

# Achieving Oil Security, with Emphasis on the Transport Energy Sector

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# Transport and Oil in APEC



- Continued Dependence on Oil Products
  - The transport sector will continue to drive up oil demand barring a major technological breakthrough.
    - By 2030, the transport sector will lead about 70 percent of incremental oil demand growth.
    - By 2030, oil is expected to continue to be the major energy source for the transport sector.
    - By 2030, road transport is projected to account for about 80 percent of total transport energy demand.
- Rising Oil Import Dependence in APEC
  - APEC's net oil import dependence will jump from the current 36 percent to 52 percent by 2030.

# Drivers of Transport Energy Demand

## High Income Growth

- GDP per capita will grow at an annual rate of 3.5 percent.

## Expansion of Automobile Industry

- Production of vehicles at lower prices than imported ones

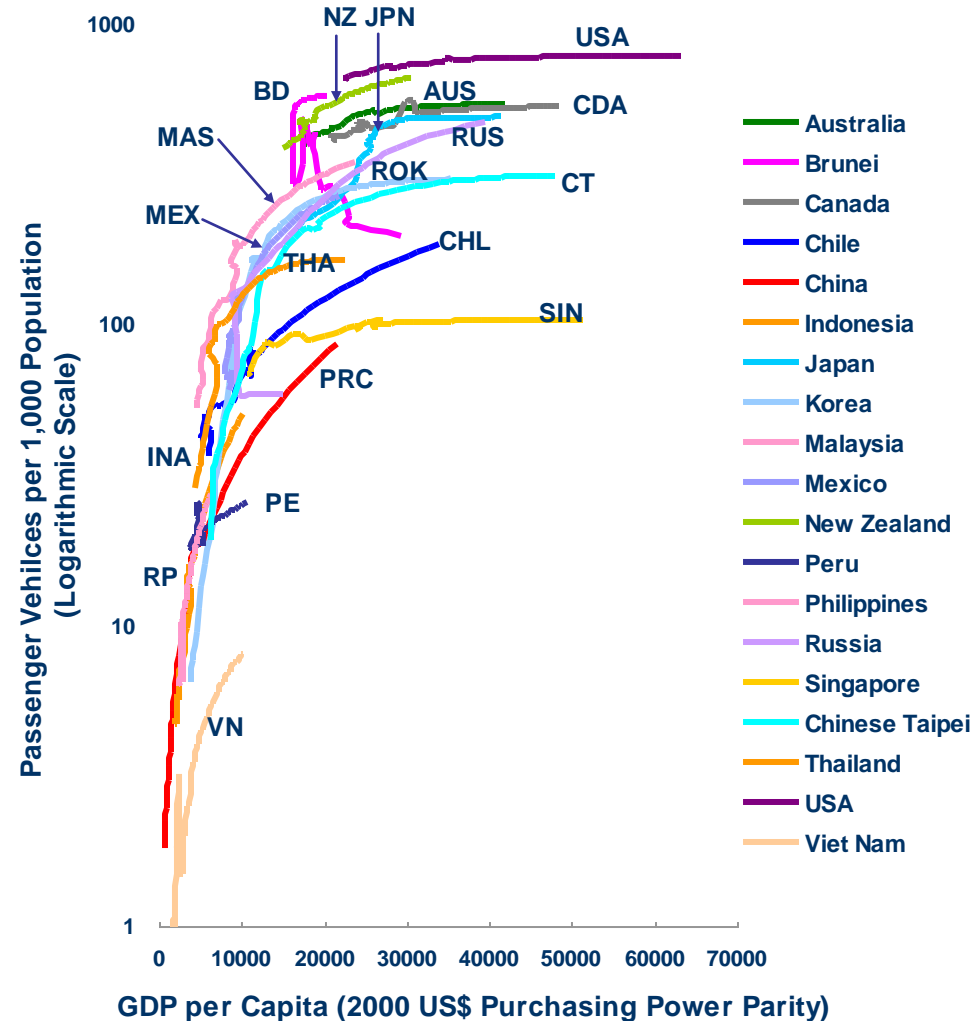
## Continued Rapid Urbanisation

- By 2030, 26 million people per year will migrate from rural areas into urban areas.
  - Urban population is likely to need more transport energy than rural population.

