

# **THE FUEL EFFICIENCY INITIATIVE IN UGANDA**

**by**

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# FEI-Introduction

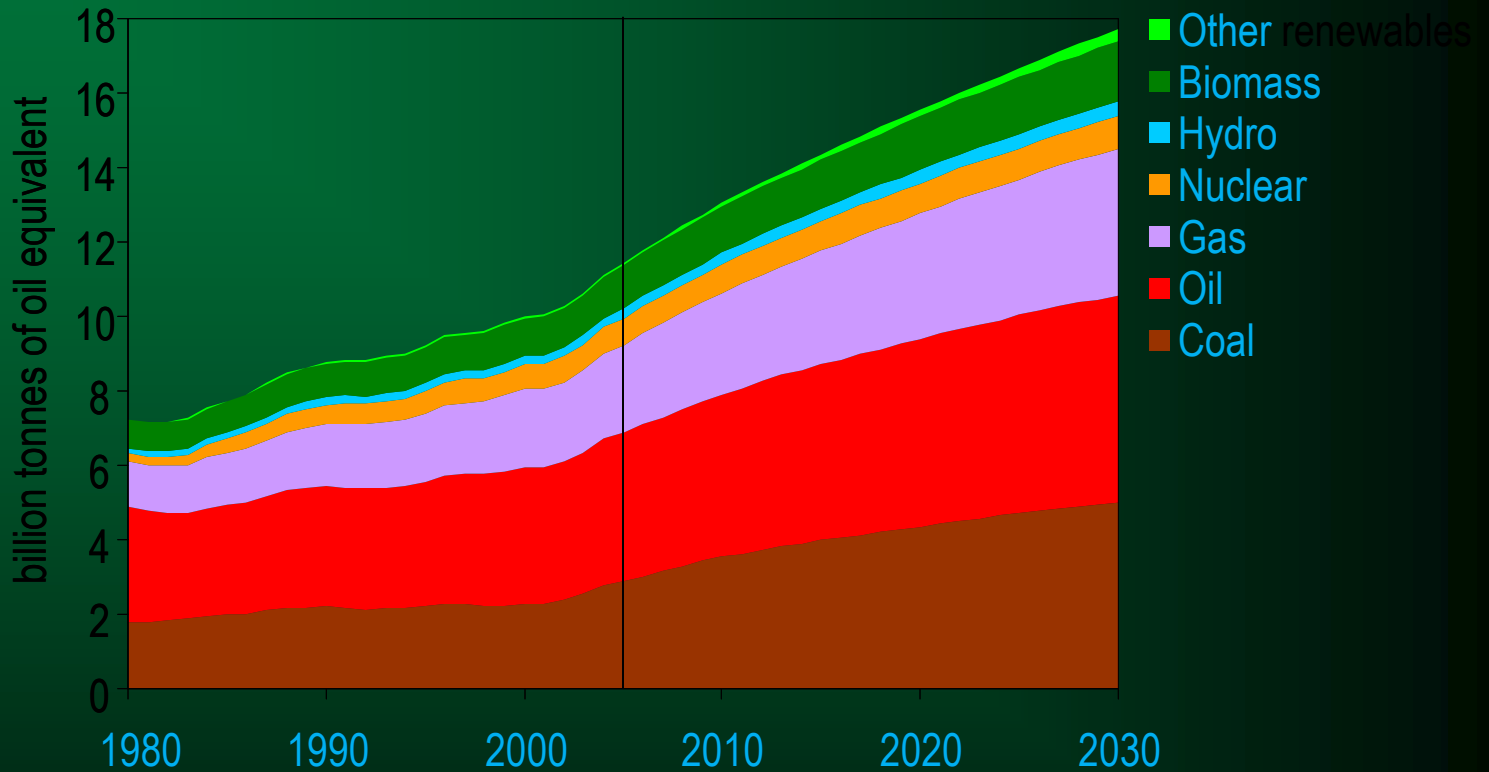
- The world's light duty vehicle fleet is expected to triple by 2050, this will double vehicle emissions.
- Africa is experiencing unprecedented population and vehicle growth.
- Uganda is experiencing high growth rates of vehicle ownership 18.2% 2010 to 2011. 50% of the vehicles in Kampala!
- Addressing road transport and fuel efficiency must form an integral part of the global climate solution



