



International Transportation Forum 2014 Working Group on Assessment of Policies for Long-Term Transition to Sustainable Transportation

**Case Study:** 

Canada's approach to infrastructure investments serving growing trade



International Transportation Forum February 27, 2014 Paris



Angelina Ermakov Transport Canada

## OUTLINE

- •Non-infrastructure policy: Clean Air Agenda
- Asia-Pacific Gateways and Corridors: overview
- Infrastructure investments: ex-ante assessments of projects
- •Carbon footprint of a supply chain
- •Looking forward: new policy tool to internalize climate change benefits

### **APGCI**

### The Asia-Pacific Gateway and Corridor Initiative:

•Launched in 2006 and based on Canada's National Policy Framework on Strategic Gateways and Trade Corridors

•An integrated set of investment and policy measures focused on trade with the Asia-Pacific Region

•Established an integrated transport infrastructure facilitating global supply chains between North America and Asia

•More than 45 strategic infrastructure projects, together with our public and private sector partners, totaling \$3.5 billion, including \$1.4 billion in federal funds





## FEDERAL GOVERNMENT GUIDELINES

•Government of Canada has established federal guidelines for Cost Benefit Analysis for all investments projects

•FV and costs were discounted to 2005 PV

•A discount rate was determined at 10% (real, net of inflation, constant)

Construction periods: varied per project

•25-50 year operating horizon

•Economic evaluation model: discount rate, initial capital costs and travel time savings growth rate

# **EX-ANTE ASSESSMENTS**

•Cost-Benefit Analysis: necessary part of application process on each project, to ensure effective spending of public finance

•High level projects important at municipal, provincial and federal levels

 Project's benefits and costs: climate component plus cobenefits were quantified

# **CLIMATE CHANGE UNCERTAINTY**

### **Original CBA on each project included:**

#### **Environmental benefits quantified:**

- Travel time savings
- Vehicle operating cost savings
- Safety benefits

#### Not quantified:

- Reduced GHG emissions
- Impact on economic growth

Value of each 25-year old asset, with planned rehabilitation in 2031, estimated as approximately 50% of its original capital cost.

# NEW POLICY TOOLS FOR SUSTAINABLE TRANSPORTATION

 Internalizing climate change benefits through calculating carbon footprint of a supply chain

•Fluidity Indicator Project: optimization of usage of transportation infrastructure through computing of transit times for cargo

•Carbon Footprint Methodology: innovative policy tool to measure  $CO_2$  and find new opportunities to reduce  $CO_2$  emissions  $CO_2$ 

•Emissions data available for the established transportation network serving trade between Asia and North America and Canadian

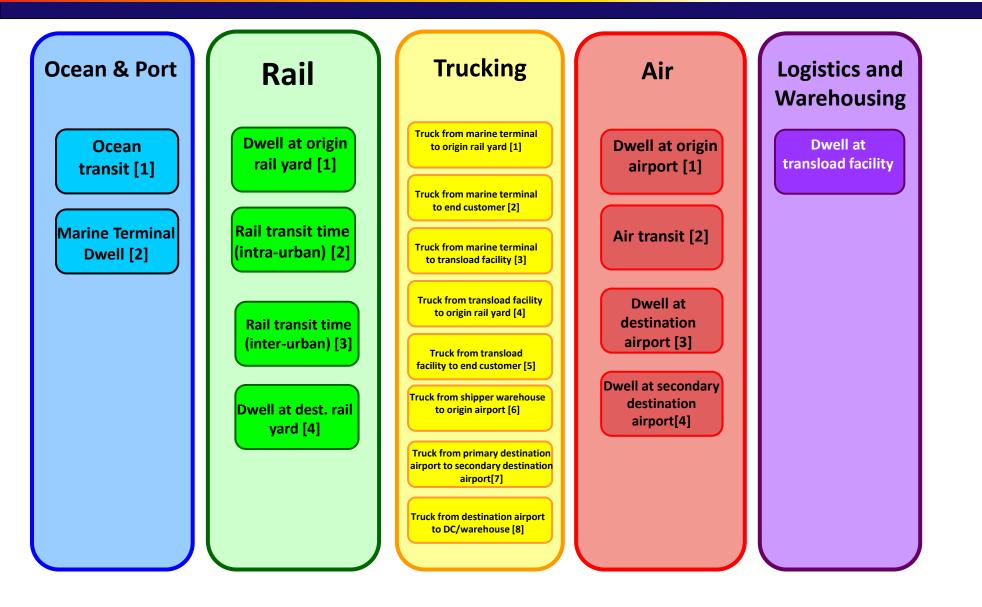
•System-wide approach to monitor and forecast economic activity and report on performance of transport system, including fluidity, competitiveness and resilience.

