

DEVELOPMENT OF FUEL ECONOMY POLICIES – THE CASE OF MAURITIUS

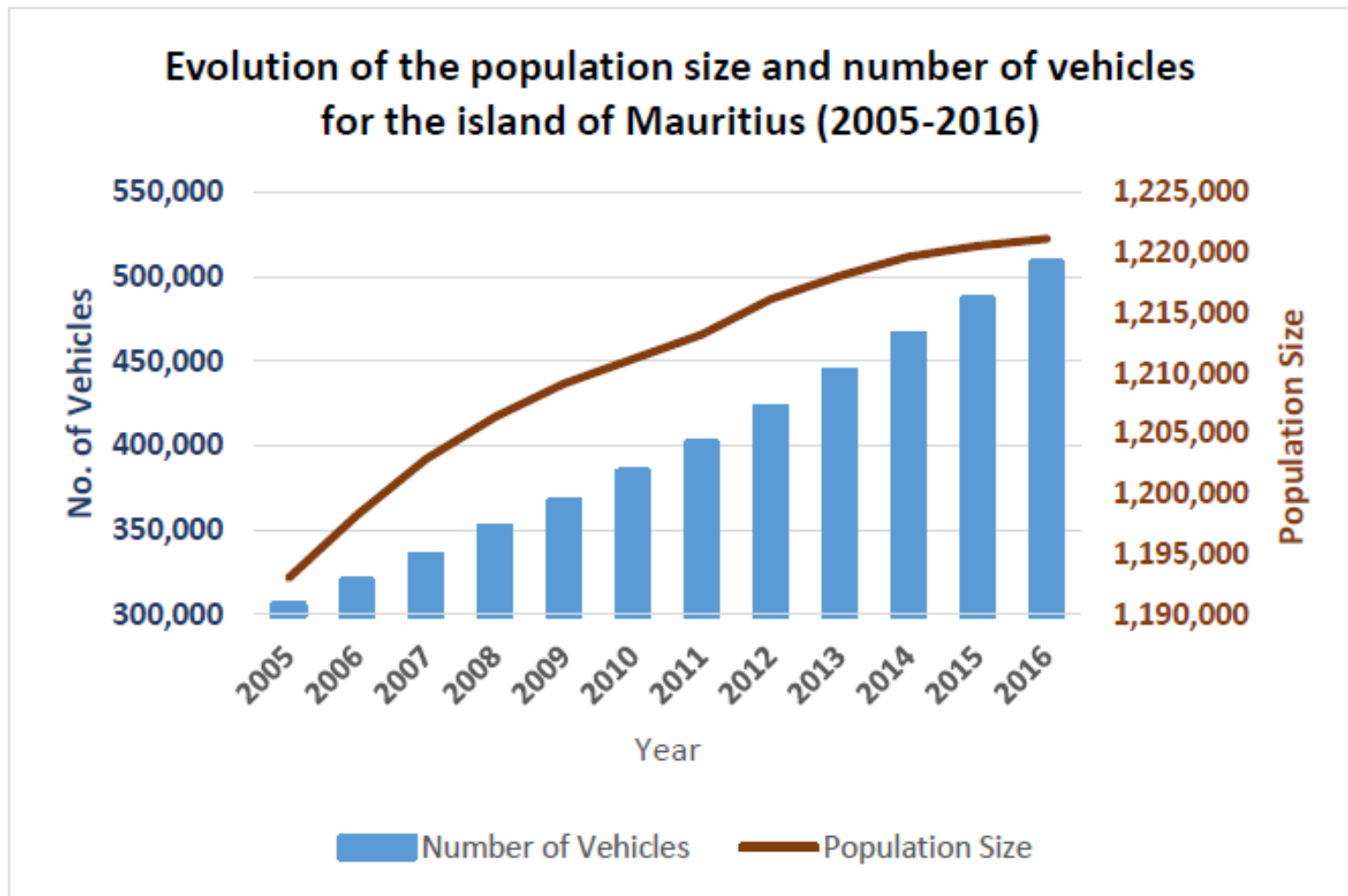
D. Prithipaul
Divisional Environment Officer
GFEI Focal Point, Mauritius

