

**17th IUAPPA World Clean Air Congress and
CAA 9th Better Air Quality (BAQ) Conference**

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**Session Topic: Cleaner Fuels
Organizers: UNEP, ACFA, Clean Air Asia**

Fuel Quality Roadmap in Sri Lanka

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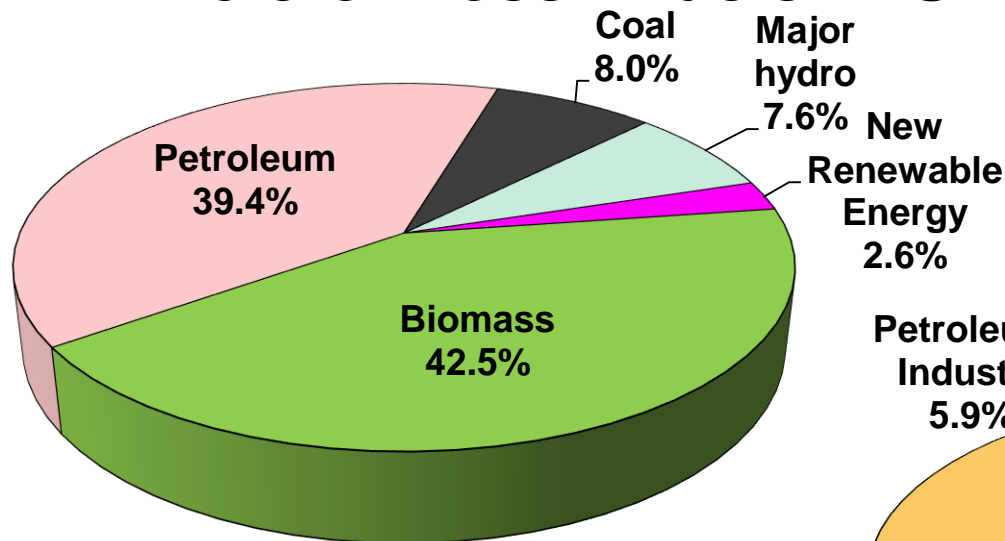


OVERVIEW

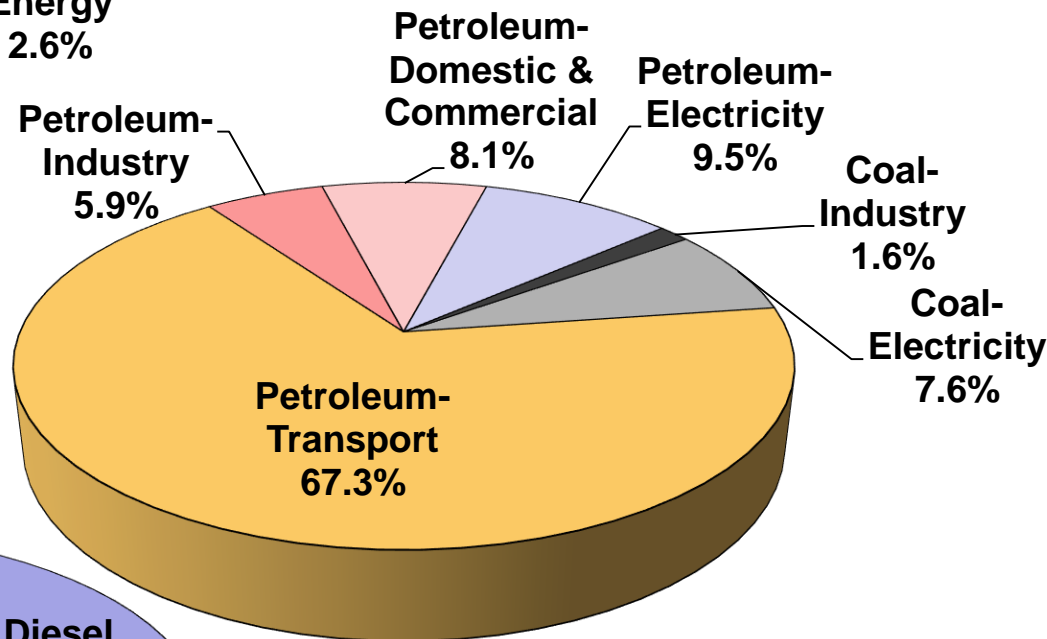
- Background
 - Fossil fuels usage
 - Air Quality Management
- Progress of Fuel Quality Standards
 - Key Regulatory Interventions
- Fuel Quality Roadmap
 - Progression
 - Recommended Activities and Targets
 - Achievements.

