Sharing of experiences on fuel economy data analysis, policy considerations, and intervention strategies in Côte d'Ivoire

GFEI
GLOBAL FUEL ECONOMY INITIATIVE

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GFEI Sub-regional Workshop on Promoting Cleaner, More Energy-efficient Vehicles Strategies in Mauritius and the Southern Africa Region

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Outline

Cote d'Ivoire: background

Fuel economy analysis

Policy recommendations and implementation strategies

Challenges and lessons learnt

The way forward

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Côte d'Ivoire: background

- Population: 23.7 million (World Bank)
- GDP per capita:1,526.20 USD (2016)
- LDVs stock estimate: 440,000 (2016)*
- LDV ownership rates: 18.6 per thousand
  - Comparison:
    - India: 23   GDP per capita: 1710
    - Indonesia 34   GDP per capita: 3970
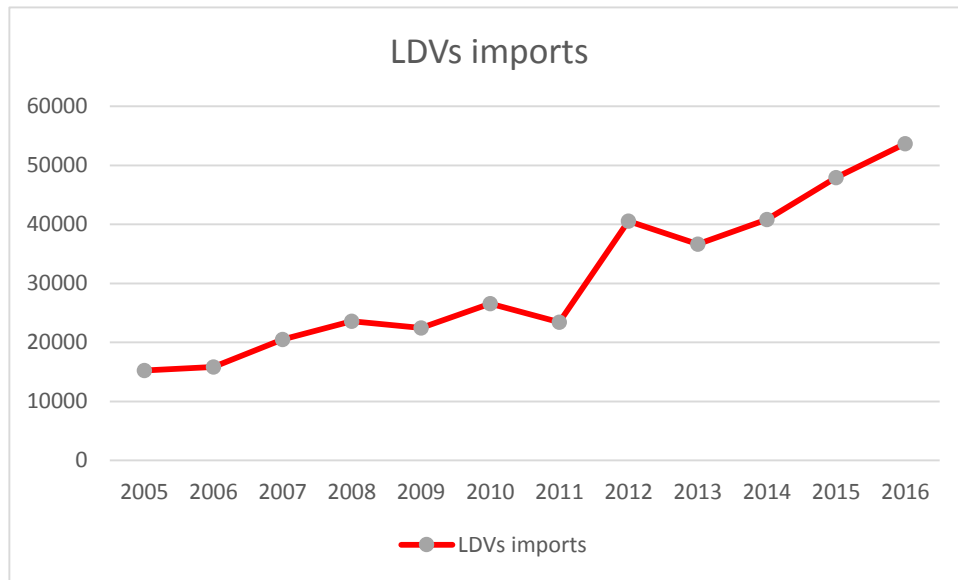   - China 100   GDP per Capita: 8100

"LDV ownership is likely to increase dramatically once personal income approaches and exceeds USD 5 000 per year."

Source: http://www.mapsland.com/africa

* author's calculation, conservative estimates

3 features of imports: High growth rate

- High growth rates (more than 10%)

	2013-2014	2014-2015	2015-2016
LDV imports growth rate (new and secondhand)	**11%**	**17%**	**12%**

In 2016, imports have tripled from their 2006 levels

3 features of imports: Secondhand vehicles

Approximately 80% of imported vehicles are secondhand

	2013	2014	2015	2016
Secondhand vehicles	78%	78%	80%	82%

3 features of imports: most are above 10 yrs

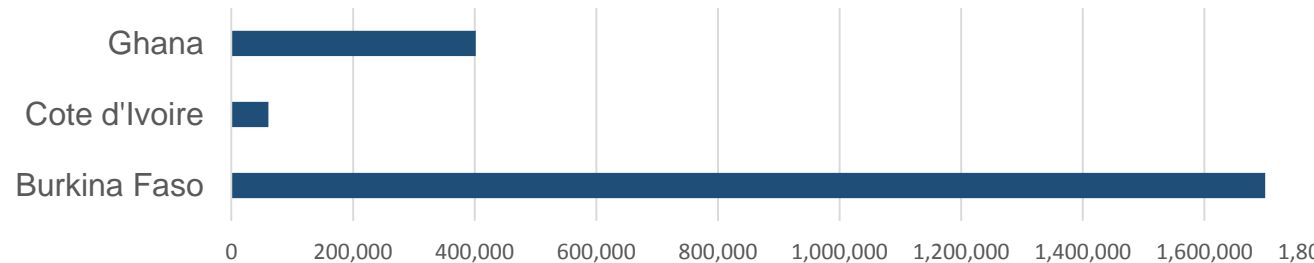|	2013	2014	2015	2016
Percentage of imports 11 years and above	52%	55%	58%	56%

Côte d'Ivoire and its neighbors

LDVs stock estimates*
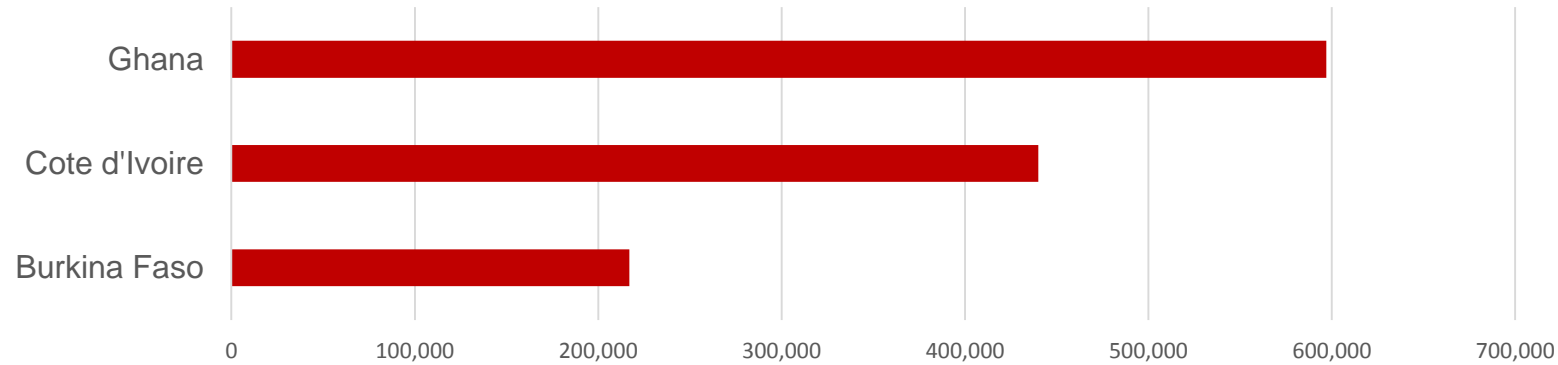
Motorcycles stock estimates*