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Structure of Presentation

- ▣ Statistics on the transport sector;
- ▣ Present and forecasted fuel consumption levels;
- ▣ Some findings of the study on the socio-economic impact of policies on low and no-emission vehicles;
- ▣ Development of GFEI Policies and Strategies
 - Approach and process to GFEI implementation;
 - Addressing the problem tree;
 - Strategies and recommendations; and
- ▣ Way forward

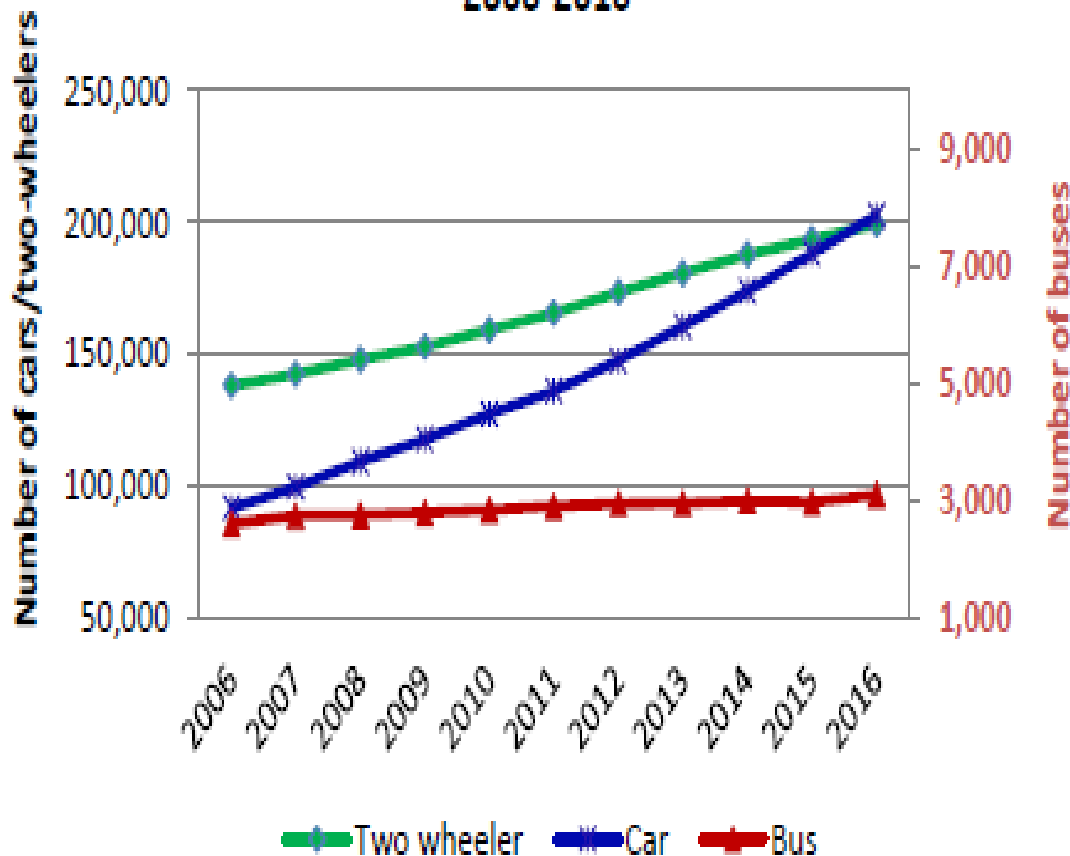
Link between demography and vehicle ownership



Source: Statistics Mauritius (2017)

