

# ***Motor Vehicle Pollution Control The Importance of Fuel Quality***

**Partnership For Clean Fuels and Vehicles, 8GPM**

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# International Council on Clean Transportation

Goal of the ICCT is to dramatically reduce conventional pollutant and greenhouse gas emissions from personal, public and goods transportation in order to improve air quality and human health, and mitigate climate change.



[WWW.THEICCT.ORG](http://WWW.THEICCT.ORG)

# Health Effects

- **Different Pollutants have Different Effects**
  - Carbon Monoxide - circulatory system, heart
  - Ozone - respiratory system, lung
  - Lead - nervous system, brain
  - PM - premature mortality, lung, potential effects on heart
  - Sulfur Dioxide - respiratory, possibly mortality effects
  - Diesel, Air Toxics - cancer, respiratory, reproductive, neurotoxic effects
- **There are potential effects of the Mixture**

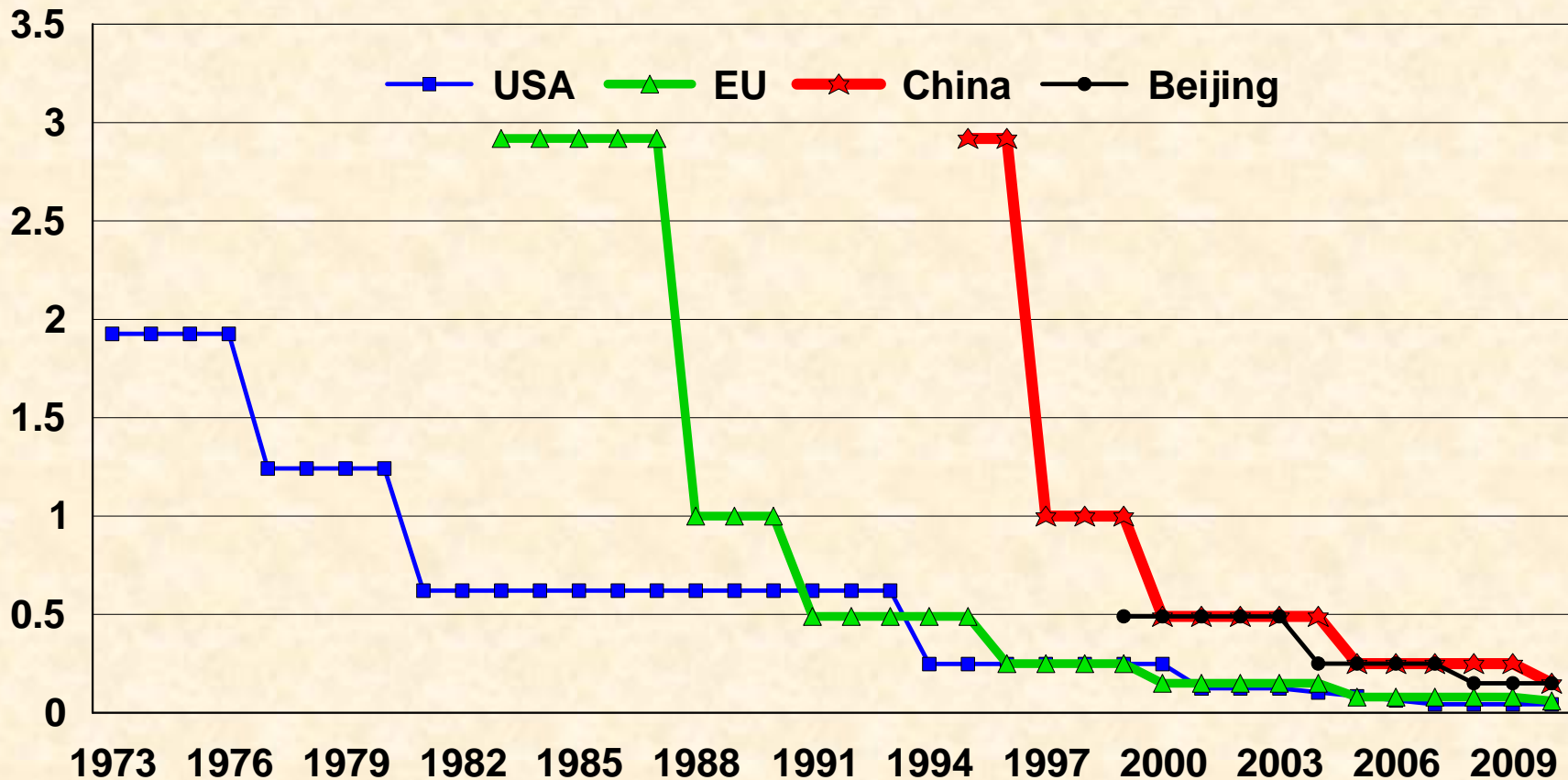
# Even Minimal Control Can Have Major Health Benefits