# Global Effort

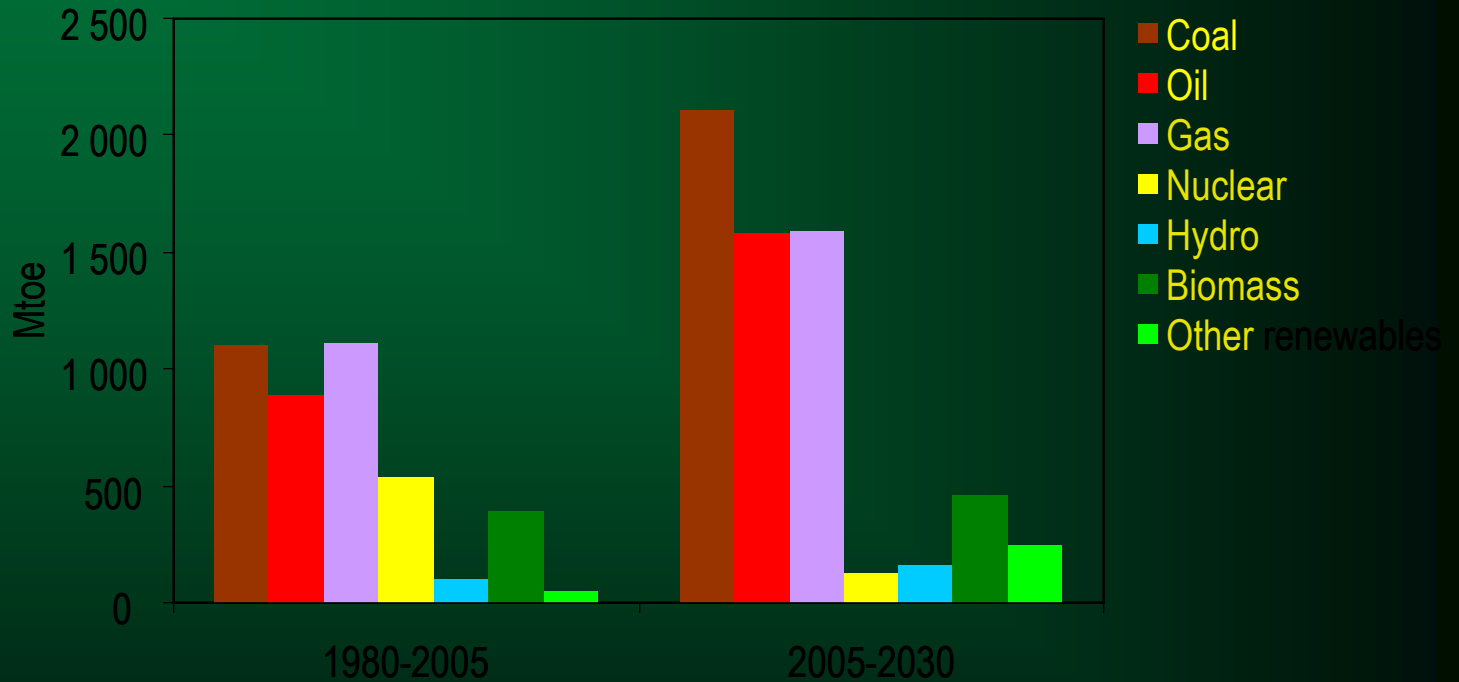
- FEI-Uganda part of the global effort (GFEI)
- The Global Fuel Economy Initiative (GFEI) launched in March 2009 by five partner organisations; the United Nations Environment Programme (UNEP), the International Energy Agency (IEA), the International Transport Forum, the International Council on Clean Transportation and the FIA Foundation.
- The GFEI for Sub-Saharan Africa launched in October 2012 in Nairobi, Kenya.
- The GFEI aims at promoting developing and transition countries to prepare and adopt cleaner, more fuel efficient vehicle strategies.

# World Primary Energy Demand



*Global demand grows by more than half over the next quarter of a century*

# Increase in World Primary Energy Demand



***Fossil fuels account for most of the increase in global demand between now & 2030***

# Ugandan Oil Consumption

- Limited information available on emissions
- Transport sector the major consumer of fossil fuels approx. 75%
- Transport produces the highest GHG emissions followed by the energy sector.
- Oil consumption has grown from 0.3m<sup>3</sup> in 1990 to over 1.5bn m<sup>3</sup> in 2014
- With planned oil production, oil utilisation and GHG emissions will increase significantly





# Objectives

- Significantly increase the fuel efficiency
- Reduce emissions from motor vehicles
- Reduce emissions and also increase efficiency in motorcycles





# Programme Activities

The proposed NAMA activities cut across four areas

- Regulatory/policy
- Fiscal instruments
- Economic polices
- Public awareness



High jams-high consumption-high emissions!!



Bad exhaust fumes from low stroke engines



public transport populated mainly by old vehicles – inefficient fuel use, massive emissions



# Estimated emission reductions from FEI

There is scanty data on emissions

Available data indicates total emissions est. *Mt* 2,229 2012 base year (Kla GHG inventory)

- 40% total national vehicles in Kampala region,
- Est. transport *Mt* 4,903.
- Global estimates of GHG reduction from improved vehicles are between 14-22%.
- The NAMA aims at +10% given
- Est. annual average emission reductions approx. 882.5 *Mt* of CO<sub>2</sub>



# NAMA concept

The NAMA falls in 3 areas, policy, research and informational.