Statistics on the Transport Sector

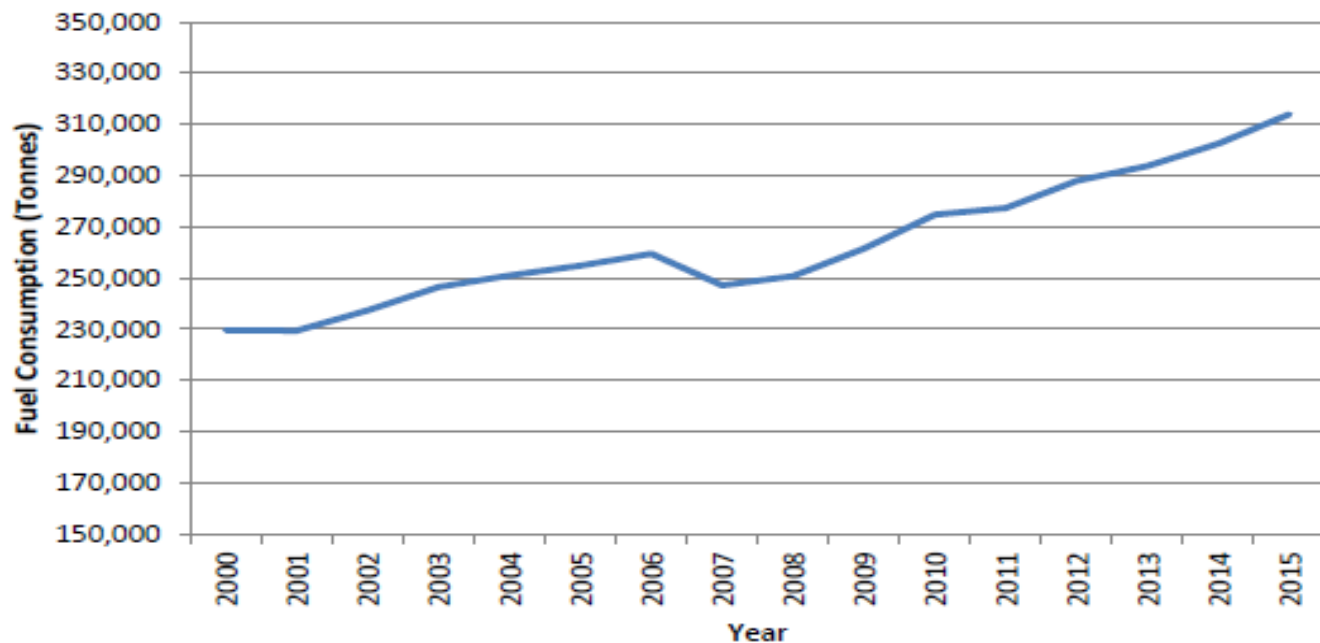
Number of cars, buses and two-wheelers between
2006-2016



Between 2006 and 2016 (over a decade)

- Overall fleet increase from 319,440 to 507,676 (59 % increase)
- Cars increased from 91,911 to 202,696 (120% increase)
- Buses increased from 2,612 to 3,107 (19% increase)
- Two-wheelers increased from 138,174 to 199,388 (44% increase)