* author's calculations, conservative estimates

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Data

- Due to data availability, the prior studies were conducted on the top 10 new models registered

- The most recent study (2015) was conducted on all new vehicles registered

- The next phase will cover secondhand and new vehicles: the *Guichet Unique* is implementing a robust database under the GFEI format

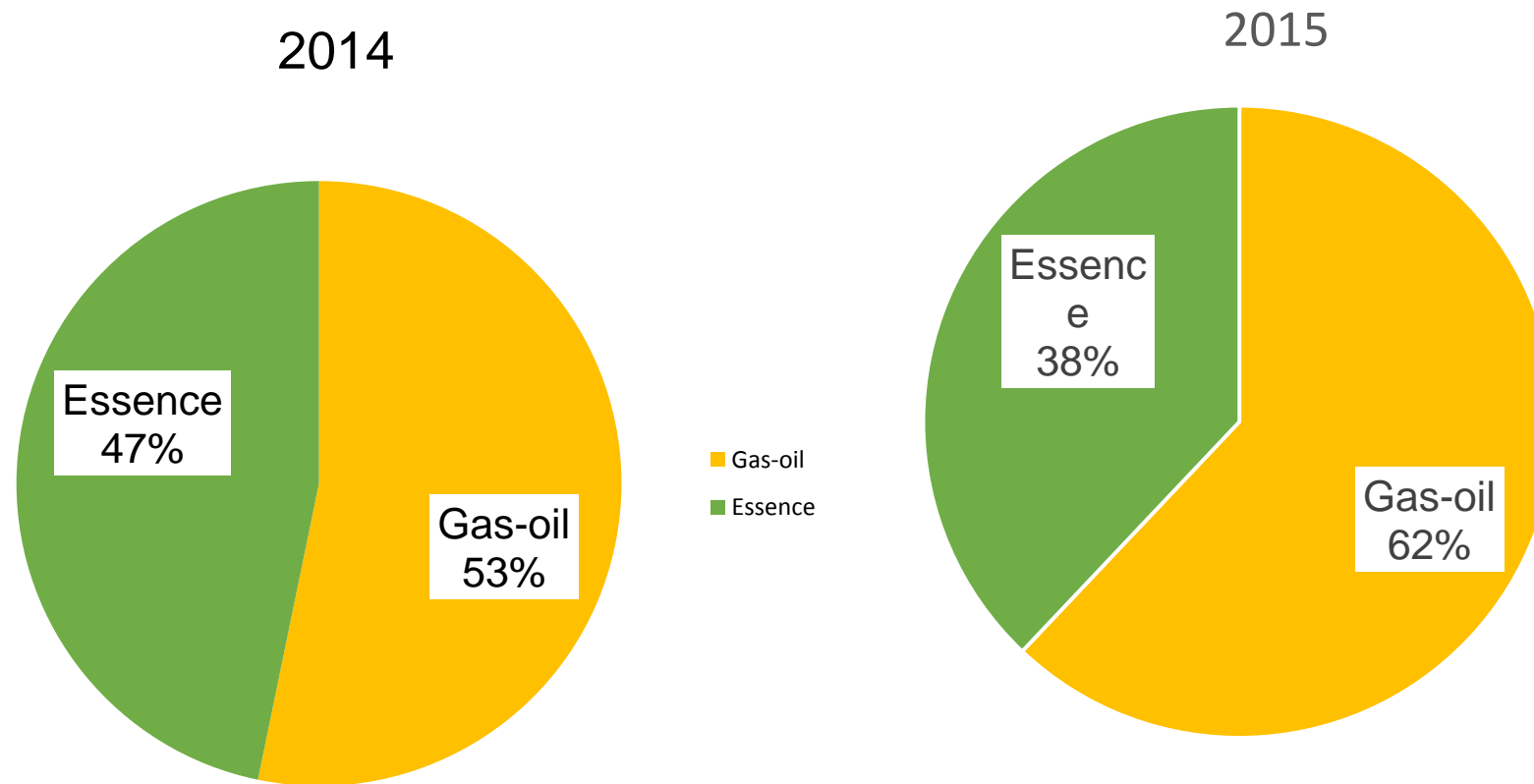# Results

	Consommation de carburant ((l/100km)	Emissions de CO_2 (g/ km)
2015	7.98	189.7
2015 (Top 10)	8.04	204.7
2014(Top 10)	8.46	216.7
2013 (Top 9)	8.47	215.5