BACKGROUND

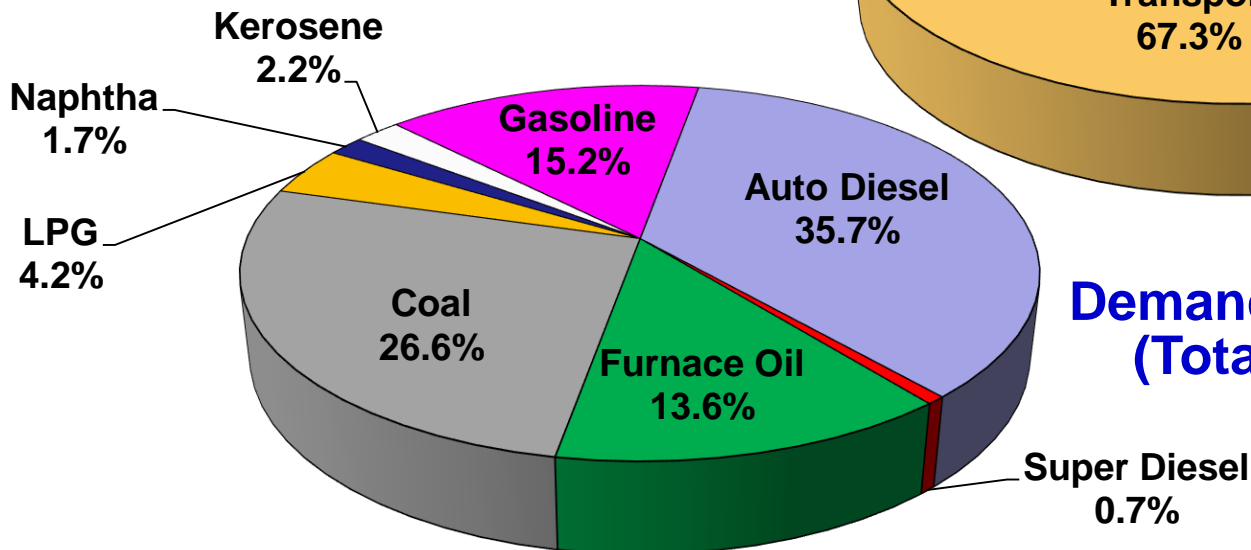
■ Role of Fossil Fuels in Sri Lankan Energy Sector



Sectoral demand for fossil fuels (Total = 167 PJ in 2014)