Present and forecasted fuel consumption levels

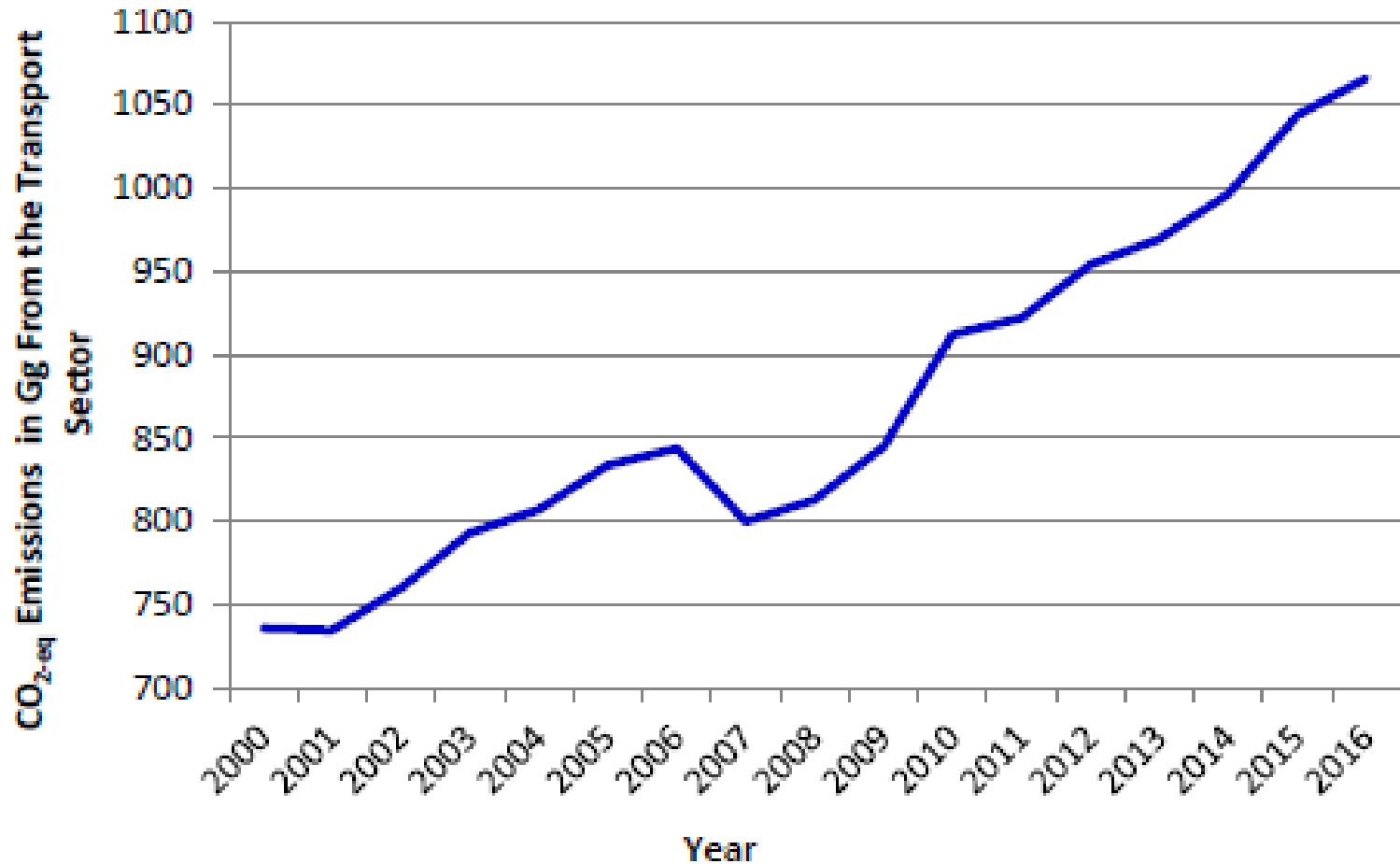


Present fuel consumption levels

Year	Projected petrol consumption (million litres)	Projected diesel consumption (million litres)
2020	240.4	276.7
2030	355.6	401.8
2050	778.0	920.4

Forecasted fuel consumption levels

Greenhouse gas emissions from the land transport sector (2000 - 2016)



SOME FINDINGS OF THE STUDY ON THE SOCIO-ECONOMIC IMPACT OF POLICIES ON “LOW AND NO-EMISSION VEHICLES”, INCLUDING 2 WHEELERS

Broad Findings

- Motor Vehicle Renewal Licence (yearly) and Registration Fees are 50% lower for all hybrid motor cars as from 30 July 2016.
- The difference in Excise Duty between conventional vehicles as compared to hybrid vehicles ranges between 20% to 30% depending on engine capacity.
- Between 2010 and 2017, the number of hybrid vehicles rose from 118 to 6406; a rise of **more than 50-fold**.
- Expected loss in public sector revenue in 2017 would be MUR 218.1 M (US\$ 1 = MUR 35) in case of an annual increase of 130% in the number of hybrid vehicles.