- Africa 2015 Euro 4& Euro IV, MC Euro 3
- Middle East 2015 Euro 4 & Euro IV, MC Euro 3

# Trends in Passenger Car Exhaust Emissions Standards

## NOx Emissions Standards

Grams/Kilometer

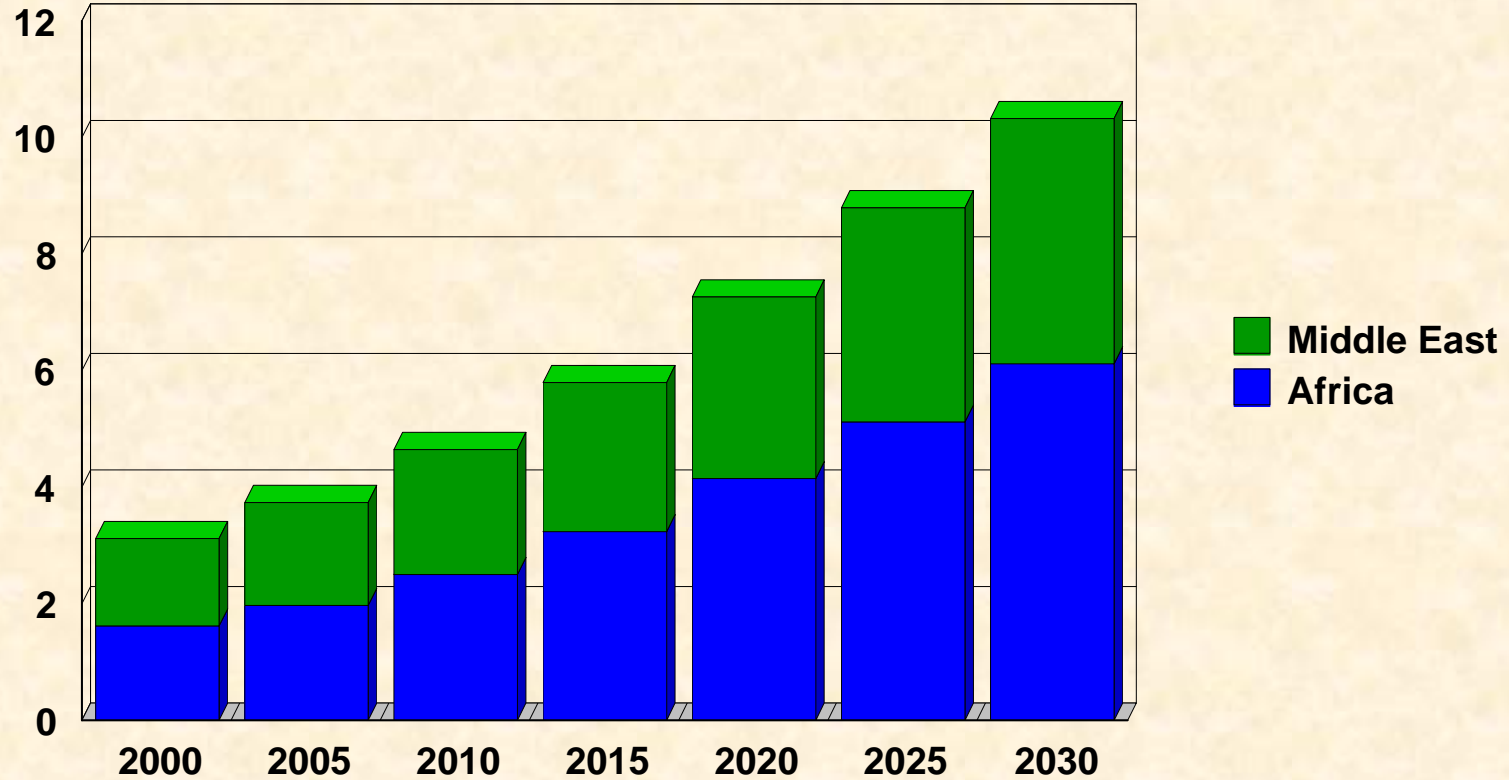