Fuel economy progress
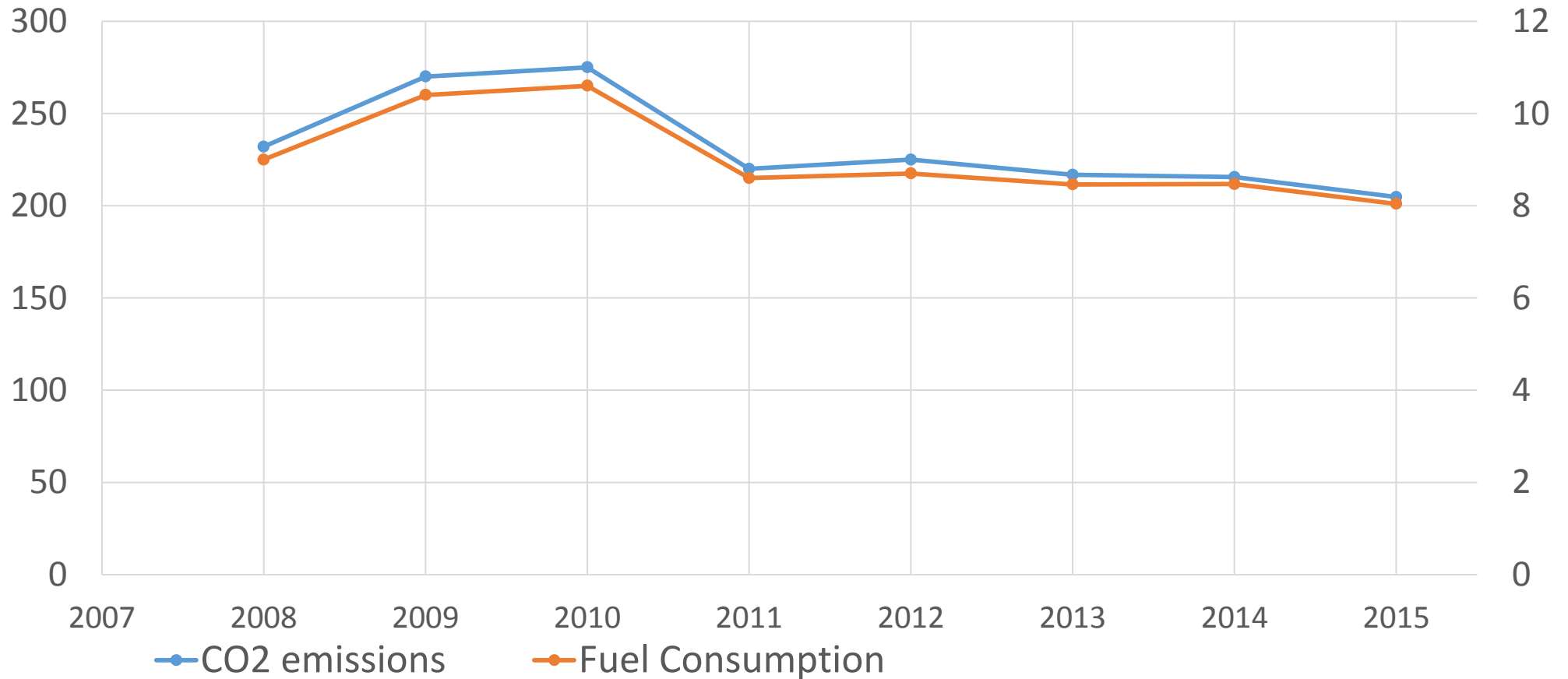
Increasing share of diesel vehicles

2014

Essence 47%

Gas-oil 53%

Gas-oil

Essence

2015

Essence 38%

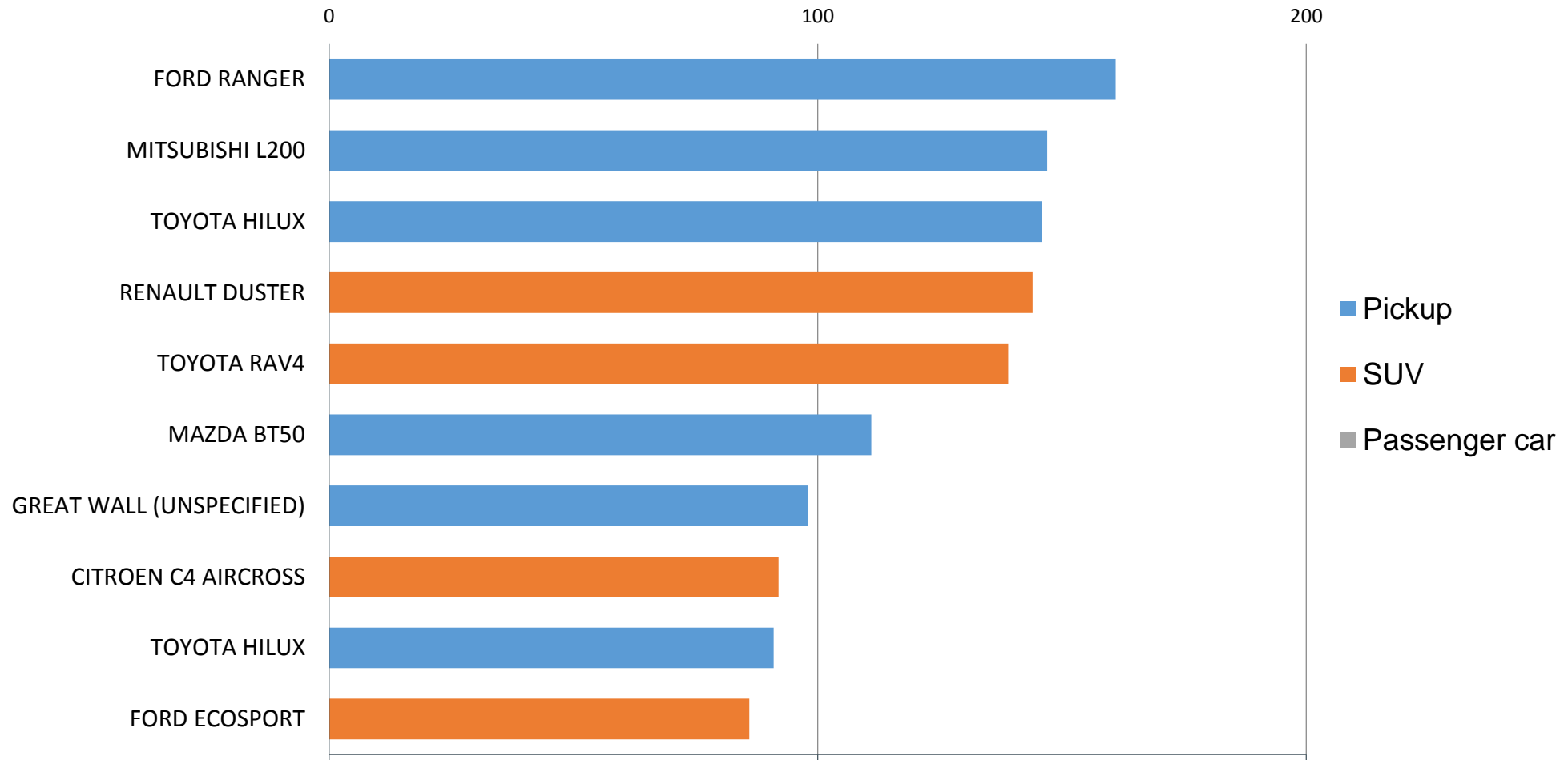Gas-oil 62%

2014 data is based on BestSellingCars.com and 2015 from Cote d'Ivoire's database

A trend towards bigger vehicles: large share of SUVs and pick-up trucks in top 10 models