SOME FINDINGS OF THE STUDY ON THE SOCIO-ECONOMIC IMPACT OF POLICIES ON “LOW AND NO-EMISSION VEHICLES”, INCLUDING 2 WHEELERS

Empirical Findings

- ❑ Respondents were found to be aware of hybrid and electric vehicles, but do not have much information on their **characteristics** with greater precision.
- ❑ Respondents were found to be aware of the fiscal incentives provided, but not necessarily aware of their **significance**.
- ❑ Respondents were willing to purchase fuel-efficient vehicles, with some **degree of apprehension** for electric vehicles.
- ❑ The purpose of having hybrid and electric vehicles may be **defeated** if the demand for fossil fuel remain the same.
- ❑ The **Light Rail Transit** project was viewed as a breakthrough to make the transport more efficient.

Development of GFEI Policies and Strategies

- ▣ On-going Government Policies and Measures
 - Mostly infrastructural works and better public transport.
 - But not targeting fuel economy and greenhouse gas emissions specifically.

- ▣ Two-pronged approach
 - GFEI Phase I (2013 to 2014)
 - GFEI Phase II (2015 – 2018)

- ▣ GFEI Phase I
 - Benefits obtained
 - ▣ Data collection (vehicle inventory) ;
 - ▣ Further enhance stakeholder networks ;
 - ▣ Generate policy interest in the topic;
 - ▣ Develop interim policy options based on cost-benefit analyses;
 - ▣ Contribute to public sensitization; and
 - ▣ Capacity building of local stakeholders.

 - **This phase laid down the foundation for further analysis, discussion and development of a detailed vehicle strategy.**

GFEI Phase II

APPROACH

- ▣ Based on the framework formulated during the Experts Conference on Sustainable Transport in Africa held on 28-30 October 2014, Nairobi (ASTF).
- ▣ Building on lessons learnt from Phase 1:
 - Incomplete data capture for the vehicle inventory.

