Municipal Transportation Roadmap Model (MTRM)

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ABSTRACT

The growing urban transport sector presents municipalities with an escalating challenge in the reduction of greenhouse gas emissions. There is a need to forecast future transportation, and fuel/energy demand as well as make policies to reduce emissions. This study develops a roadmap modelling framework which contains socioeconomic parameters, transportation activities, and emissions which together help us recognize the dynamic nature of transportation systems. Socio-economic module parameters like gross domestic product, population, vehicle ownership and fuel cost/price are used to estimate the future transportation demand. Transportation activity parameters like vehicle stock, vehicle population, vehicle mileage has direct linkage to emissions. This study follows a modular based approach where each module process inventories to capture socio-economic and transportation activities impacts in quantification of emissions. The tool provides emissions related to the production, transportation, transformation, and distribution of the fuel by the vehicle which are identified by well to tank, tank to wheel and well to wheel emissions. This tool will offer flexibility to evaluate several types of clean transportation schemes related to fuel standards, hydrogen fuel, vehicle technology which will help us to benchmark climate action and helps in reduction of vehicle kilometres, increasing vehicle efficiency and moving towards cleaner fuels as a part of clean tech innovation theme.

Keywords – Transportation Activity, Emissions, Clean Tech Innovation, Clean Transportation,