## Accelerating Industrialisation

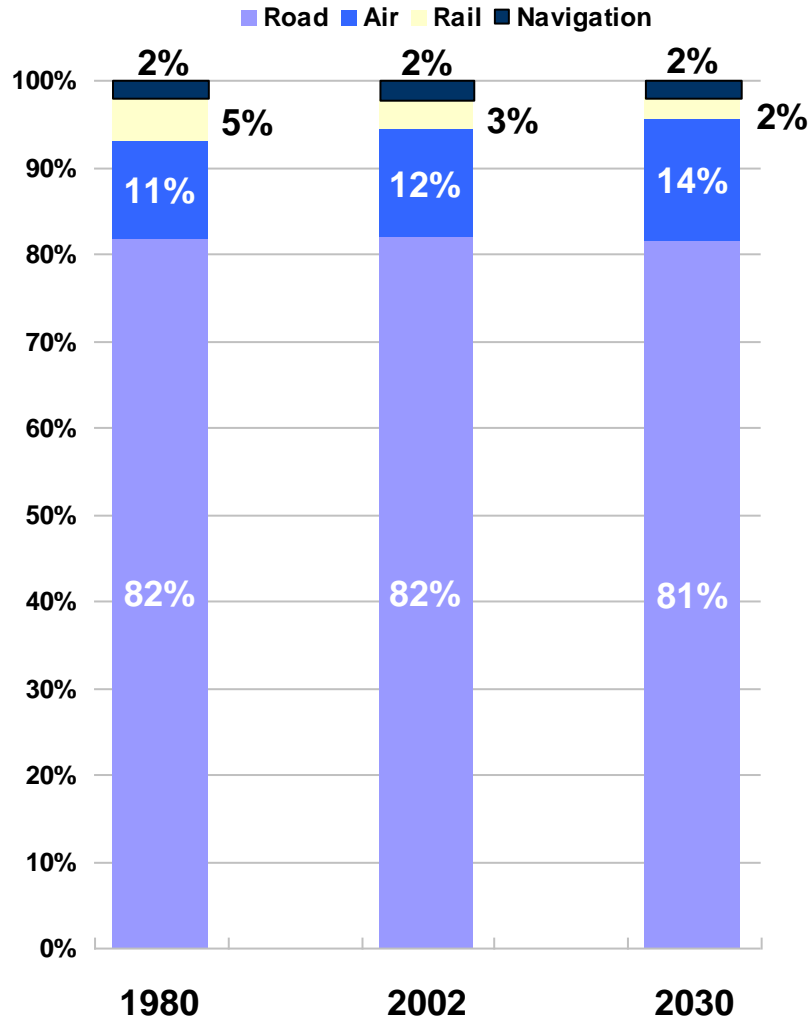
- Rising industrial activities will increase freight transport demand.

Passenger Vehicles per 1,000 Population (1980-2030)