### **CARBON FOOTPRINT METHODOLOGY:**

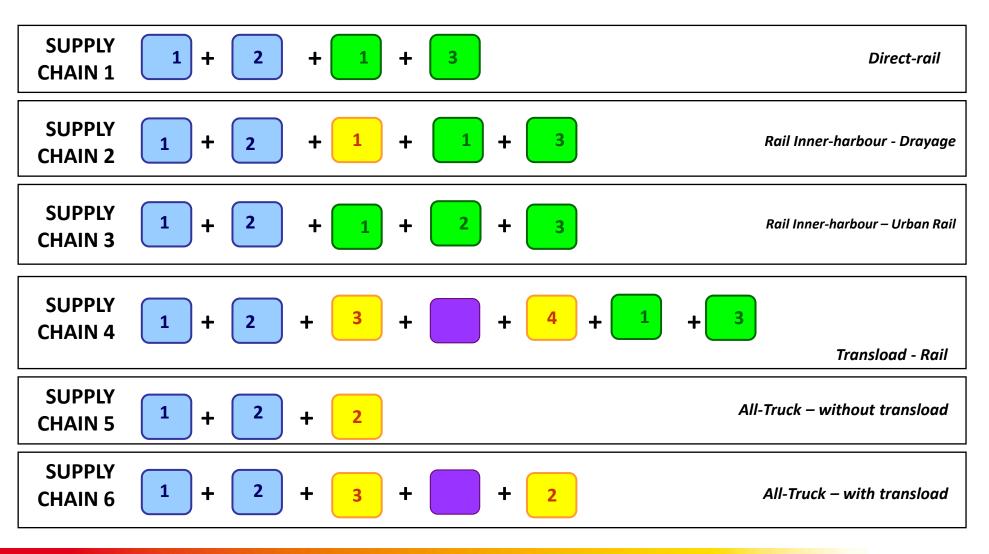
•Highly feasible and innovative policy measure that can be applied to future investments into transportation infrastructure to forecast emissions

•Applied to APGCI transport infrastructure projects

•Forecasted carbon footprint can be included into pre-investment cost benefit analysis for future transportation infrastructure projects to optimize spending of limited public funds.



### SYSTEM FLEXIBILITY: SEVERAL COMBINATIONS



### **CARBON FOOTPRINT METHODOLOGY:**

- The methodology allows to measure the energy use and greenhouse gas (GHG) emissions performance of a supply chain:
  - Internalizes environmental dimension to complement the fluidity project performance metrics tools.
  - Initial focus on the APGCI as the most advanced gateway initiative with pioneering performance measures being developed.
- GHG emissions measurement (via energy use) and activity from the main supply chain elements, including:
  - ocean transit;
  - o cargo handling and ports, transloading;
  - $\circ$  rail and truck long haul movements; and
  - truck local movements at intermodal terminals and to final destinations.

### **NEXT STEPS**

 Inter-sessionally: Draft Case Study to be provided to WG members for discussions

•WG Report to ITF 2014: Case Study to be included into the final Report

### For any questions, please contact:

Angelina Ermakov, Transport Canada <u>Angelina.ermakov@tc.gc.ca</u>