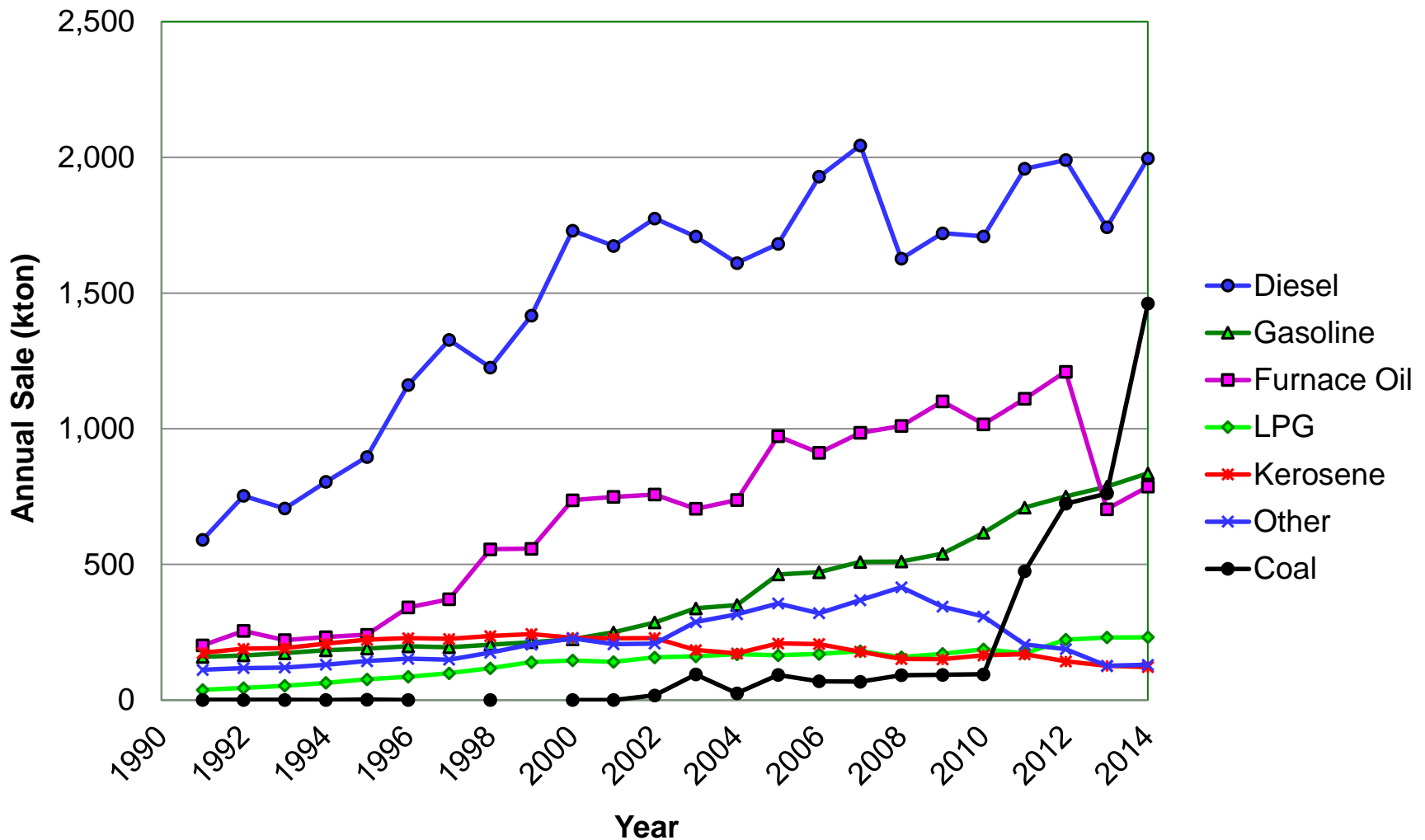
Demand for fossil fuels by type (Total = 5490 kton in 2014)