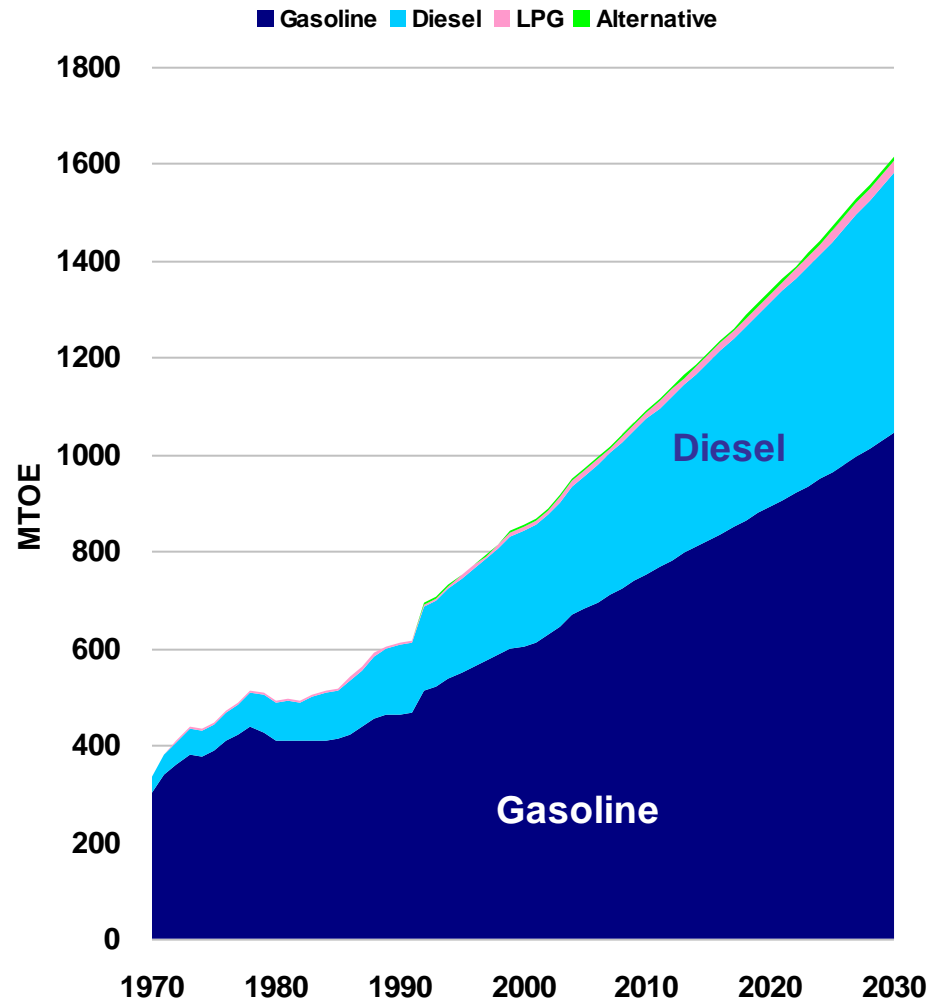


# History and Outlook of Transport Energy Demand

**Ratio of Transport Energy Demand by Sub-sector (1980, 2002 and 2030)**



**Energy Demand for Road Transport (1970-2030)**



# Factors Affecting Urban Passenger Transport Energy Demand



- Rising income in some cities of APEC has driven substantial growth in gasoline consumption.

