PHEV'09 Plug-In Hybrid and Electric Vehicles September 28 to 30, 2009 – Montreal
Véhicules électriques et hybrides rechargeables 28 au 30 septembre, 2009 – Montréal

Automotive XPRIZE Influence in North America

Jack MacDonnell
CEO, EnerMotion

Electric Mobility Canada
Mobilité électrique Canada

Progressive Automotive X PRIZE (PIAXP)

- 100 MPGe
- 4 Passenger, Mainstream entry
- Ultra-low Carbon emissions (200g/mi, 120 g CO_2e/km)
- Federal Safety Standards (NHTSA, FMVSS)
- Manufacturability Assessment (10,000 unit annual pr
- Fuel/Power Source open
- 100+ Teams from 11 Countries
- EnerMotion 1st Official Canadian Contender
- May 2010 Qualifying Stages and Final Race Stage August 2010

EnerMotion

EMC MEC Electric Mobility Canada Mobilité électrique Canada

MPGe?

- Mile Per Gallon Equivalent
- Factors all energy sources – not just gasoline
- Enables apple to apple comparison independent of fuel type and drive config.
- Measure of overall 'pump-to-wheels efficiency
- 'Consumer Reports' will use MPGe for testing of PHEV and alternative fueled vehicles

- MPGe = EG / (g*EF + e*EW)

m = miles per gallon of liquid fuel used (MPG)

g = 1/m = gallons of liquid fuel used per mile (GPM)

e = plug-to-wheels electrical energy used per mile (Wh/mi)

EF = BTU per gallon of liquid fuel used (not necessarily gasoline)

EG = BTU per gallon of gasoline = 116,090

EW = BTU per Watt-hour (Wh) of electricity = 3.412

Computing MPGe for BEV's:http://autoxprize.typepad.com/axp/2008/01/computing-mpge.html

EnerMotion

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Why?

230MPG!
Educated Consumer

EnerMotion

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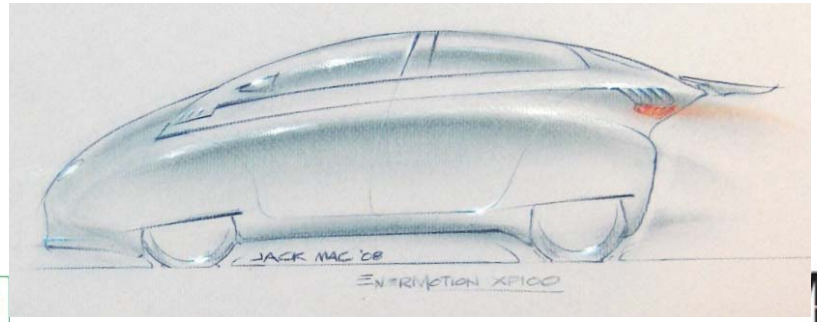
PIAXP Influences

- Attract private and public investment
- Open Source
- Sparks new industry development
- Policy influence
- Technology Neutral – Defines the problem



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$summary

- Improved Vehicle Efficiencies
  - Reduced Carbon emissions
- More Educated Consumers
- Advances a technology neutral standard
- Stimulates both supply and demand
- Window of opportunity is now