BACKGROUND

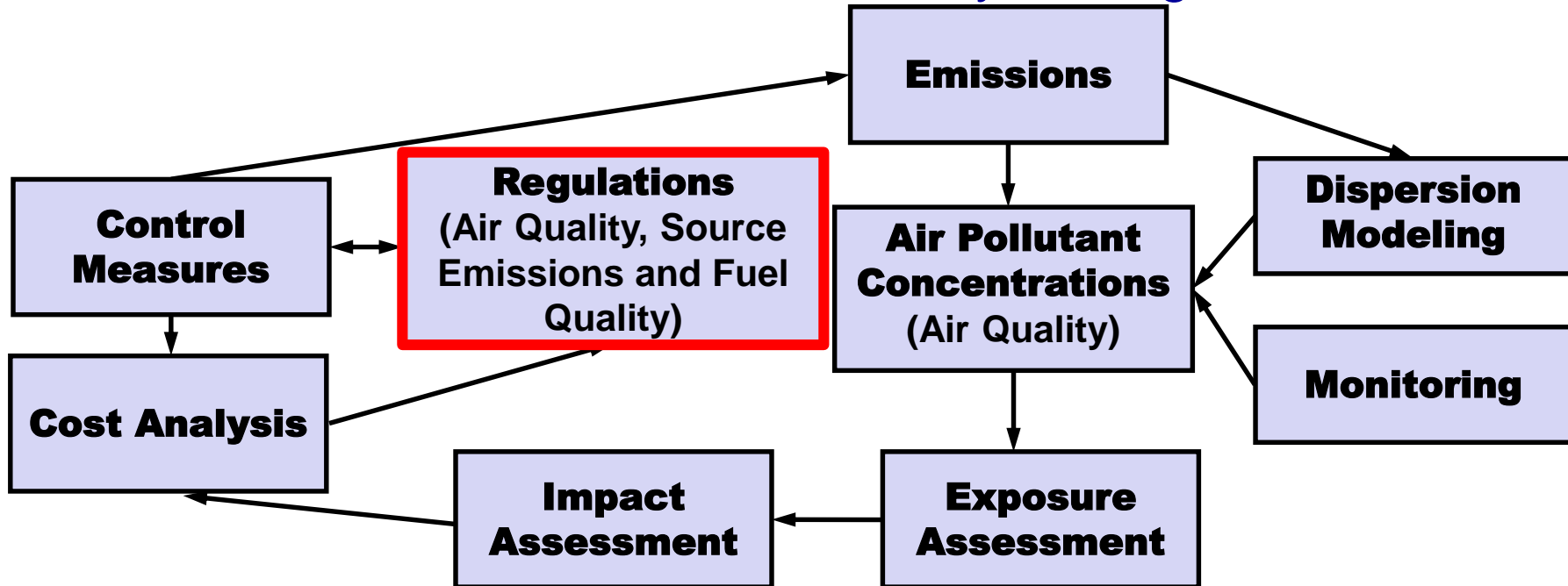
■ Role of Fossil Fuels in Sri Lankan Energy Sector

□ Demand for fossil fuels by type: 1990 - 2014



BACKGROUND

- Air Quality Management (AQM)
 - Growing use of fossil fuels has led to noticeable deterioration of urban air quality.
 - In response, government has taken a series of interventions → National Air Quality Management Plan.



- **Fuel Quality Standards**

- ✓ One of the regulatory interventions adopted.

PROGRESS OF FUEL QUALITY STANDARDS

- Key Regulatory Interventions:
 - Phasing out the use of leaded petrol in 2002
 - Regulations on Mobile Emissions, Fuel Quality & Vehicle Importation standards, 2003
 - ✓ Sulphur Content for petrol: 90 Oct. - 1000 ppm; 95 Oct. - 500 ppm.
 - ✓ Sulphur Content for diesel: Normal - 3000 ppm; Super - 500 ppm.
 - A roadmap for cleaner fuels, 2014.
- Related National Action Plans:
 - Clean Air 2025 Action Plan of Ministry of Environment,
 - Haritha (Green) Lanka - Action Plan of National Council for Sustainable Development,
 - Intended Nationally Determined Contributions (INDCs) in the Transport Sector – Ministry of Transport and Ministry of Environment.

FUEL QUALITY ROADMAP

- Progression:
 - A cabinet paper on “Enhancing the Quality of Fossil Fuels for Managing Air Quality in Sri Lanka” in 2012,
 - Appointment of Ministerial Committee, Technical Committee and Officials’ Committee in 2013/2014:
 - ✓ To formulate an Action Plan for the recommended activities with time frame, key performance indicators and the cost involved.
 - Key Areas of Recommendations:
 - ✓ Provision of cleaner fuel for vehicles in par with Euro Standards
 - ✓ Provision of cleaner fuel for the industry and power plants
 - ✓ Promotion of alternative fuel/biofuels for transport
 - ✓ Promotion of electric mobility – Electric & Hybrid vehicles, Electrification of railway
 - ✓ Modernization of oil refinery
 - ✓ Establishment of independent fuel quality testing laboratory
 - ✓ Establish a Fuel Quality Management Committee.

