Transportation Greenhouse Gas Emissions Data and Modeling Needs

Ministerial Conference on Global Environment and Energy in Transport: Follow up Meeting

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Canada

Background

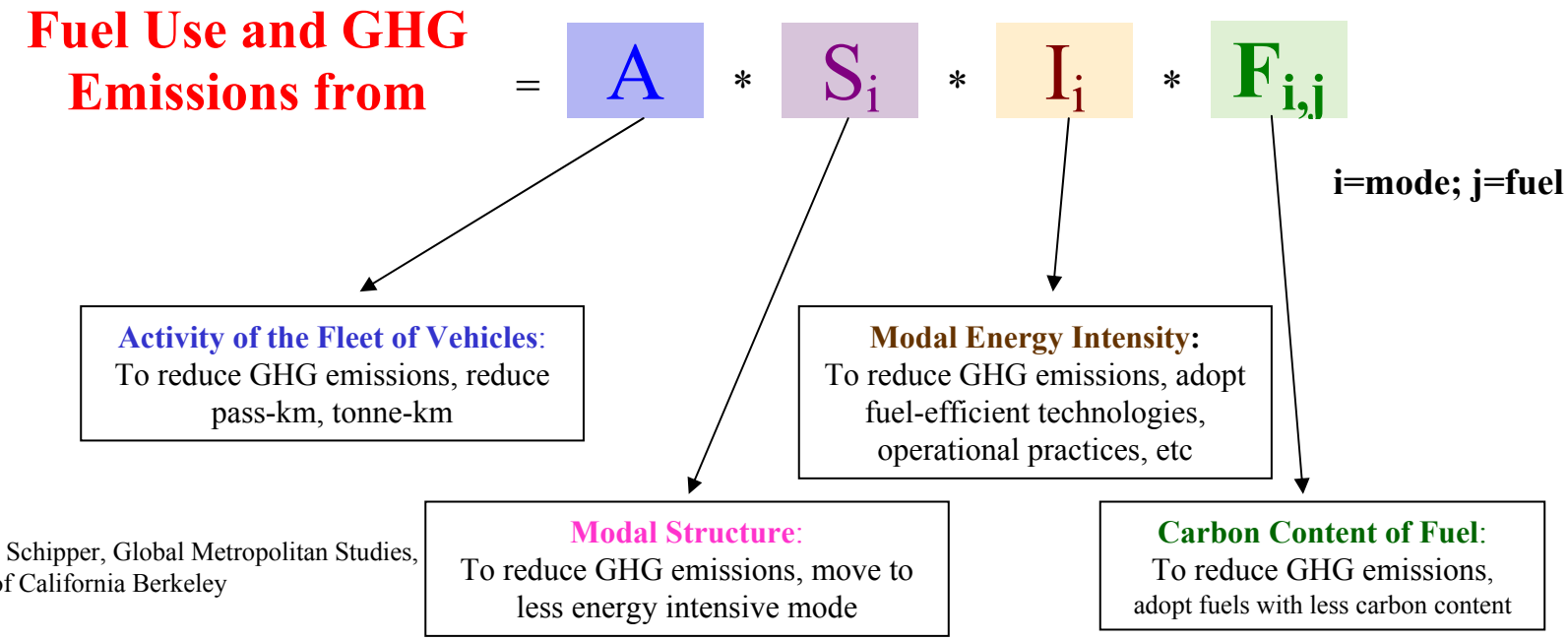
- The transportation sector will have to contribute to the reduction of air pollution and greenhouse gas (GHG) emissions.
- Sound transport data and analysis can shed important light on the impacts of different policies and pathways.
- A data strategy is required to obtain a more comprehensive air emissions picture (for each mode, fuel).
- Accurate estimates of GHG emissions require the use of two complementary approaches – top-down and bottom-up.

"You Cannot Manage What You Do Not Measure"

What Kind of Information is Required when Building a Bottom-Up Model

- Fleet composition (stock, purchases, discards, survival curves).
- Intensity of energy use per unit of activity (a key requirement is to obtain data connecting transport activity to fuel consumption for the same set of activities).
- Activity (including modal shares and urban/intercity split).
- GHG intensity of fuels used.
- Incremental fuel consumption saving and cost of technologies.
- Key drivers and market behaviour information (e.g. vehicle price elasticities, rebound effect, etc).

What We Need to Measure



Source: Lee Schipper, Global Metropolitan Studies, University of California Berkeley

Challenge: Measure or Model All Components of GHG Emissions; Air Pollution (CAC) Requires Even More Details

Analytical Tools Development to Date

- Around 2004, Transport Canada looked at its internal capacity to assess the impact of economic instruments on the demand for new vehicles.
  - Clearly defined its analytical problems and objectives;
  - Searched for the model that was the "best fit";
  - Investigated its data and information needs, availability, gaps, and where appropriate determined a data collection strategy;
  - Adapted the model, data requirements and key assumptions to its own market; and,
  - Addressed challenges in a systematic way.
- Now looking at expanding the analytical capacity of the tool to assess the impacts of other economic instruments and regulation policies, and possibly to duplicate it for analysis of heavy trucks, or vehicles/equipment in other modes.

Data Inventory and Gaps Assessment

- In order to address the challenge of measuring transportation emissions, Transport Canada has:
  - Commissioned the preparation of an inventory of transportation and climate change/air pollutant data collected at the national level; and,
  - Been making progress on identifying and assessing transportation and climate change/air pollutant data gaps for each mode for both trends and modeling analysis.
- Working on the development, in collaboration with provinces, of a data collection strategy that will include:
  - Identifying data collection priorities;
  - Developing preliminary cost estimates; and,
  - Developing implementation strategies.

Thank you.

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