Legend:
- Pickup (blue)
- SUV (orange)
- Passenger car (grey)

Models (top to bottom): FORD RANGER, MITSUBISHI L200, TOYOTA HILUX, RENAULT DUSTER, TOYOTA RAV4, MAZDA BT50, GREAT WALL (UNSPECIFIED), CITROEN C4 AIRCROSS, TOYOTA HILUX, FORD ECOSPORT

X-axis: 0, 100, 200

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Two policy measures + an information campaign

- Labeling + Feebate "**_Redevance CO2_**" + Awareness campaign
- Current focus is on Labeling and Awareness campaign
- Additional studies are needed for the feebate policy development (fuel economy analysis conducted only on a small portion of the fleet due to data gaps)
- Labels are based on the Kenyan model
- 3 colors (Green-Yellow-Red)
  - analogous to the traffic lights and chosen for simplicity
  - Ease of understanding for people who can't read

Two policy measures + an awareness campaign

- Expected to labeling of all imported LDVs (new and secondhand)

- Currently developing the labeling policy

- Ongoing awareness campaign (for six months) in major cities (TVs, radios, billboards)

    (Abidjan, Yamoussoukro, Bouake, San-Pedro, Man, Korhogo, Abengourou)

- Development of a website with a database of vehicles in Cote d'Ivoire, their rated fuel consumption, CO_2 emissions and label

- Emphasis on eco-driving behavior

Regulatory framework

- **New vehicles**
  - Imports of new vehicles are done by:
    - Dealers
    - Directly by customers
  - An **approval certificate** is required by the Ministry of Transportation, testifying that the vehicle complies with the technical criteria allowed

- **Secondhand vehicles**
  - 1987: With the economic crisis, Ivorians felt the need to import secondhand vehicles
  - 1988: Imports of secondhand vehicles, less than **5 years,** were allowed by the Ministry of Commerce, for **private use only**
  - Restrictions have evolved until the current rule:
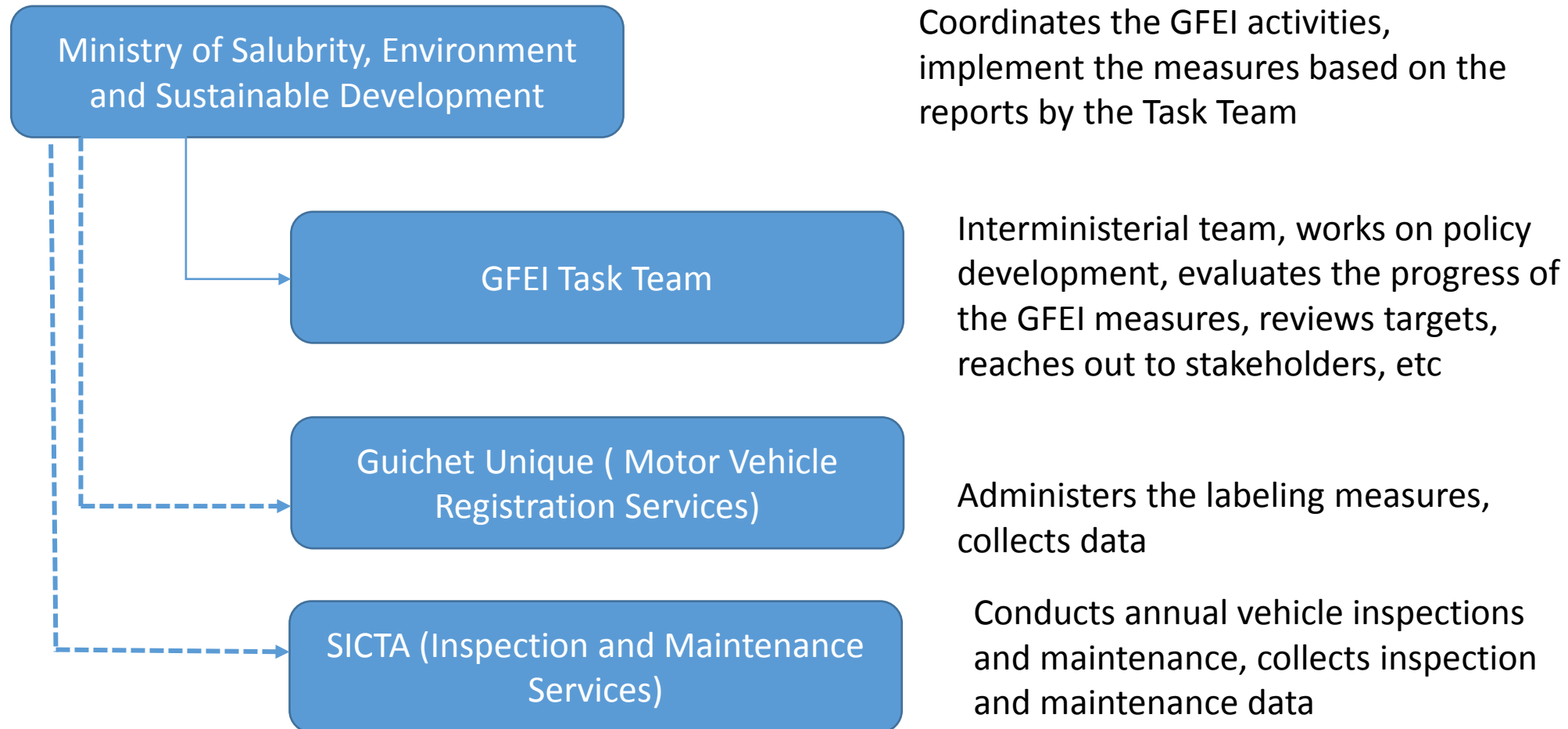
Regulatory framework