# Road Vehicle Emissions By Country

## Total Hydrocarbons

Base Case

Million Metric Tons

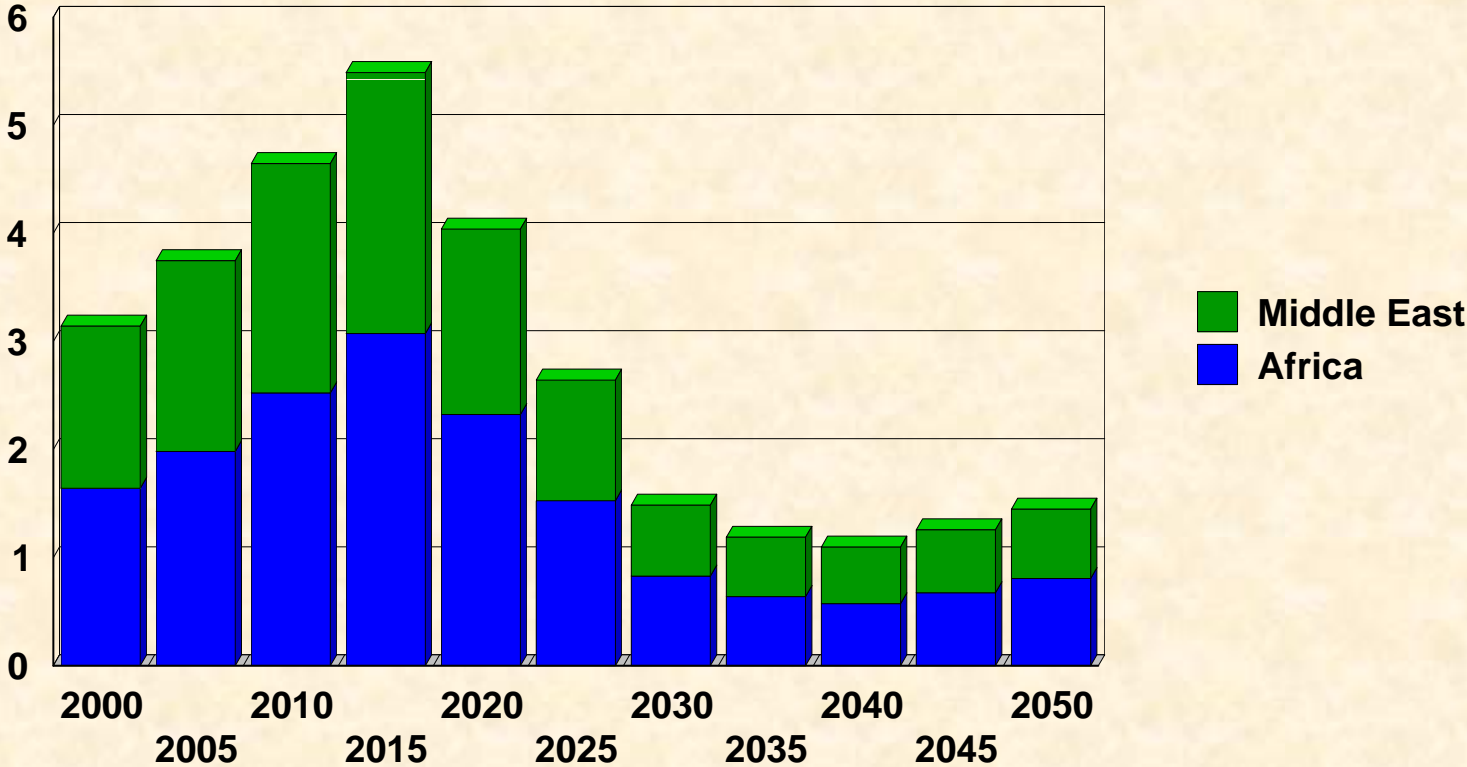


# Road Vehicle Emissions By Country

## Total Hydrocarbons

Tight Standards Case

Million Metric Tons

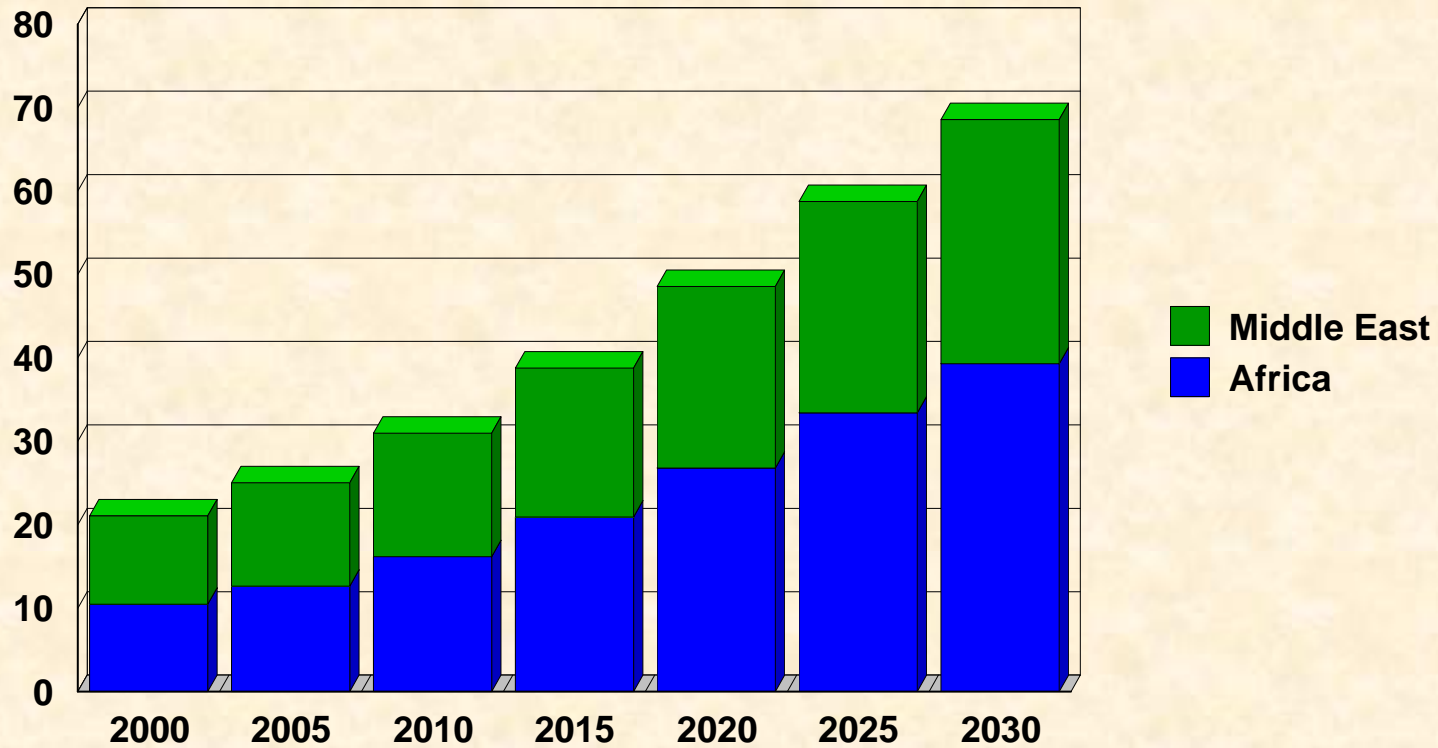