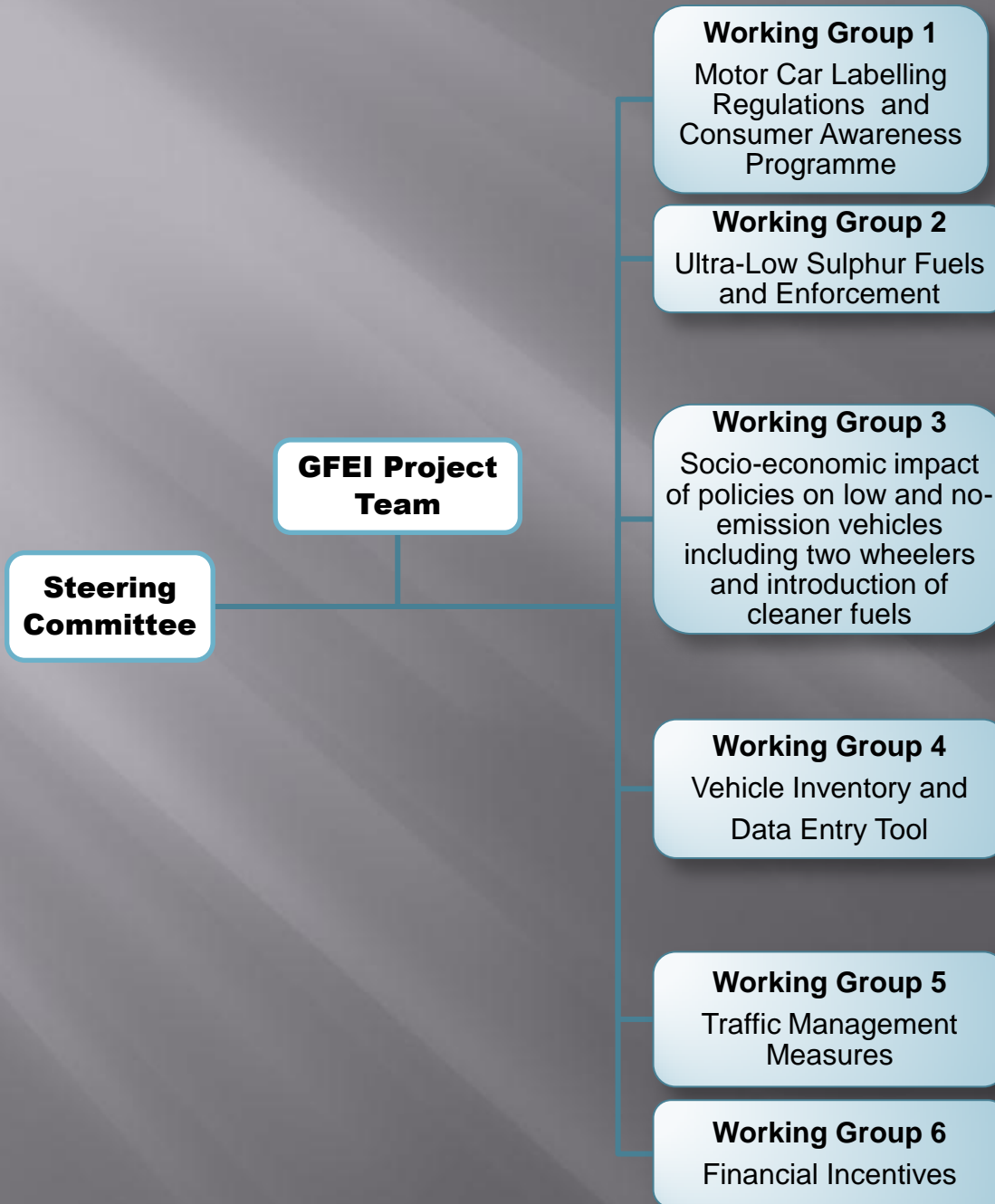
PROCESS

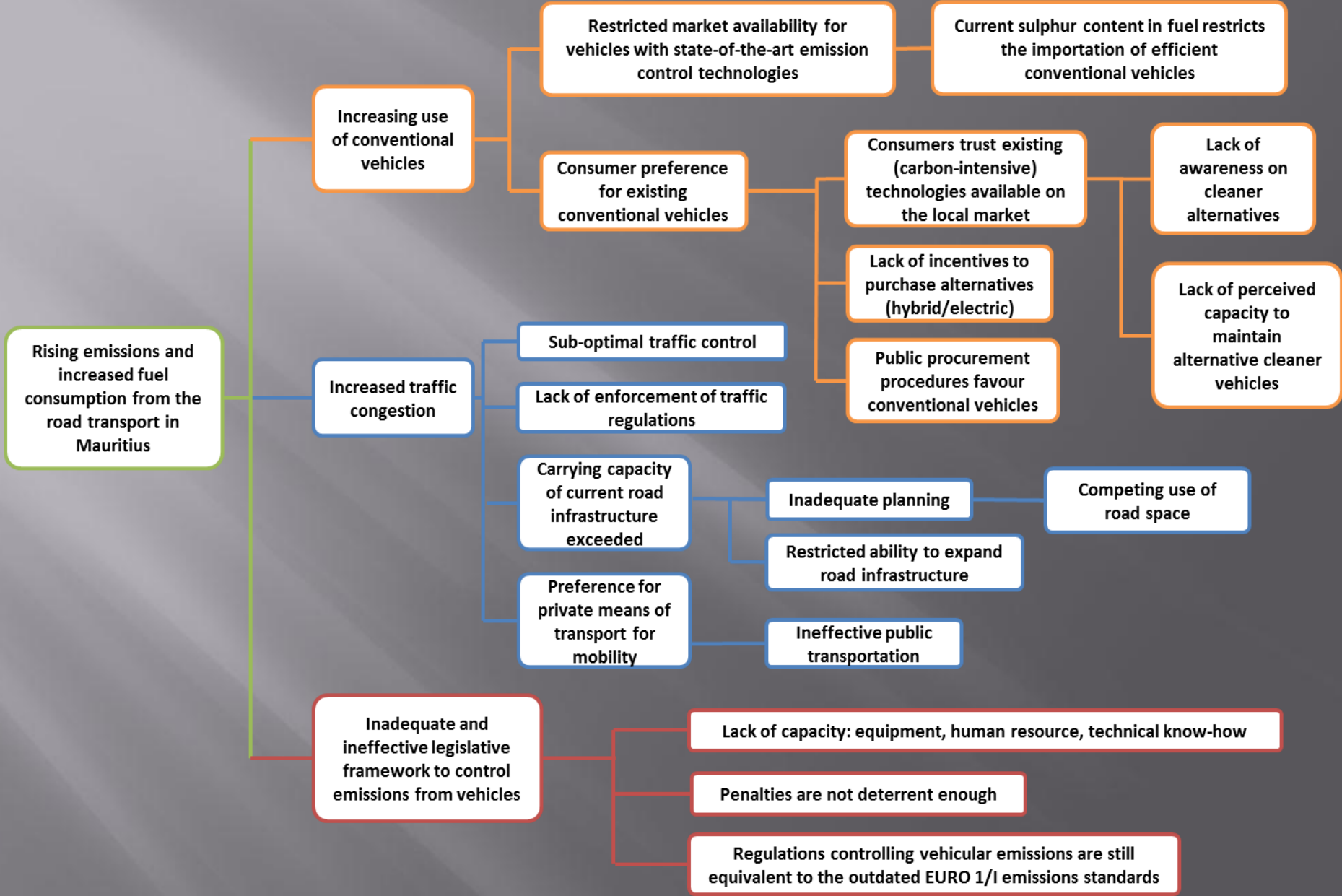
- ▣ Engage key line Ministries to **drive/pilot** Working Groups
 - 6 Working Groups
 - Reporting to a Steering Committee
 - Realistic policy formulations
 - Ownership of project results
 - Require close coordination, dedication, as well as value stakeholder inputs
- ▣ Over 80 consultative meetings
 - Held between 2015 and 2017
 - With Ministries, para-statal bodies, academia, and the private sector