- **Secondhand vehicles**

Today, secondhand vehicle imports are regulated by the decree **_Décret n° 2002-306 du 29 mai 2002_**, that liberalizes vehicle imports and sets import duties ("**_Redevance a l'importation_**") based on vehicle age:

	Vehicles with Gross Weight less or equal 4 tons:
10 years	150,000
Amount for each additional year above 10 years	10,000

	Vehicles with Gross Weight greater than 4 tons:
15 years	150,000
Amount for each additional year above 15 years	10,000

Institutional framework

Ministry of Salubrity, Environment and Sustainable Development

Coordinates the GFEI activities, implement the measures based on the reports by the Task Team

GFEI Task Team

Interministerial team, works on policy development, evaluates the progress of the GFEI measures, reviews targets, reaches out to stakeholders, etc

Guichet Unique (Motor Vehicle Registration Services)

Administers the labeling measures, collects data

SICTA (Inspection and Maintenance Services)

Conducts annual vehicle inspections and maintenance, collects inspection and maintenance data

Institutional Framework for setting the labeling standards

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Lessons learnt: challenges

- Technical challenges:
  - Constraints in data availability: The fuel economy study was conducted on a small portion of the fleet
  - Previous data collected not in the GFEI format
  - Low level of understanding of the end-of-life of vehicles
    - Increasing imports of secondhand engines
  - Lack of clean, low-sulfur fuels

- Policy, taxation and compliance:
  - current taxation regime does not promote cleaner and more efficient vehicles
  - Harmonization of policies with the rest of the ECOWAS region to facilitate the movement of vehicles across ECOWAS countries
  - Need to set penalties for non-compliance
  - Concerns about rated CO_2 emissions versus real-world CO_2 emissions

Lessons learnt: challenges

- Policy, taxation and compliance:
    - Institutional instability: changes in the members of the Task Team created in 2014 (lack of continuity)
    - Weak involvement of some key ministries
    - Direct and informal interactions can help make significant progress

Lessons learnt: challenges

- Financial constraints:
    - Affordability as an important reason for less-efficient vehicle,
    - high upfront cost required for newer and cleaner vehicles
    - Limited access to credit to purchase more fuel-efficient vehicles
    - Lack of new vehicle purchase scheme:
        - Scrappage scheme
        - Trade-ins
        - Credits
        - Other (loans)

Lessons learnt: challenges

- Behavioral challenges
  - Need to understand Ivorians' attitude toward fuel savings versus other attributes of the vehicle (size, performance, luxury, etc)
  - Low level of awareness on fuel economy measures and eco-driving attitudes
  - Taxis and other public transportation operators and owners: complaints on already low profit margins, little signs of increased profitability with fuel economy measures, in addition to already existing tax burdens
  - Successful uptake involves buy-in and shared expectations from vehicle dealers (new and secondhand vehicles)

Lessons learnt: opportunities

- **Learnt from best practices** and experience of Mauritius and Kenya
- Strong involvement across ministries (energy, health, transport, environment, commerce, budget, etc.)
- New decree on air quality and emissions parameters adopted in February 2017 (NO2, CO, HC, PM) (talks about reviewing the thresholds)
- New traffic code and a new decree on age-based restrictions drafted and circulated: 5 years for LDVs and 8 years for HDVs
- The re-activation of the on-road traffic team *Commission Speciale Itinerante* (Police, Road Safety, Ministry of Environment, Inspection, etc) to monitor tailpipe emissions
- SICTA has ordered some equipment to improve inspection and the monitoring of vehicle's tailpipe emissions

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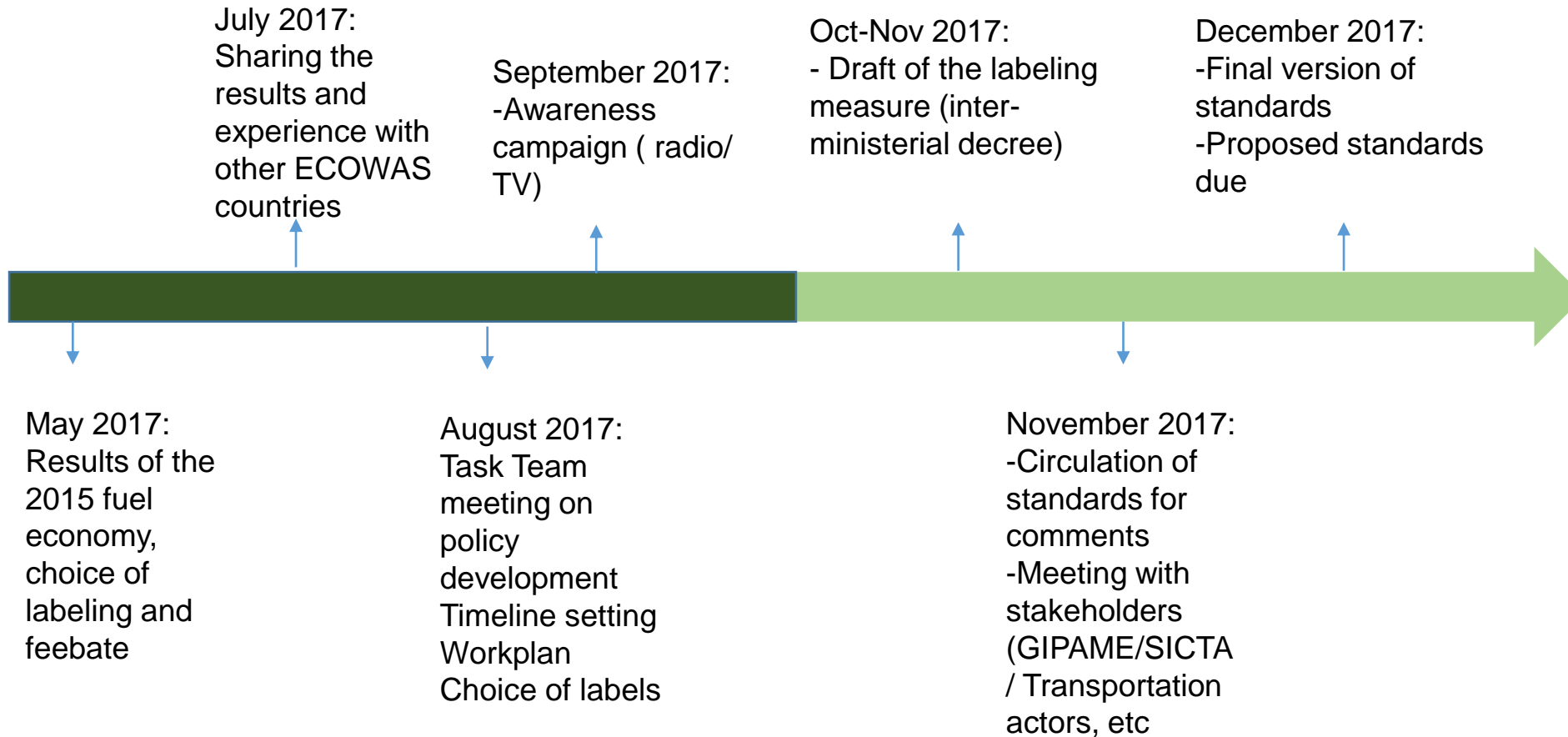Fuel economy analysis and data needs