FUEL QUALITY ROADMAP

■ Recommended Activities and Targets:

| Activity | Target |
|---|---|
| 1. Introduction of low sulphur diesel | <ul style="list-style-type: none"> - From 1st of August 2014 onwards: Introduction of 10 ppm Super Diesel - From 1st January 2015 – 2020: Introduction of 1000 ppm sulphur Auto Diesel and - 2020 -2025: Introduction of 350 ppm sulphur Auto Diesel |
| 2. Promotion of alternative fuels for Transport – Electric/Hybrid Vehicles | <ul style="list-style-type: none"> - EV / Hybrid 10% by 2016 and 20% by 2020 of the total number of vehicles imported. |
| 3. Introduction of alternative fuels for Transport – Biofuels | <ul style="list-style-type: none"> - Endorse Bio energy policy in 2015 - Biogas for transport – Pilot programme for conversion of 3-wheelers, Including gas cleaning and storage technologies. - Biodiesel – 3rd generation biofuels: Introduction by 2016 and 1% by 2020 |
| 4. Development of fuel quality standards for industrial fuel – Furnace oil / heavy diesel | <ul style="list-style-type: none"> - Furnace Oil / Heavy diesel: Maximum 3% sulphur from 2015 and 1.5% from 2020. |
| 5. Development of Fuel quality standards for industrial fuel – Coal | <ul style="list-style-type: none"> - Maximum sulphur content in the Coal use for industrial sector should be 1.2% from 2015 |

FUEL QUALITY ROADMAP

■ Recommended Activities and Targets:

| Activity | Target |
|---|---|
| 6. Expansion and modernization of the CPC Petroleum Refinery | <ul style="list-style-type: none"> - Maximum 0.5 % sulphur diesel produce from 2018 - Maximum 10 ppm sulphur diesel produce by 2020 - Establish sulphur recovery plant by 2018 with a capacity to handle all the sulphur processed at the refinery |
| 7. Importation of the Euro IV standard fuels to meet the above recommended 10 ppm sulphur diesel as super diesel and 500 ppm sulphur diesel until implementation of the refinery modification project | <ul style="list-style-type: none"> - Maximum of 10 ppm sulphur diesel as Lanka Super Diesel 4 Star in Island wide from 1st August 2014 onwards. - Maximum of 350 ppm sulphur auto diesel by 2020 |
| 8. Development of fuel quality standards for power sector – Furnace oil / heavy diesel | <ul style="list-style-type: none"> - Maximum 3% sulphur fuel for the power sector which use furnace oil / heavy diesel by 2015 - Maximum 1.5% sulphur fuel for the power sector which use furnace oil / heavy diesel by 2020 |
| 9. Development of fuel quality standards for power sector – Coal | <ul style="list-style-type: none"> - Maximum sulphur content in the Coal use for power sector is 1.2% by 2015 |