## *Contributing Factors*

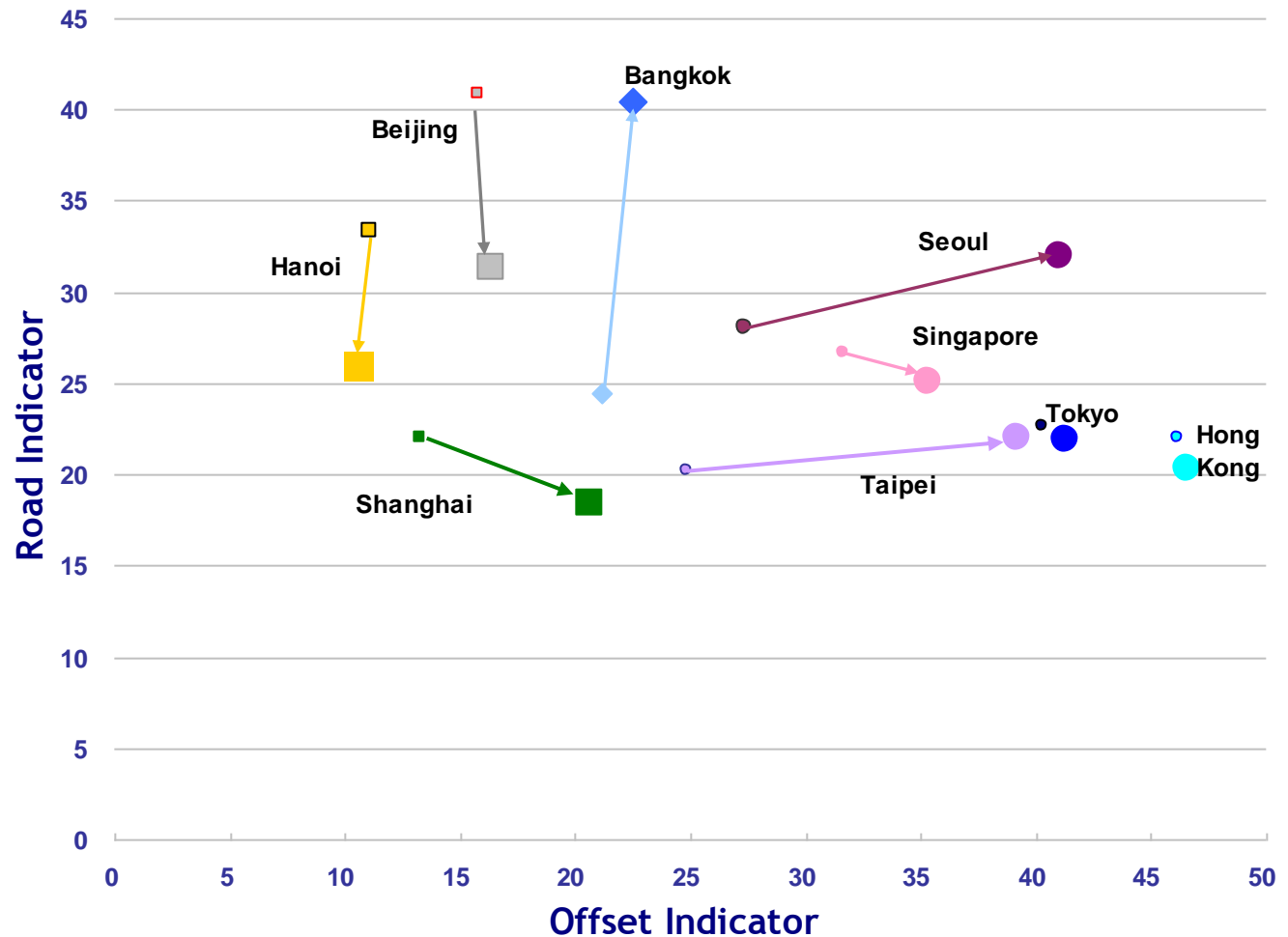
- Motorisation
- Road Infrastructure
- Vehicle Distance Travelled

## *Offsetting Factors*

- Technology Development
  - Vehicle Energy Efficiency Improvement
  - Alternative Fuels
- Accessibility to Urban Mass Transit
  - Rail and Subway
  - Bus
- Traffic Demand Management
  - Governance