Sub-regional Workshop (12-13 October 2017)



- ▣ Objectives
 - Share findings and
 - Learn from other countries' experiences





Key Strategies

- ▣ 5 overarching strategies:
 - Introduction of ultra-low sulphur fuels and alternative clean fuels;
 - Promotion of energy efficient vehicles;
 - Improvement in traffic management;
 - Enhancing monitoring and enforcement;
 - Bringing behavioural change through education and sensitisation programmes.

Key recommendations

- ▣ Introduction of petrol and diesel with 10 ppm Sulphur in the short term.
 - Other constituents in fuels to be aligned with international norms

- ▣ Fiscal and non-fiscal measures will have to be put in place to increase the market share of hybrid and electric vehicles, e.g:
 - Provision of soft loan facilities for the public to purchase hybrid and electric vehicles;
 - Provide incentives for bus operators to purchase hybrid and electric buses;
 - Government and parastatal bodies to lead by example by including the purchase of hybrid and electric vehicles within their procurement exercise;

Key recommendations (2)

- ▣ A wide array of measures has been recommended to optimise traffic flow, including:
 - Traffic control measures such as grade separated junctions, centralised area wide traffic control systems and road infrastructural improvements;
 - Promotion of mass transport (LRT);
 - Introduction of bus priority lanes along the main traffic corridors;
 - NMT;

- ▣ Reinforce capacity to monitor both roadside tailpipe vehicular emissions and ambient air quality;

- ▣ Importation of more efficient vehicles that abide by at least EURO 4/IV emission standards;

Key Recommendations(3)

- ▣ To encourage behavioural change amongst vehicle buyers and drivers:
 - A motor car labelling scheme be implemented to provide consumers with information on fuel consumption and carbon dioxide emission on new cars;
 - Sensitisation campaigns be conducted to ventilate the financial and environmental advantages of shifting to hybrid and electric vehicles.