FUEL QUALITY ROADMAP

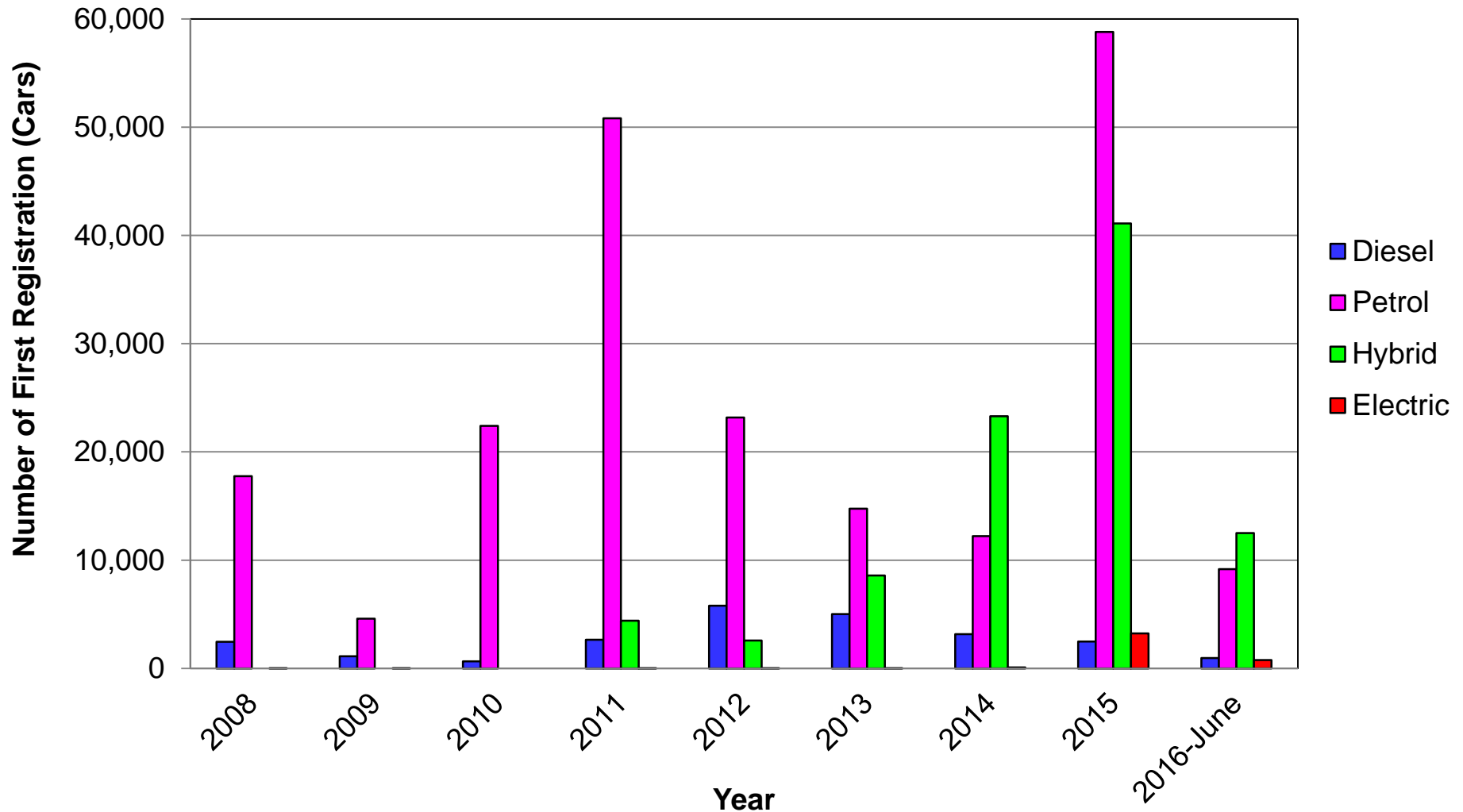
■ Recommended Activities and Targets:

| Activity | Target |
|--|---|
| 10. Introducing LNG as a source of energy in all the sectors as a cleaner fuel. | - Explore the findings of the on-going feasibility study with due consideration of the potentials and impacts on all the end-use sectors and set the targets accordingly |
| 11. Railway electrification Plan | - 3 Number of electric railway lines/trains are established by 2025 |
| 12. Establishment of an independent fuel quality testing laboratory/s. | - A network of independent Fuel quality testing laboratory is established by 2020 |
| 13. Harmonize the fuel quality standards with emission (both mobile and stationary sources) and ambient air quality standards, with national air quality model | <ul style="list-style-type: none"> - Gazetting of the new harmonized fuel quality standards with emission standards (both mobile and stationary sources) and ambient air quality standards by 2020 - 02 Number of Ambient air quality monitoring stations established in the country by 2015 and 06 by 2020 - Developed national air quality modelling tool/methodology for managing and prediction of air pollution risks by 2016 |

FUEL QUALITY ROADMAP

■ Achievements

□ Emergence of Hybrid/Electric Vehicles



Acknowledgment

- ✓ United Nations Environment Programme (UNEP)
- ✓ Clean Air Asia (CAA)
- ✓ Asian Clean Fuels Association (ACFA)
- ✓ IUAPPA World Clean Air Congress and Better Air Quality (BAQ) Conference Organizing Committee.

Thank You