# Indicators for Urban Transport in Some Asian Cities: (1995-2005)

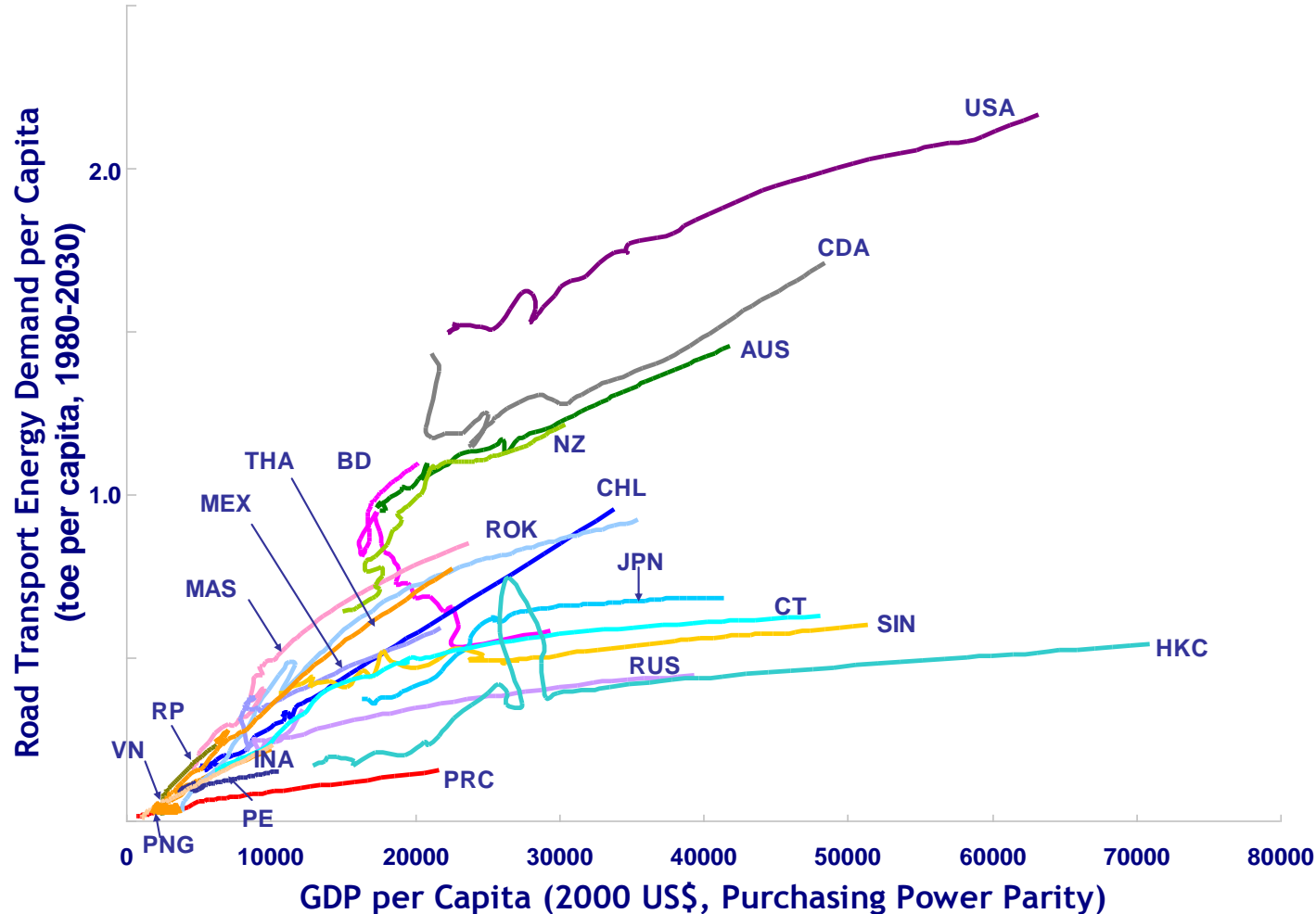
- Substantial changes can take place within a decade.
- Seoul and Taipei reduced growth in passenger vehicle dependency through subway development.
- Timely investment in urban mass transit is key.



# Challenges for Transport

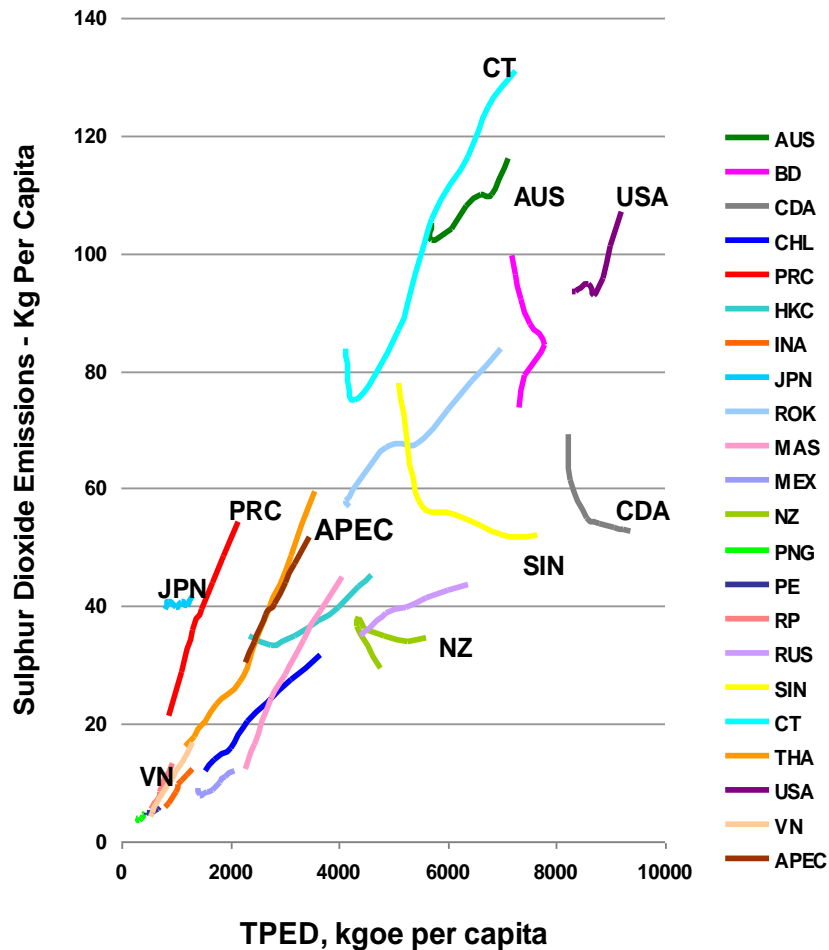
- High *Infrastructure* Cost
- Weak *Policy* Coordination
- Slow *Tech* Development & Implementation
- Unsustainable *Lifestyle* Choices