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The roadmap

July 2017:
Sharing the results and experience with other ECOWAS countries

September 2017:
-Awareness campaign (radio/ TV)

Oct-Nov 2017:
- Draft of the labeling measure (inter-ministerial decree)

December 2017:
-Final version of standards
-Proposed standards due

May 2017:
Results of the 2015 fuel economy, choice of labeling and feebate

August 2017:
Task Team meeting on policy development
Timeline setting
Workplan
Choice of labels

November 2017:
-Circulation of standards for comments
-Meeting with stakeholders (GIPAME/SICTA / Transportation actors, etc

Key points

| Fuel economy Analysis | Policy recommendations | Implementation strategies | Public outreach campaign |

- Fuel consumption and CO2 emissions continue to be high (8.04 L/100km and CO2 emissions 204.7 g/km)
- High growth rate of imported vehicles, dominated by secondhand vehicles above 10 years
- Two policy options chosen to improve fuel economy: labeling and feebate measures
- Development of a vehicle data entry tool to capture all GFEI parameters
- 6-month public outreach campaign(radio, TV) started in September 2017
- Involvement and buy-in from stakeholders are key to the success of both measures
- In addition to fuel economy, Cote d'Ivoire and ECOWAS countries should track the emissions standards of imported vehicles

GFEI | *Sharing of experiences on fuel economy data analysis, policy considerations, and intervention strategies in Côte d'Ivoire* | Hyacinthe Naré
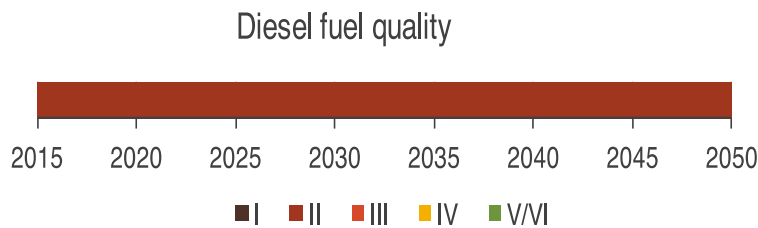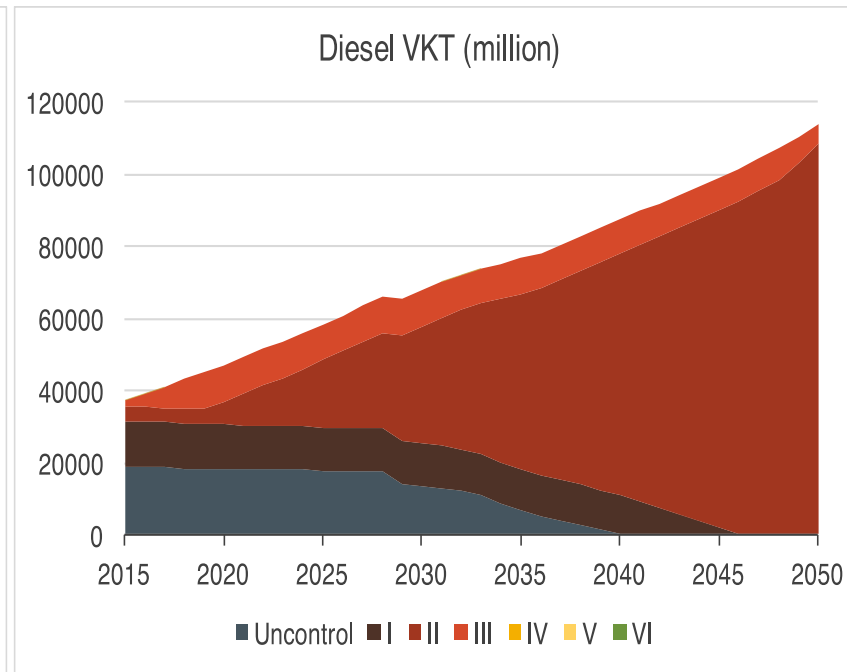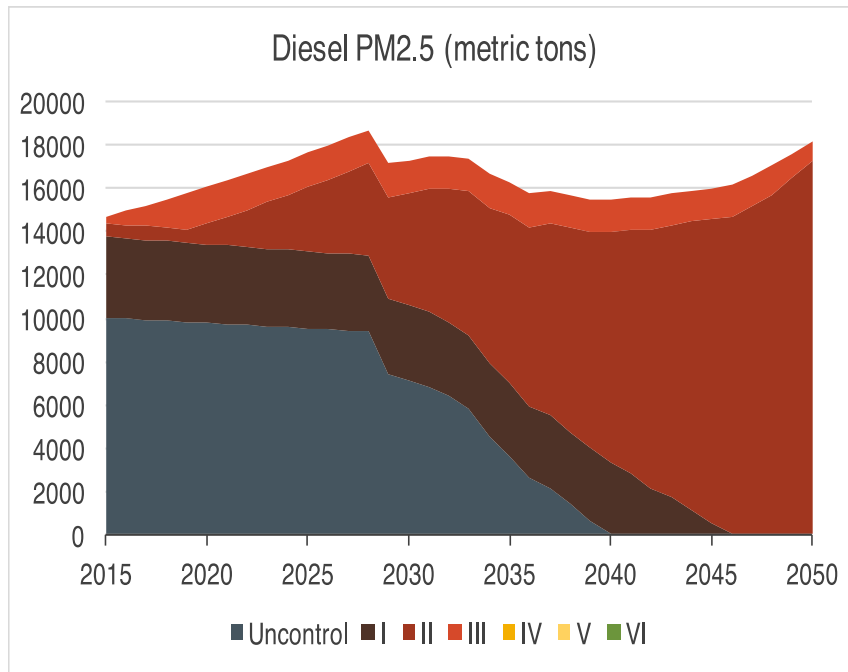
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clean fuels

