8- Québec Clusters in Surface Transportation

- Alliance of 4 transportation clusters: *Centre-du-Québec, Estrie, Laurentides and Montérégie*
- **Goals: Increase productivity, capacity for innovation and visibility**
- **Industry Network:**
 - **Public transport: road and rail**
 - **Commercial vehicles (light and heavy duty)**
 - **Specialized and recreational vehicles**
 - **Automobiles**
- **Sector Formation:**
 - World leaders in equipment production, subcontractors, suppliers of specialized products. More than 400 businesses counting up to 50,000 employees.
- **Field for strategic action in advanced surface transportation**
- Broad-based application, covering the whole cluster, all networks and sectors



Facts/Perspectives

- Québec is a leader in the Canadian transportation sector
- Abundant renewable energy in Canada, particularly in Québec
- AST market penetration, obvious growth signs
- Electrification of transportation: HQ positioning itself, Québec ready and waiting
- Canadian government must support the complete transport industry network, especially the AST sector
- Canadian budget in proportion with other countries (USA, France, Germany) to carry out projects: Canadian EV technology roadmap, lasting initiatives targeting public transport (rail and road), trucking, automobile
- Government of Québec must recognize the advanced surface transportation industry at the same level as others: aeronautics, biotech, etc.
- Standards, policies, incentives/GHG, energy efficiency, costs



Thank you for your time!
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