# Road Vehicle Emissions By Country

## Carbon Monoxide

### Base Case

Million MetricTons

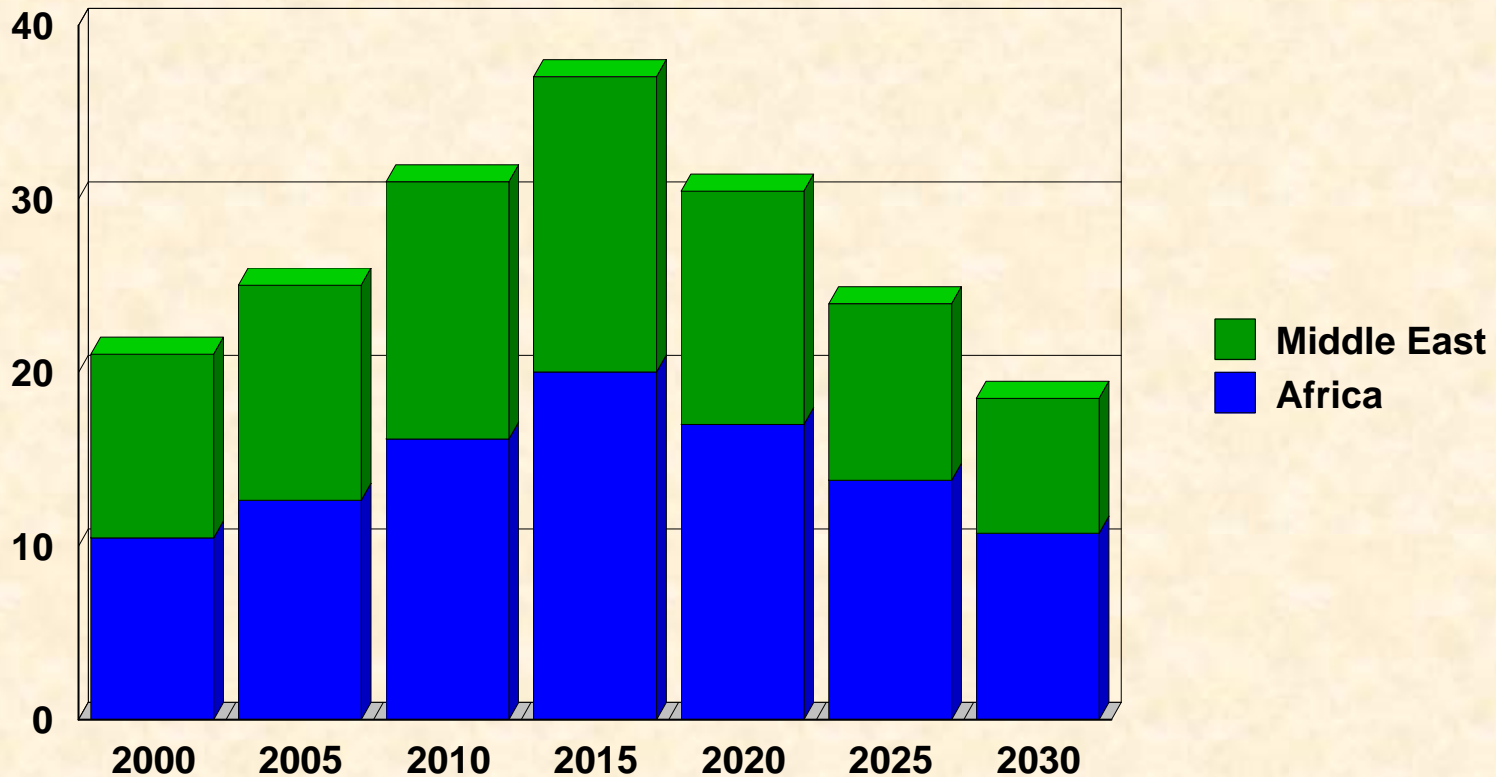


# Road Vehicle Emissions By Country

## Carbon Monoxide

### Tight Standards Case

Million MetricTons

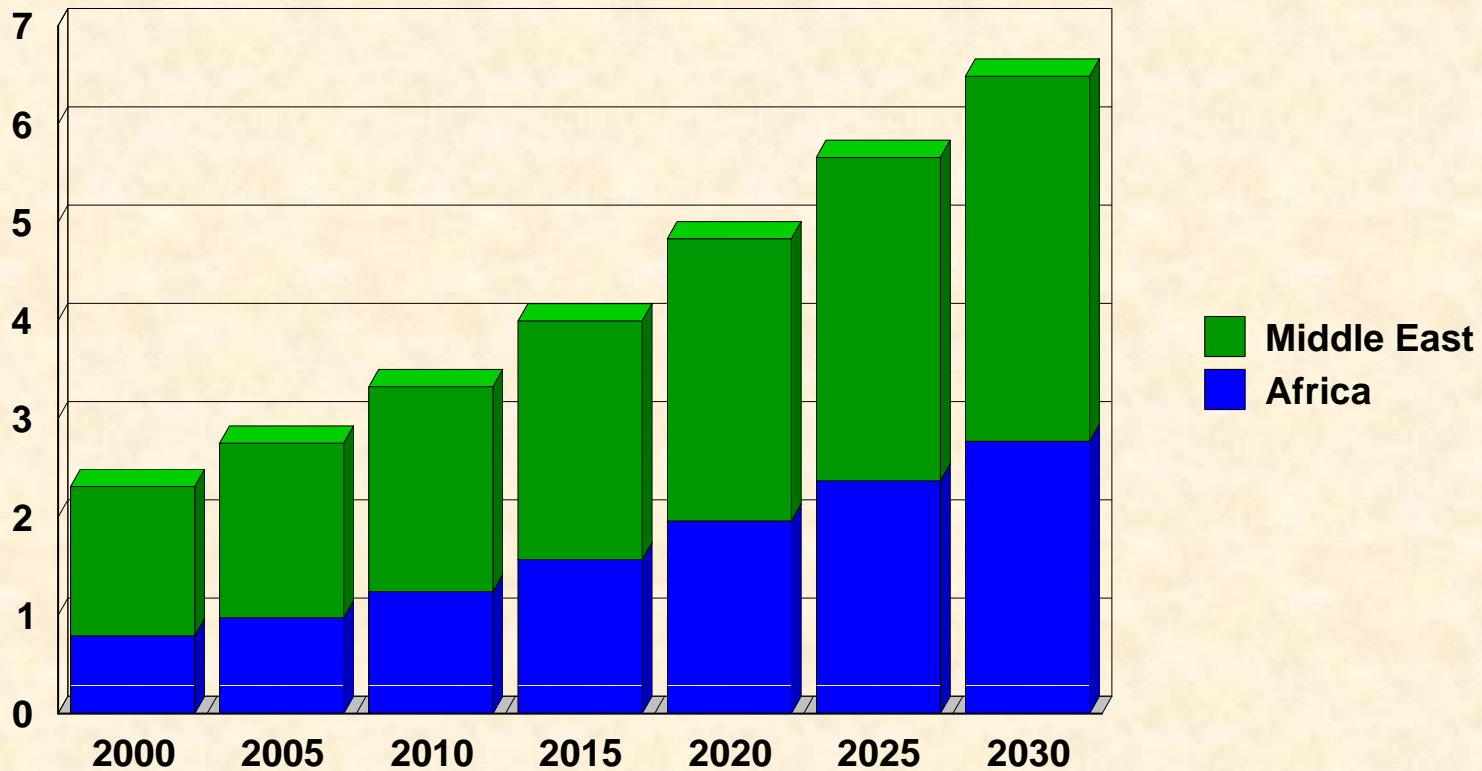