- Average fuel price (Global Petrol Prices):
  - gasoline: 1.04 USD (2017)
  - diesel: 1.04 USD (2017)

- Fuel tax class (GIZ)
  - Gasoline (high tax)
  - Diesel (tax)

- High sulfur fuels:
  - Gasoline: 150 ppm
  - Diesel: 2000 ppm

Towards cleaner fuels

- Upgrade of the SIR refinery required
- Outstanding debt to be paid off
- Inter-ministerial committee created
  - Finding ways to pay off the debt
  - Seeking finance to upgrade the refinery: Estimated $500 million needed (in 2013)
- SIR will not close
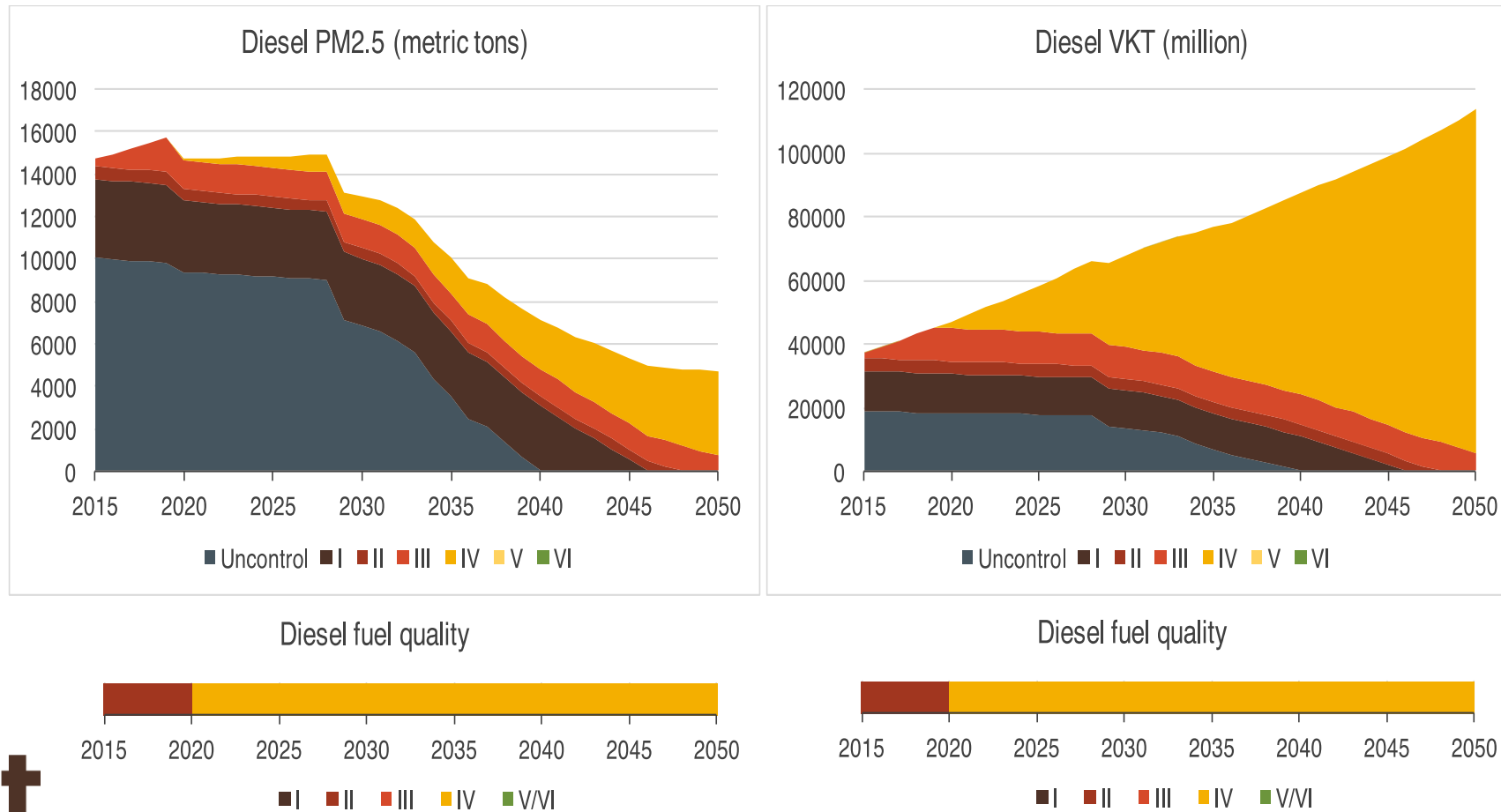- Progress to meet the 2020 has been slow, new timeline for 50-ppm diesel is 2025
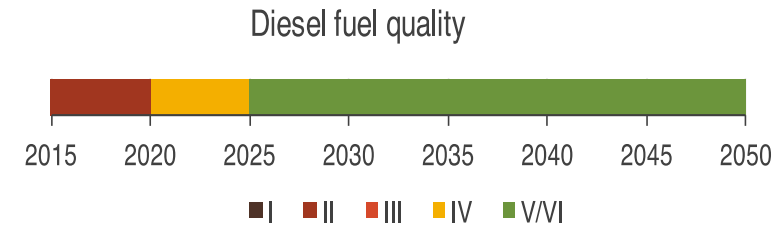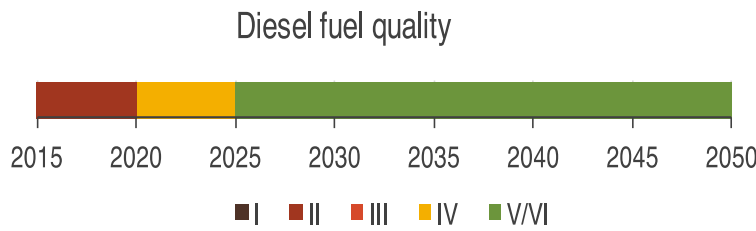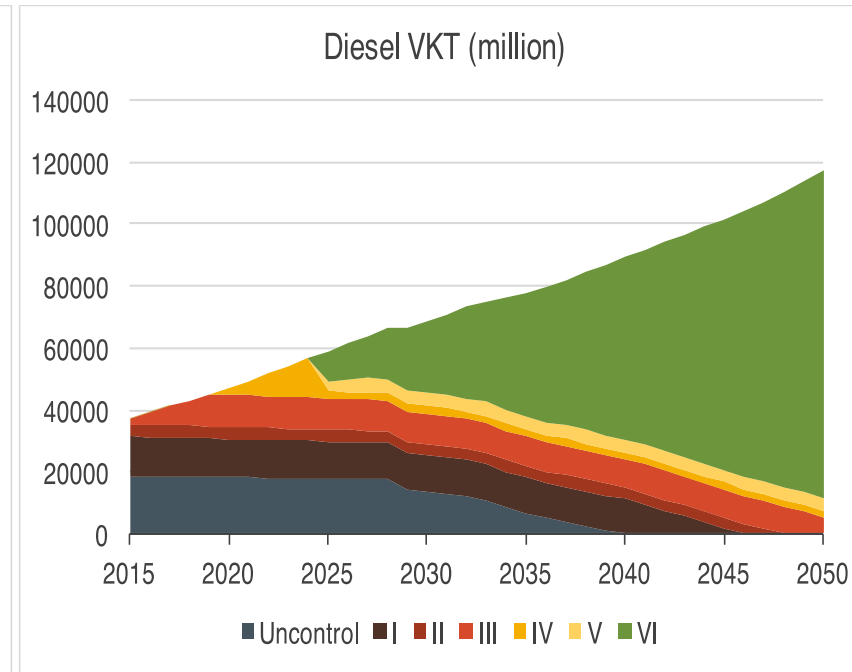
Baseline, continuation of 500-ppm