1. Policy development and national implementation to support the role of energy and transport sectors in the reduction of CO<sub>2</sub> and non-CO<sub>2</sub> emissions
2. Informational, capacity development, and communication



# Progress – August 2015

1. NAMA Concept Paper Development completed
2. Stakeholder consultations completed, **financed by UNEP**
3. Preliminary Public Awareness **ongoing-financed by GOU& UNEP**
4. NAMA Project proposal developed. **Finance by GOU**
5. A Monitoring, Reporting and verification (MRV) Framework Developed. **Financed by UNDP**
6. A Baseline survey, completed, **financed by UNEP**
7. A National /Inter Agency Task Force to coordinate the FEI established
8. The FEI submitted as one of (NDCs), FEI presented at COP21



# Baseline results

- Ownership: 5.63% and 94.37% of the automobiles were owned by the state/government and private respectively.
- Categories: 0.9 % engineering plants (tractors, bull dozers etc) and 47% motor vehicles (i.e. Station wagons, saloon, etc) and 52.48 % motorcycles.





# Baseline Results

- A model developed to incorporate age in the fuel consumption of automobiles, the carbon dioxide emissions were computed using the fuel consumption values after factoring in age.
- The harmonic average fuel efficiency has declined from **12.52 L/100km in 2005 to 13.73 L/100Km in 2014**. This is attributed to the increase in the average age of vehicles imported into the country.
- Average carbon dioxide emission has also worsened from **465 g/km in 2005 to 503g/km in 2014**.



# Baseline results cotd

- A bus carrying 80 passengers for a distance of 21km a day for one year would use fuel worth UGX 3.3 millions and pollute 3.2 tons of carbon dioxide. While to carry the same number of passengers for the same distance we would need 6 commuter taxis of capacity 14 passengers which would require 5 times more fuel and pollute 5 times more than the buses.
- As for the motorcycles we would need 80 motor cycles which would consume 13 times more than the bus in one year and pollute 6 times more



# New-Environmental Levy Differentiated Taxation regime

Pre July 2015		Post July 2015	
0-8 yrs	0%	<5 yrs	0%
>8 yrs	20%	5-10 yrs	35%
		>10yrs	50%

- Applicable to passenger vehicles
- Goods vehicles excluded.



# New- Vehicle Inspection System

- A vehicles inspection system being developed in a PPP
- Private partners already contracted
- Regulations on inspection already developed and inspection fees set
- Inspection sites being established
- Operation planned for QI/QII 2016/17 FY
- **Vehicle inspection key for MRV**



# Other Initiatives

- Cleaner fuels,
  - lead phase out, 2005,
    - Sulfur content to 50ppm in jan 2015 as in region
- Renewable energy policy 2007, goal to increase renewable energy in energy mix



# Regulatory

1. Develop a fuel efficiency policy
2. Framework to set vehicle standards
3. Framework for vehicle age limits
4. Establish a vehicle inspection and maintenance and certification system
5. Framework for vehicle labeling



# Fiscal/Economic initiatives

- 1) Incentive package/Financing scheme to remove replace old vehicle
- 2) Financing scheme for motorcycle replacement
- 3) Promote and set cleaner fuel quality standards
- 4) A taxation system that promotes efficient vehicles



# NEXT PLANNED ACTIVITIES

- Develop the policy, legal and regulatory framework for fuel efficiency
- Continue stakeholder consultations/involvement
- Estimate the level of carbon savings for possible carbon trading
- Undertake scenario training and development for the FEI
- Standardize the baseline survey
- Standardise Monitoring, Reporting and Verification (MRV)
- Develop and maintain a database on vehicle fleet, consumption and efficiency
- Undertake an intensive informational public awareness campaign





# PLANNED ACTIVITIES ctd

- Develop a fuel efficiency labelling scheme
- Develop a Feebate/Rebate scheme
- Undertake the feasibility on vehicle standards and age limits
- Undertake surveys on vehicle use, efficiency and emissions
- Set more cleaner fuel standards
- Develop fiscal incentives to encourage acquisition of more fuel efficient vehicles
- Develop a financial incentives scheme for vehicle replacement
- Promote Mass Public Transport (MPT)

# National Task Force on FEI

The key Government proponents of the FEI programme include;

1. Ministry of Energy and Mineral Development
2. Ministry of works and Transport
3. Ministry of Finance, Planning and Economic Development
4. Ministry of Water and Environment
5. Uganda National Bureau of Standards (UNBS)
6. Kampala Capital City Authority
7. National Environment Management Authority
8. Uganda Revenue Authority
9. Uganda Police



# Conclusion

- The average age of >15-20 yrs is not good for the fuel efficiency initiative and needs immediate solution
- The reducing efficiency levels of 12.52L/100km in 2005 to 13.73 L/100Km in 2014 need to be reversed.
- The worsening emissions levels of 465 g/km in 2005 to 503g/km in 2014 signifies a real problem
- **Good News: we have started!!**



Thank You