# Road Vehicle Emissions By Country

## Nitrogen Oxides

### Base Case

Million Metric Tons

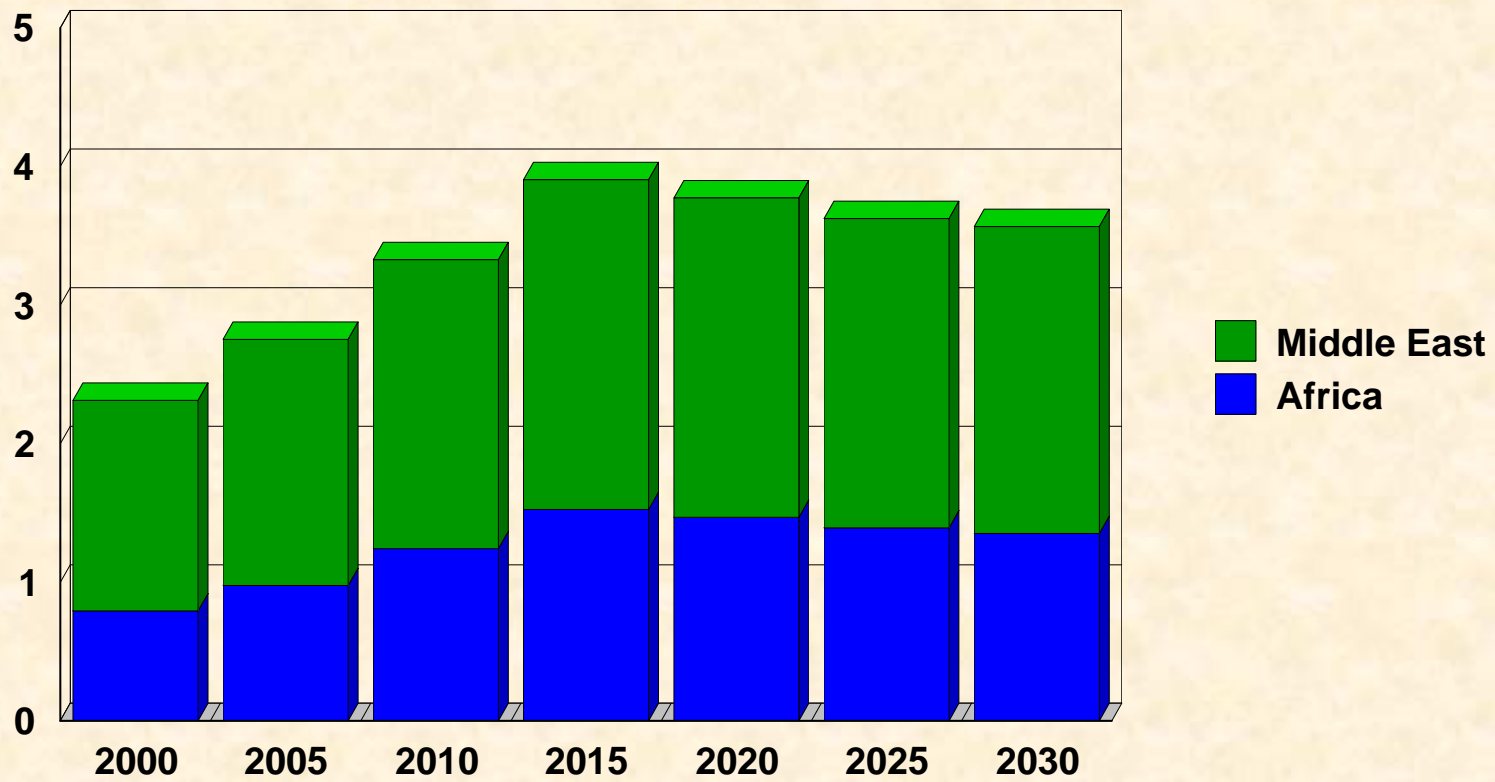


# Road Vehicle Emissions By Country

## Nitrogen Oxides

Tight Standards Case

Million Metric Tons

