

FOUNDATIONS FOR EV

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ABSTRACT

THERE EXISTS A COUNFOUNDING LAG IN THE ADOPTION OF ELECTRIC VEHICLES IN ONTARIO. THIS RESEARCH ESSAY AIMS TO IDENTIFY THE CAUSES FOR THE LAG, IDENTIFY STAKEHOLDERS AND PROVIDE RECOMMENDATIONS FOR THE INCREASED ADOPTION OF ELECTRIC VEHICLES. THE PROLIFERATION OF ELECTRIC VEHICLES CAN SERVE AS ONE OF THE LARGEST CATALYSTS FOR ENVIRONMENTAL CHANGE IN THE PROVINCE, IF WE ARE ABLE TO REDUCE THE BARRIERS TO ADOPTION

HYPOTHESIS

INFRASTRUCUTURE AND ECONOMIC INSTRUMENTS ARE SIGNIFICANT FACTORS TO ENCOURAGING GROWTH OF ELECTRIC VEHICLES IN THE PROVINCE

METHODOLOGY

1. INITIAL REVIEW OF MASS MEDIA PUBLICATIONS FOR BACKGROUND KNOWLEDGE AND INFORMARTION
2. REVIEW OF GOVERNMENT POLICY DOCUMENTS, LEGISLATION, CHARTER OF RIGHTS ETC. TO DELINEATE GOVERNMENTAL ROLES AND POSITIONS/POLICIES
3. REVIEW OF MULTIPLE PEER REVIEWED RESEARCH ARTICLES
4. FORMULATION OF ARGUMENT AND RATIONALE BASED ON RESEARCH

KEY FINDINGS

TRANSPORT EMISSIONS ACCOUNT FOR 34% OF ALL GHG IN THE PROVINCE (PLUG'N DRIVE, 2015)
PER-KILOMETER FUEL COST OF AN EV IS A THIRD TO A FIFTH THAT OF CONVENTIONAL GASOLINE VEHICLES (CANIZARES, 2010)
CARBON TAX, AND CAP AND TRADE PROVIDE SIMILR END RESULTS (JACARD, 2015)
THE VAST MAJORITY OF THE PROVINCES ENERGY PRODUCTION IS DERIVED FROM RENEWABLE SOURCES (BEARE, 2012)

RESULTS

- SUBSIDIES, HOV LANE ACCESS, EMISSIONS TESTING EXEMPTIONS ARE THE MOST EFFECTIVE ECONOMIC INCENTIVES
- CARBON TAX IS AN ECONOMIC DETERRENT FOR THE USE OF CONVENTIONAL FUELS
- THE GOVERNMENT CAN INCENTIVIZE EV'S BY OFFERING INTRODUCTORY OFF PEAK ELECTRICITY RATES
- SHORTFALL OF EV CHARGERS IS ONE OF THE SIGNIFICANT CAUSES FOR LAGGARD GROWTH
- BUILDING CODE AMENDMENTS ARE NECESSARY TO FACILITATE GROWTH
- THE IMPLEMENTATION OF A SMART GRID ELECTRICITY SYSTEM, WHERE EV'S CAN ACT AS STORAGE DEVICES AND REDISTRIBUTE ENERGY WOULD PROVIDE IMMENSE BENEFIT TO THE POWER GRID
- STAKEHOLDER ENGAGMENT THROUGH THE CREATION OF A MULTHINTEREST, GOVERNMENT ADMINISTERED TASK FORCE IS VITAL

CONCLUSION

THE IMPORTANCE OF ENCOURAGING AND INVESTING IN EV ADOPTION IS ITS ROLE IN REDUCING ENVIRONMENTAL IMPACTS. BY GRADUALLY ELIMINATING OUR RELIANCE ON FOSSIL FUELS WE CAN MOVE TOWARDS CLEANER AND SAFER TECHNOLOGIES AND FUEL SOURCES. HOWEVER, TO MEET THESE ENDS WILL REQUIRE CONTINUED RESEARCH INTO NOT ONLY EV TECHNOLOGIES, BUT ALSO FUTURE POLICY MEASURES TO RECOUP LOST REVENUE. FURTHERMORE, STAKEHOLDER ENGAGEMENT IS ESSENTIAL GOING FORWARD. WITHOUT THE SUPPORT AND FEEDBACK OF VESTED CORPORATIONS AND INDIVIDUALS, THE PROVINCE WILL FAIL TO MAKE MEANINGFUL CHANGES. CURRENTLY, ONTARIO IS FALLING BEHIND IN TERMS OF EV ADOPTION COMPARED TO SIMILAR REGIONS SUCH AS, CALIFORNIA AND NORWAY. HOWEVER, IF THE GOVERNMENT CAN CONTINUE THE CURRENT TRAJECTORY OF INVESTMENT INTO EV INFRASTRUCTURE, AND EDUCATE PEOPLE REGARDING THE BENEFITS OF EV'S, IT IS PROBABLE THAT THE PROVINCE WILL BE BACK ON TRACK.