Current Trends

	Fuel Economy for LDVs		Fuel Economy for HDVs	
Year	Average Fuel Consumption (l/100km)	Average CO ₂ Emissions (g/km)	Average Fuel Consumption (l/100km)	Average CO ₂ Emissions (g/km)
2005	7.0	186	N/A	N/A
2013	6.6	169	N/A	N/A
2014	5.8	145	19.5	542
2015	5.9	146	17.8	497

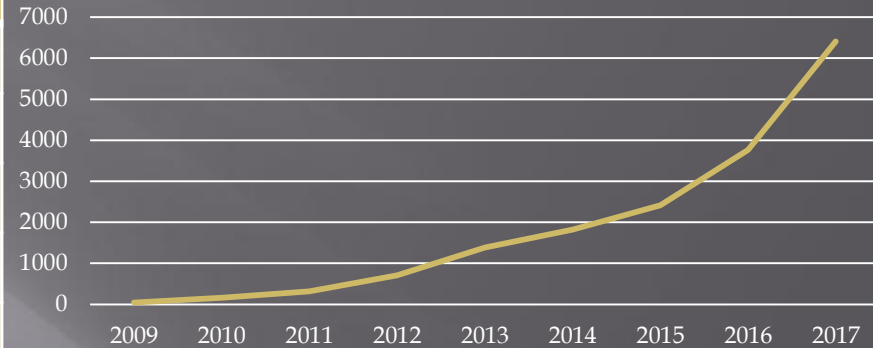
N/A: Not available

(Figures obtained under the GFEI project through Vehicle Inventory carried out by the National Transport Authority)

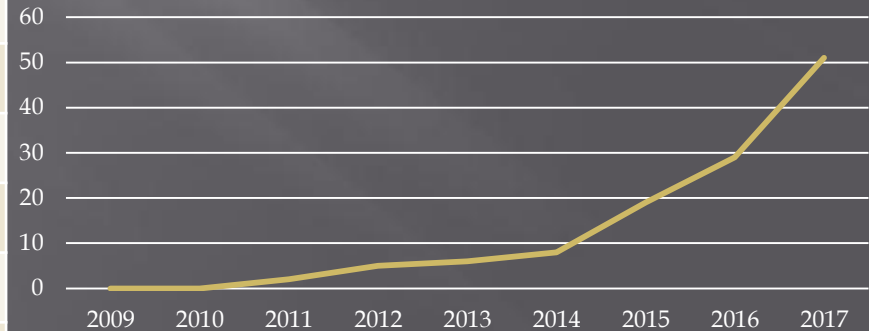
The impact of fiscal incentives

Type of Motor Car and cylinder capacity (c.c.)	Rates of Excise Duty prior to 2016-17 Budget	Rates of Excise Duty after 2016-17 Budget
Conventional Motor Cars:		
Up to 550 c.c.	15%	0%
551 - 1,000 c.c.	55%	45%
1,001 - 1,600 c.c.	55%	50%
1,601 - 2,000 c.c.	75%	75% (no change)
Above 2,000 c.c.	100%	100% (no change)
Hybrid Motor Cars:		
Up to 1,600 c.c.	55%	25%
1,600 - 2,000 c.c.	75%	45%
Above 2,000 c.c.	100%	70%
Electric Cars:		
Up to 180 kW	25%	0%
Above 180 kW	25%	25% (no change)

Cumulative number of hybrid vehicles



Cumulative number of electric vehicles



Activities undertaken - over and above original PCA requirements

- ▣ Specific Working Group on Fuel Quality
- ▣ Specific Working Group on Financial Implications
- ▣ Devising a Consolidated Report
 - Develop a theory of change (via a problem tree connecting the dots)

Consolidated Report

- ▣ Identify cross-cutting elements within six Working Group Reports delivered;
- ▣ Ensure synergies and harmonisation of recommendations between the Working Groups;
- ▣ Easier to ensure formal buy-in of Government through one document.

The Way Forward

- ▣ Get formal high-level Government approval for implementation of the plan of action formulated in the Consolidated Report:
 - By appraising Cabinet of Ministers; and
 - Ensuring the sustainability of GFEI recommendations
 - ▣ via the institutionalisation of a committee to oversee the implementation of its recommendations in the long-run.
- ▣ Proceed with sensitisation of public;
- ▣ Promulgate motorcar labelling regulations.

Thank you for your attention