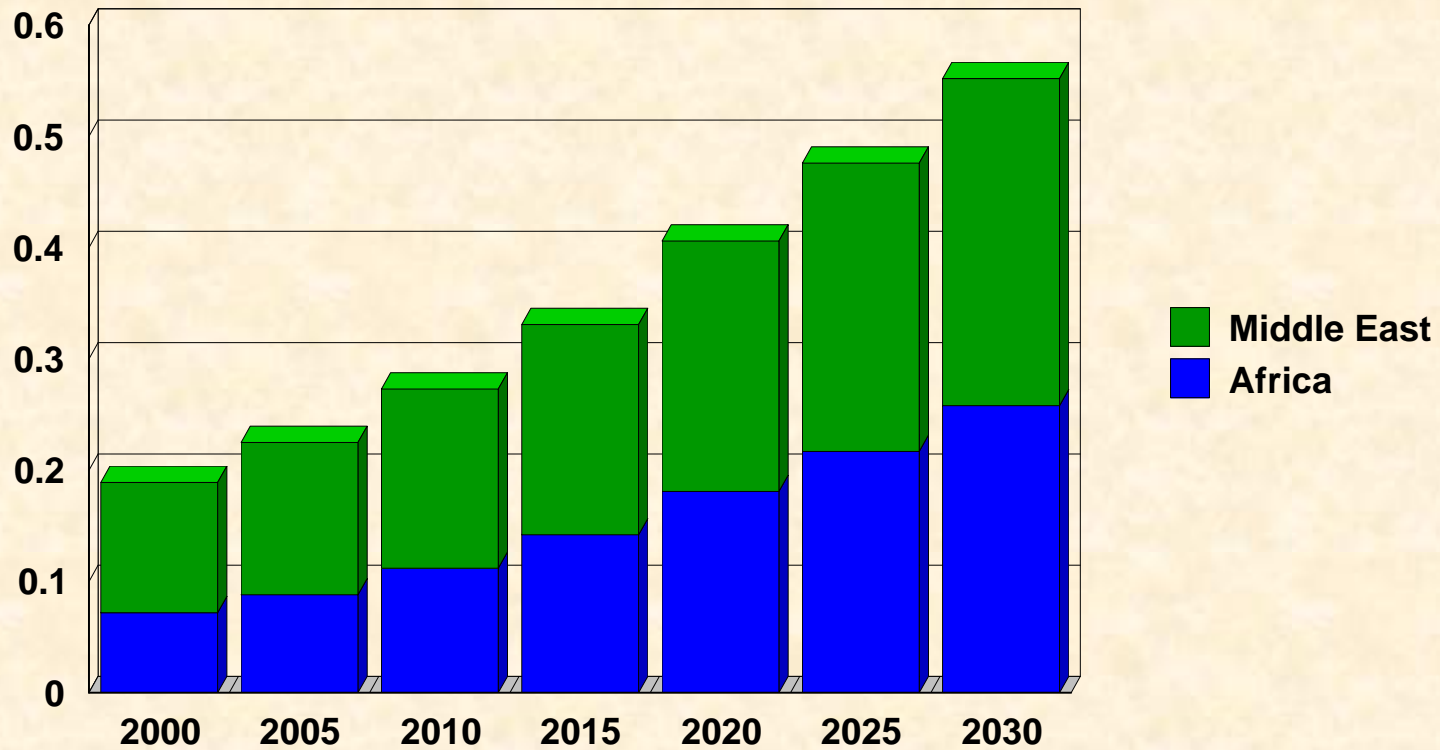


# Road Vehicle Emissions By Country

## Particulate Matter

Base Case

Million Metric Tons

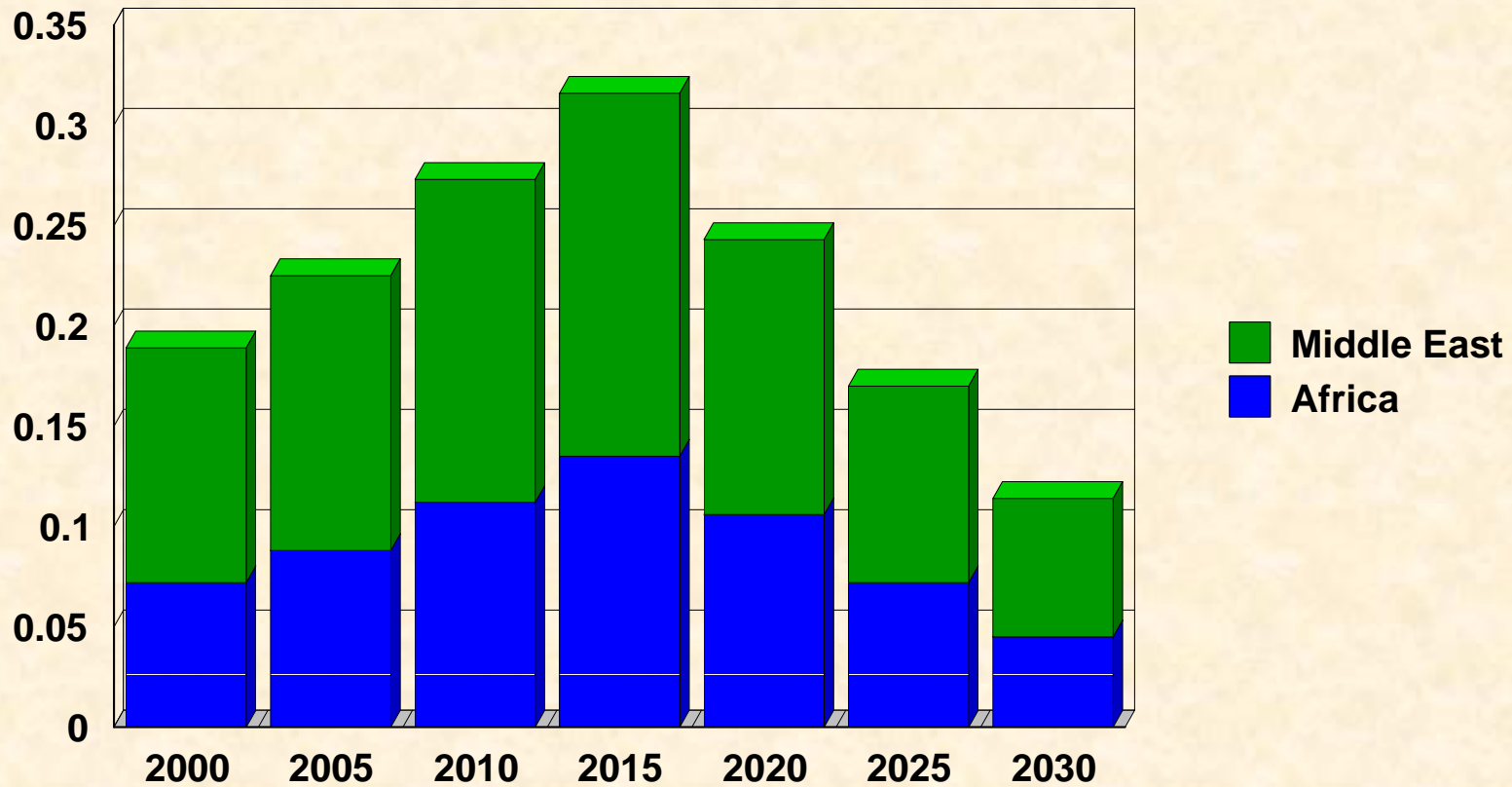


# Road Vehicle Emissions By Country

## Particulate Matter

### Tight Standards Case

Million Metric Tons



# Conclusions

- The health impacts of vehicles are very significant and without aggressive action are likely worsening.
- Stringent vehicle emissions standards are spreading around the world and combined with clean lead free and low sulfur fuels are a major step towards improving air quality and reducing health impacts.
- With Lead Free Gasoline and modest sulfur controls, substantial emissions improvements are possible and are already being realized in many countries.
- Why Not Africa and the Middle East?