## Rising Road Energy Demand per Capita (1980-2030)

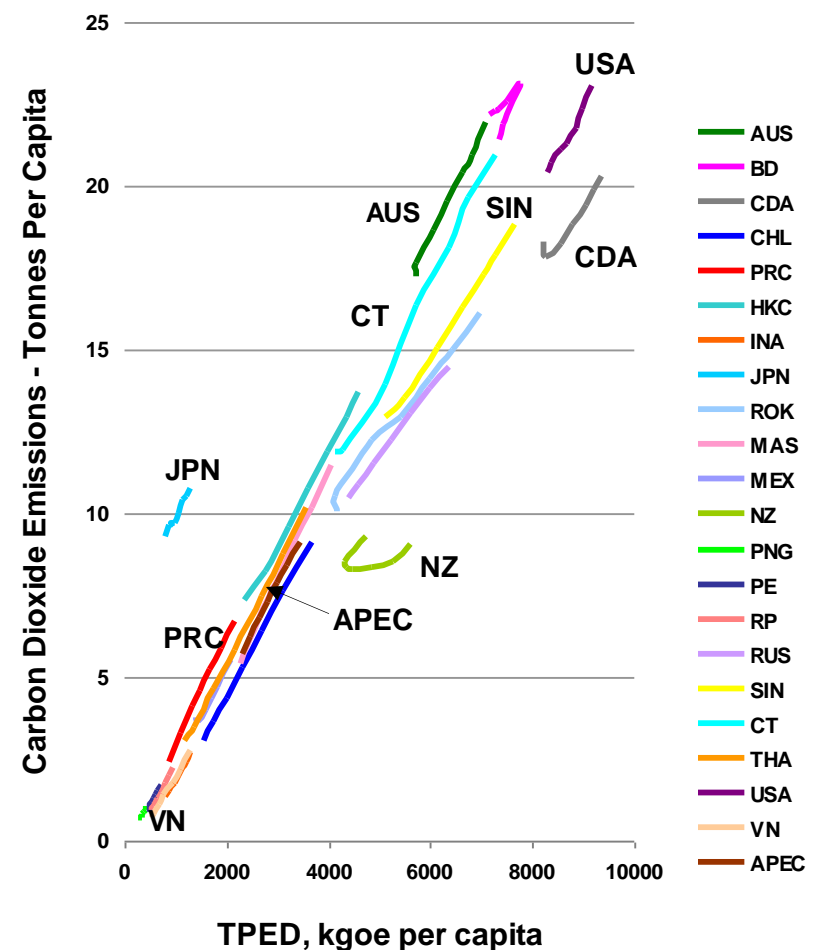


# Environmental Issues for Transport

## Local Environment: SO<sub>2</sub>



## Global Environment: CO<sub>2</sub>

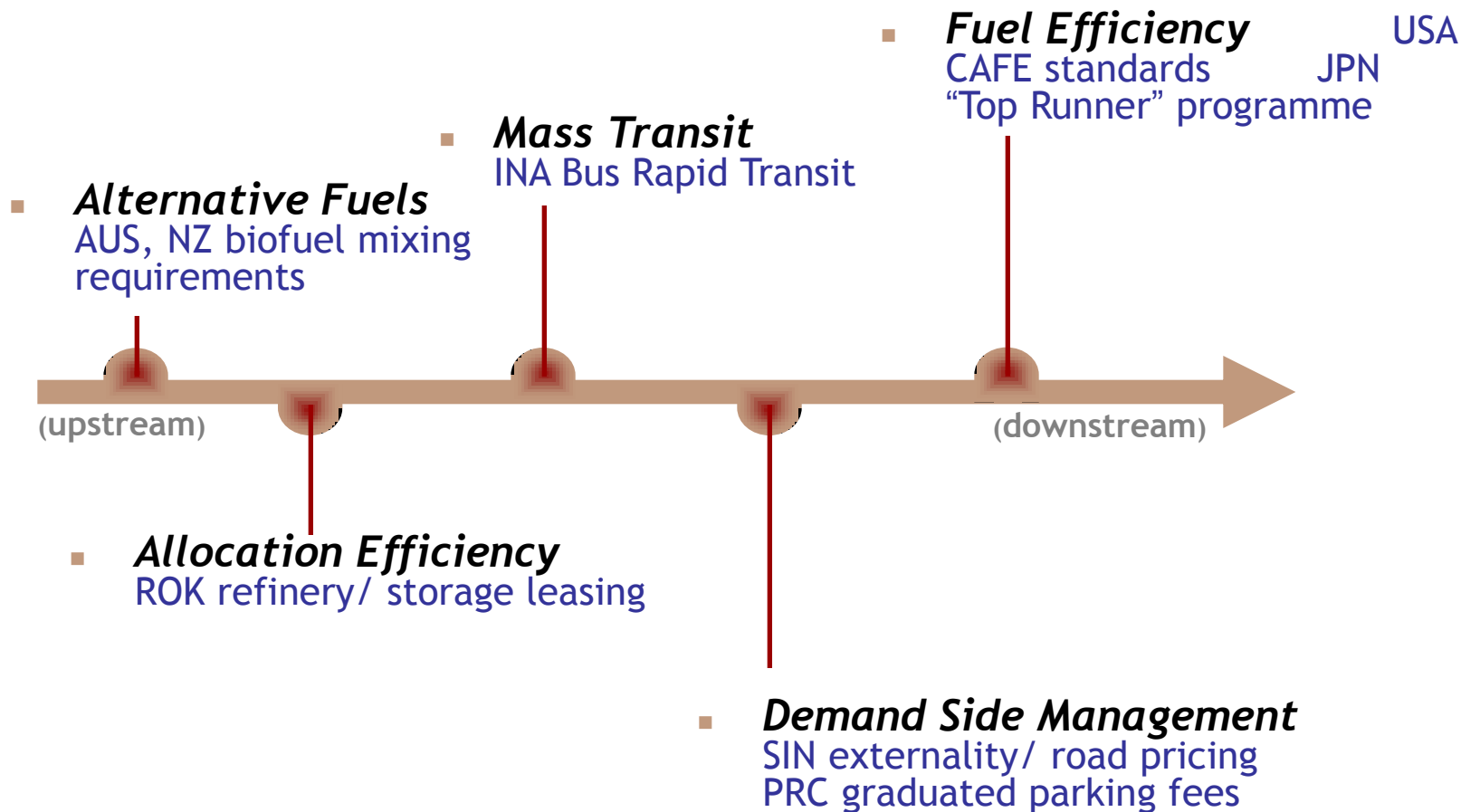




# Good Practices for Transport Energy Efficiency and Security

Tech / Infrastructure  
Projects & Policies

Socioeconomic  
Measures



# Options for Transport Energy Efficiency and Security



- A holistic approach tailored to meet the needs of each APEC economy
  - Needs for economic development
  - Needs for urban development
- Policy implementation and coordination
  - Central and local levels
  - Cross sectional coordination
- Technological development
  - Improvement in efficiency
  - Alternative fuels
- Education conducive to changes in lifestyle

# The Long, Long, Long-Term (but inevitable) Solution



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