Illustrative results – please do not quote or distribute
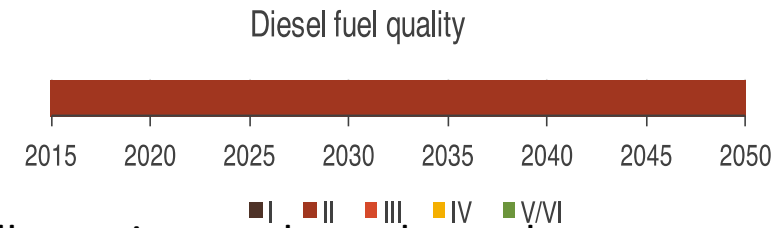
Transition to 50-ppm diesel by 2020: Large decrease in PM2.5

Diesel PM2.5 (metric tons)

Diesel VKT (million)

Uncontrol ■I ■II ■III ■IV ■V ■VI

Diesel fuel quality

■I ■II ■III ■IV ■V/VI

Illustrative results – please do not quote or distribute

Transition to 10-ppm in 2025 with a 5-year age-based restriction on vehicle imports

Diesel PM2.5 (metric tons) — Uncontrol, I, II, III, IV, V, VI

Diesel VKT (million) — Uncontrol, I, II, III, IV, V, VI

Diesel fuel quality — I, II, III, IV, V/VI
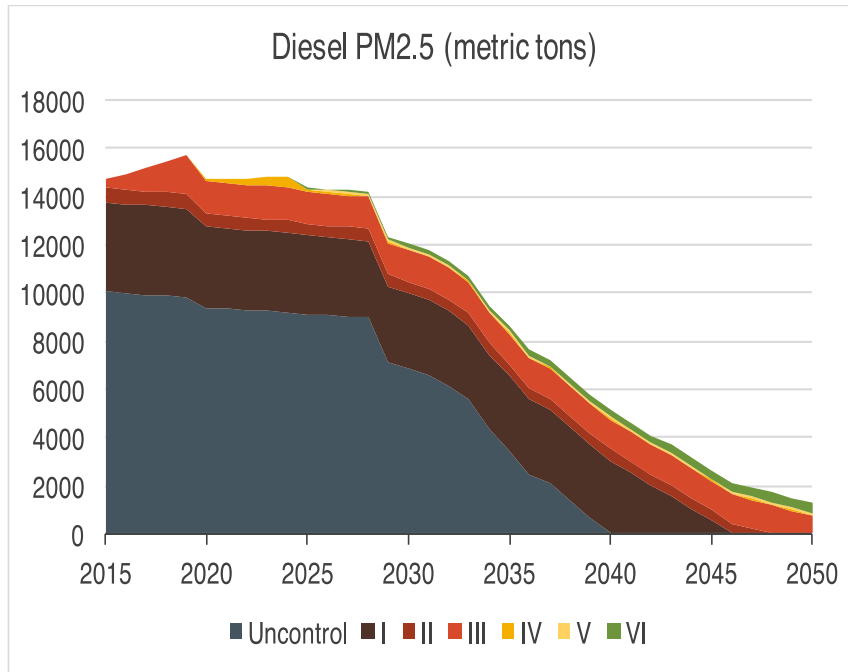
Illustrative results – please do not quote or distribute

Thank you!
hyacinthenare@gmail.com
(Acknowledgement: