



**MINISTRY OF TRANSPORTATION  
REPUBLIC OF INDONESIA**

# **Sustainable Urban Transport Initiative**

**Pilot Supported Nationally Appropriate Mitigation Action  
(NAMA) in Indonesia**

**Director of Center for Partnership Assessment and Transportation Services**

Regional workshop on promoting international collaboration to facilitate preparation, submission and implementation of NAMAs

Singapore, August 2013

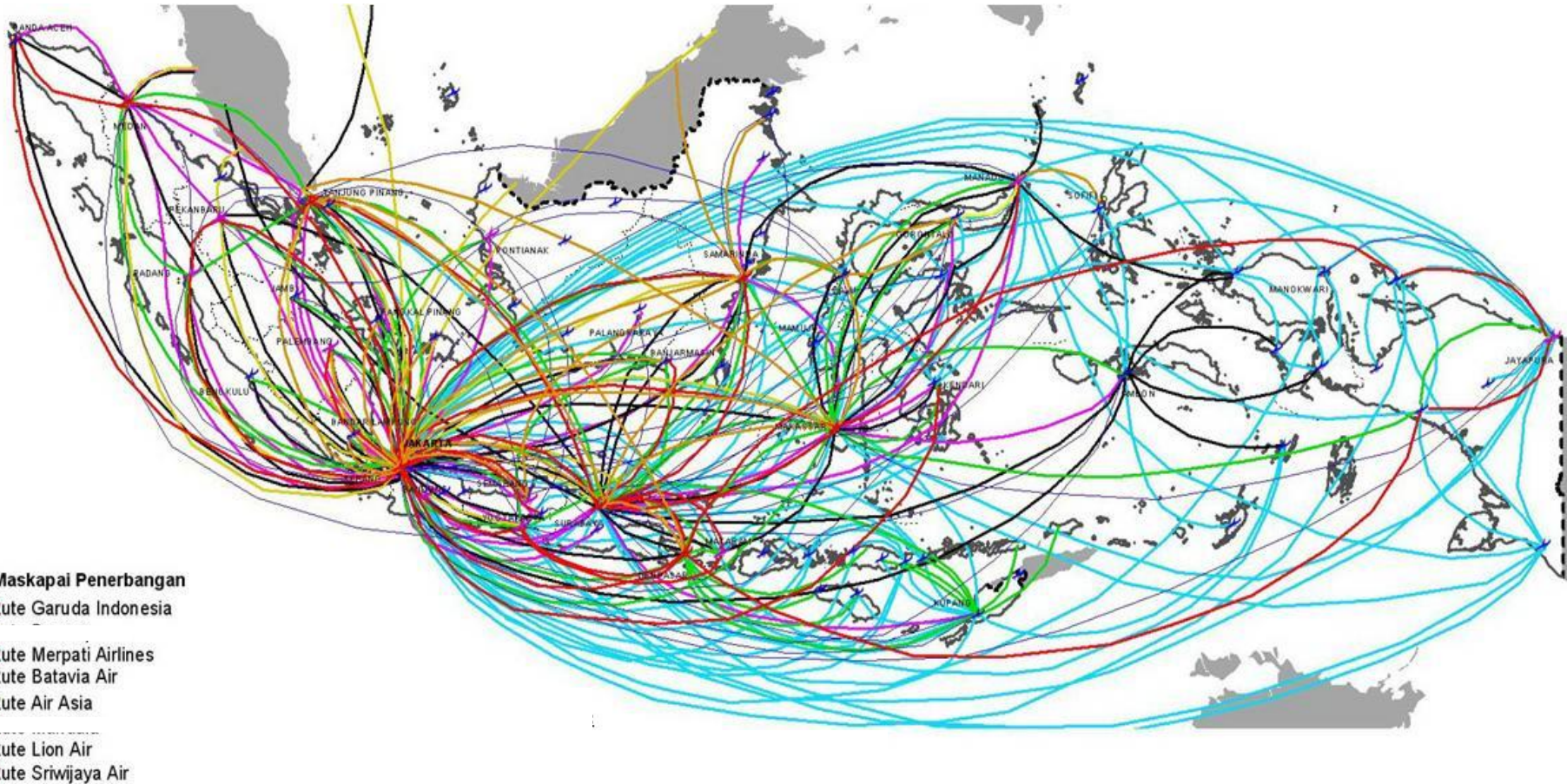


Consist of more than 17,000 islands  
1.922.570 km<sup>2</sup> of land and 3.257.483 km<sup>2</sup> of waters  
Population : approximately 250 million

# INDONESIAN ARCHIPELAGO SEA LANES

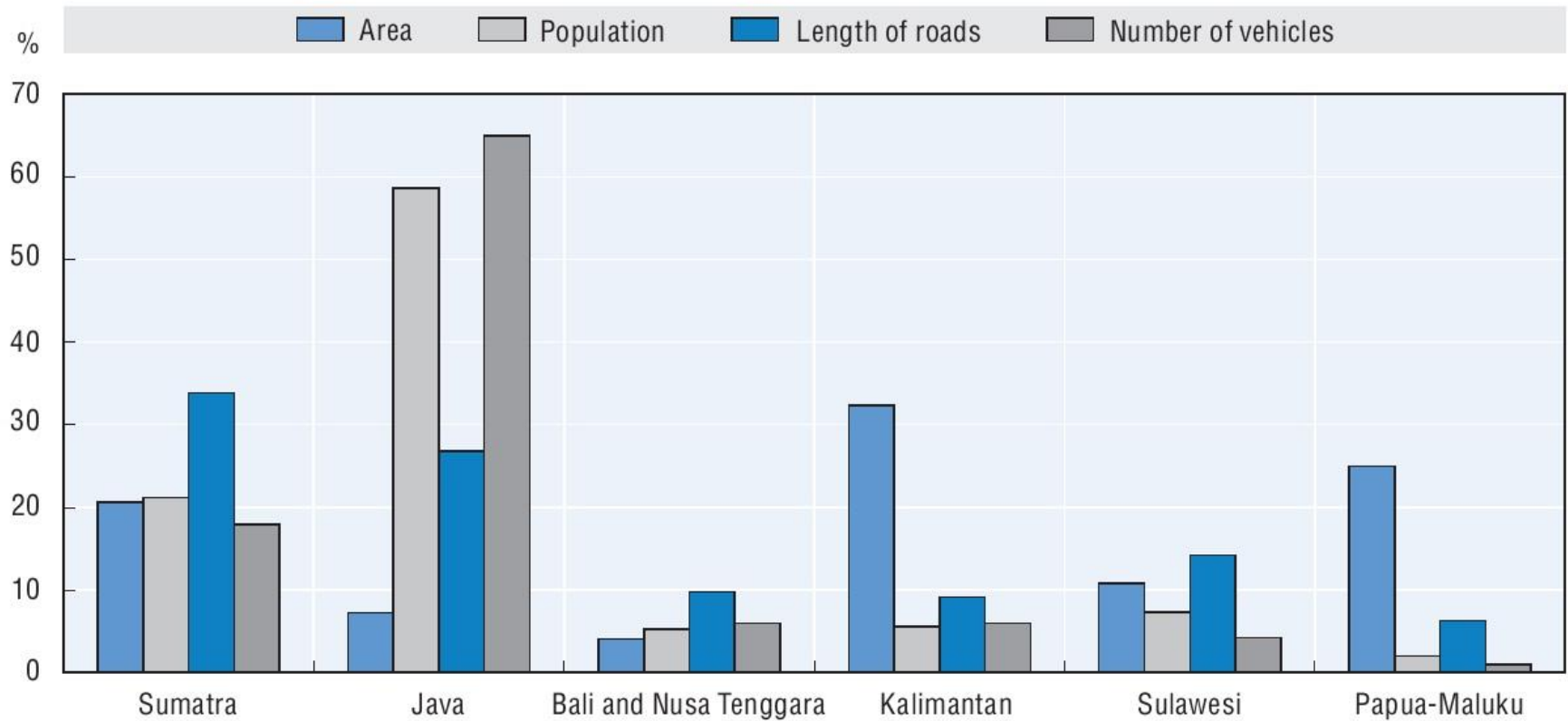


# AIR TRANSPORTATION ROUTES



## Area, population, length of roads and number of vehicles in Indonesia, by region, 2011

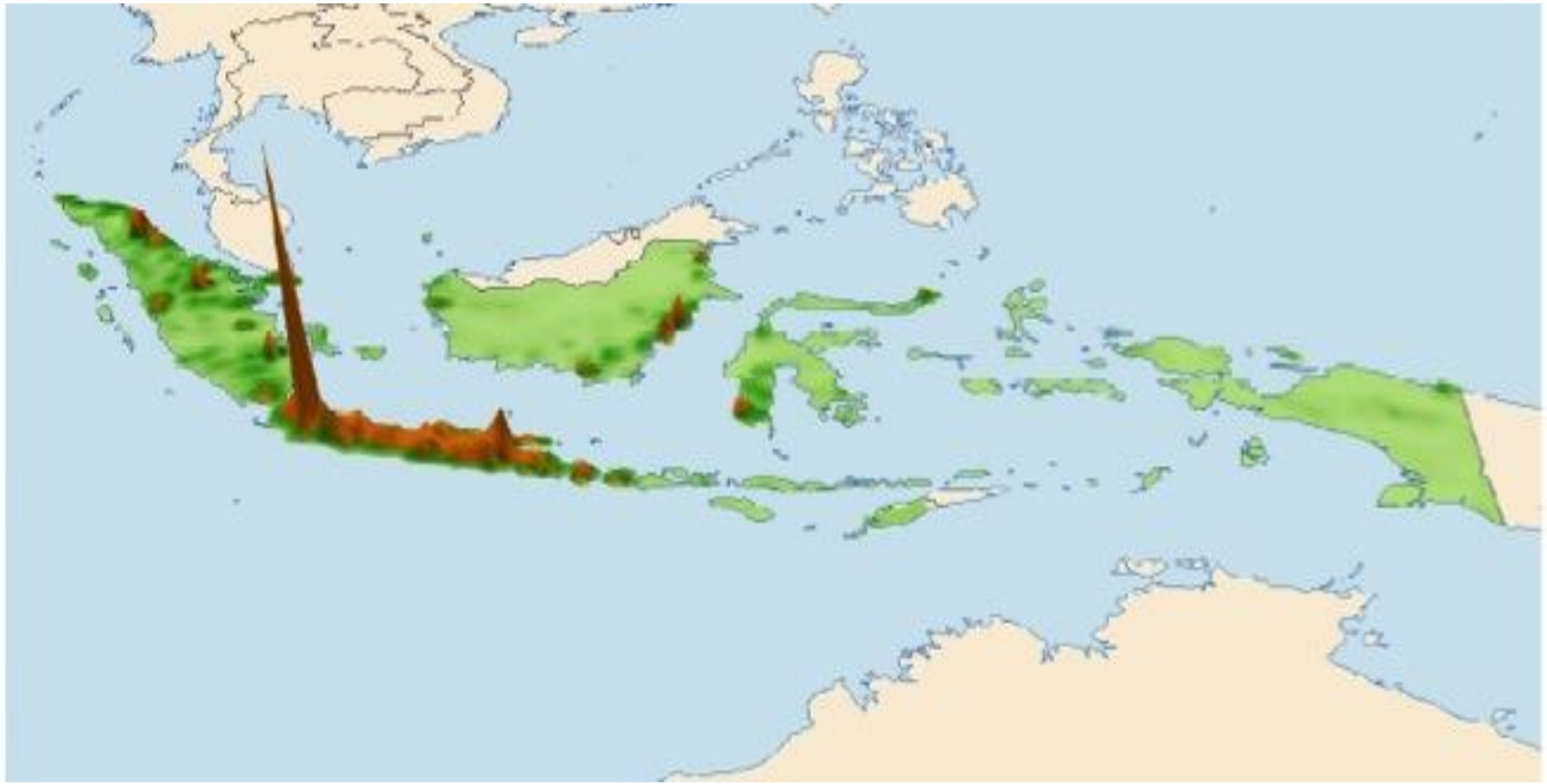
(percentage of total)



Source: Ministry of Transportation, Directorate of General Land Transportation, Land Transport in Figures 2011.

StatLink  <http://dx.doi.org/10.1787/888932774167>

# INDONESIA ECONOMIC LANDSCAPE



Note : ■ Developed Area

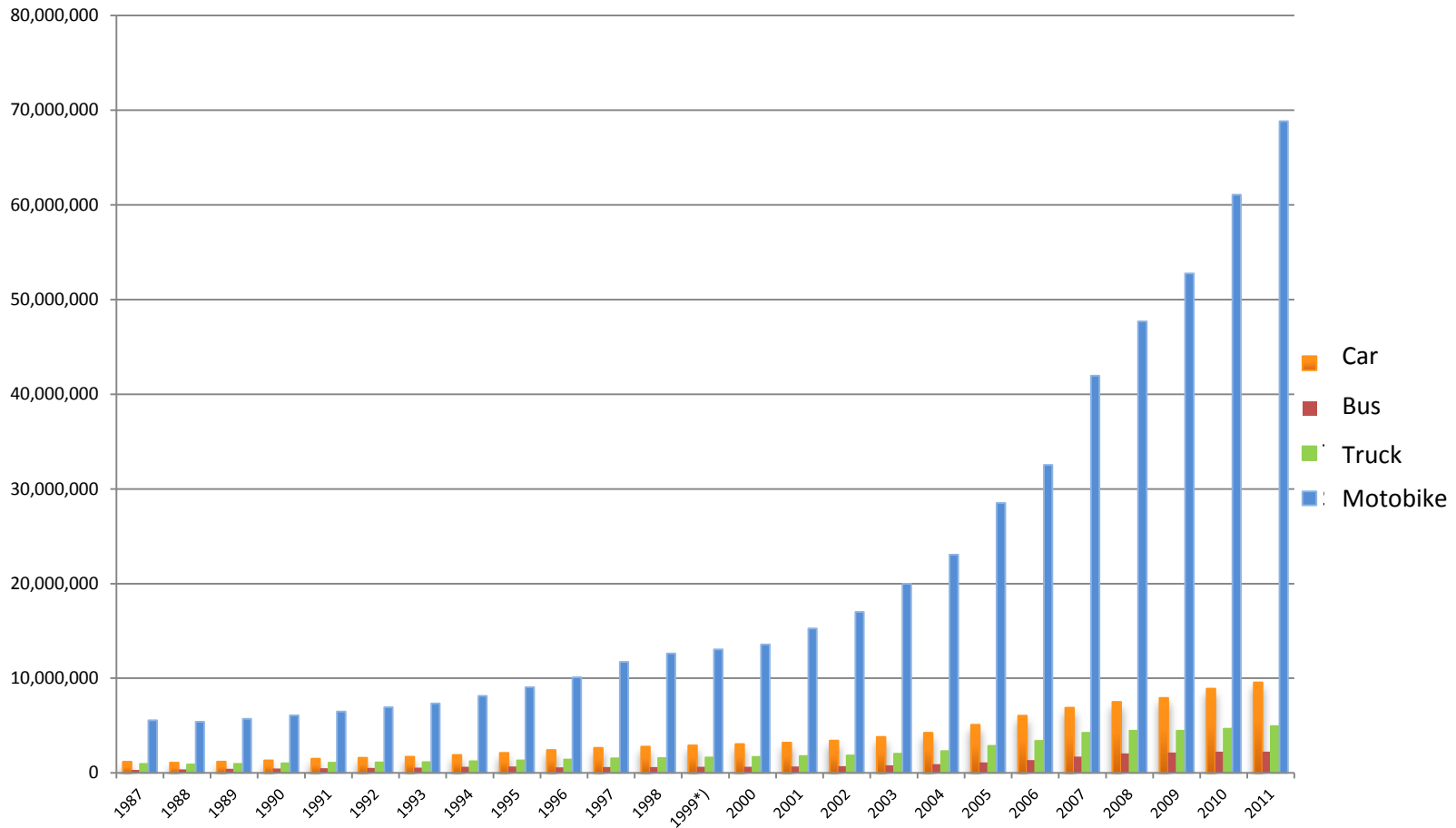
# POPULATION IN MAIN AREAS IN INDONESIA IN 2010

No.	ISLAND	POPULATION		AREA	
		PEOPLE	%	Km <sup>2</sup>	%
1	Sumatera	50.630.931	21,3	473.606	25,2
2	Jawa	136.610.590	57,5	138.794	6,8
3	Kalimantan	13.787.831	5,8	539.460	28,5
4	Sulawesi	17.371.782	7,3	189.216	9,6
5	Maluku	2.571.593	1,1	54.185	4,1
6	Papua	4.354.225	1,5	421.981	21,8
7	Bali dan Nusa Tenggara	16.574.796	5,5	66.52	5,8
Total Indonesia's area		237.641.326	-	1.910.931	-

*Source: Statistical Data, 2010*

- **Number of islands in Indonesia** : **17.504** island
- **Population Density in Indonesia** : **1** people/Km<sup>2</sup>
- **The most populated province is DKI Jakarta** : **14.440** people/Km<sup>2</sup>
- **The lowest population density is Papua** : **8** people/Km<sup>2</sup>
- **People living in urban areas** : **118.320.256** people /49,8 %
- **People living in rural areas** : **119.321.070** people /50,2 %

# Growth of Motor Vehicles Based on Type 1987-2011



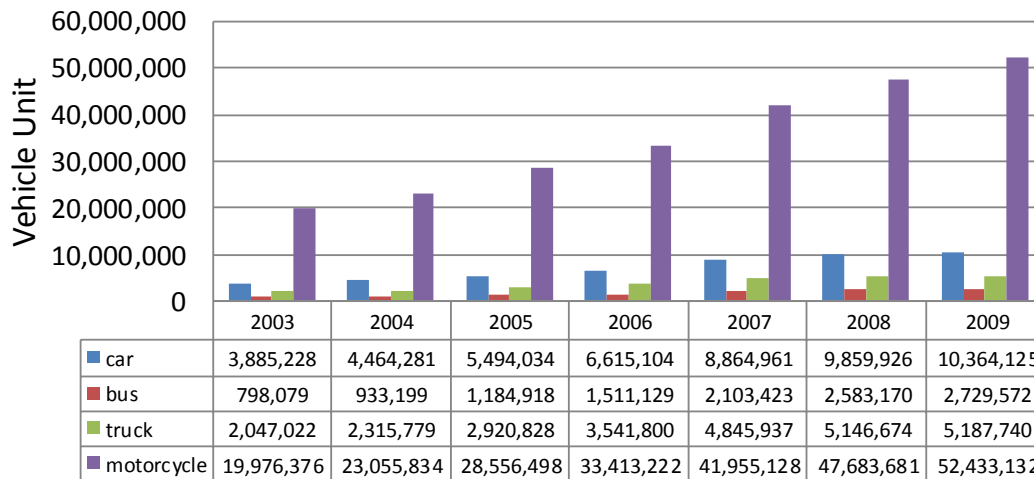
Source : Police Department Republik Indonesia

\*) since 1999 not incl. Timor Leste



# Indonesia Urban Transport Problems

Indonesia Vehicle Growth Data



## High Growth Motorization

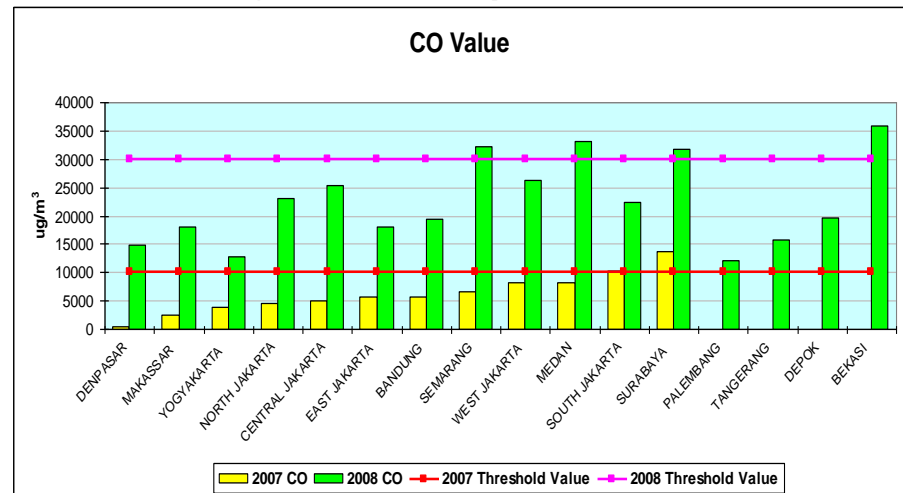
- Motor vehicles ownership in Indonesia in the last 5 years has increased substantially, with almost 20% average annual growth for motorcycles and 22% for cars ownership.
- In Indonesia, there is nearly 1 motorcycle for every 5 people

## Alarming Pollution Levels

- As a consequence of high growth motorization, pollution levels in major cities in Indonesia are increasing
- This graph show that the average levels of CO in various cities in Indonesia are higher in 2008 thanit was in 2007

ROADSIDE AIR QUALITY MONITORING

Average concentration of emission parameters in 2007 and 2008



# TRANSPORTATION CONDITION



# - Urbanisation -

## Urban Population In Indonesia

Year	Percentage of Urban Population
1920	5,8 % (2,88 Millions)
1980	17,0 %
1990	25,4 % (46,48 Millions)
2025	59,5 %

# Indonesia: GOI Commitment in Emission Reduction

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Initiative from Indonesian President at G20 meeting in Pittsburgh, USA and Conference of Parties (COP) 15 in Copenhagen December 2009 that Indonesia will reduce emission GHG **26%** from Business as Usual and 41% if supported by international support by 2020.

The target 26% will be reached from three sectors i.e.

- Forestry = 14%
- Waste = 6%
- Energy = 6% (power plant, industry, transportation (2-3%), household)



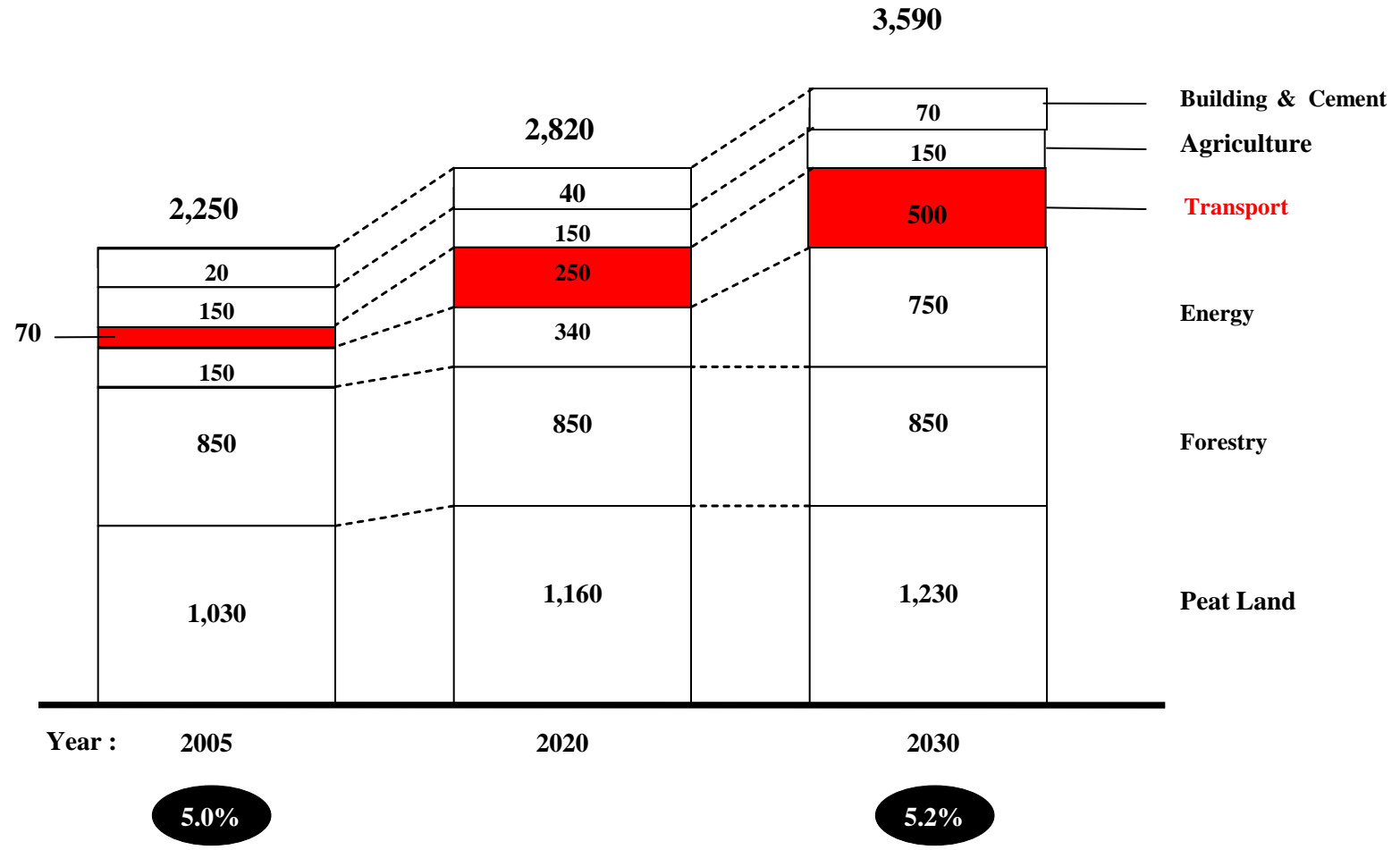
**GHG National Action Plan**

**National Action Plan on GHG Emission Reduction  
(Presidential Regulation No. 61/2011)**

# INDONESIAN EMISSION IS PREDICTED TO INCREASE FROM 2,3 GT TO BE 3,6 GT CO<sub>2</sub>e FROM 2005 TO 2030



MILLION TON CO<sub>2</sub>e

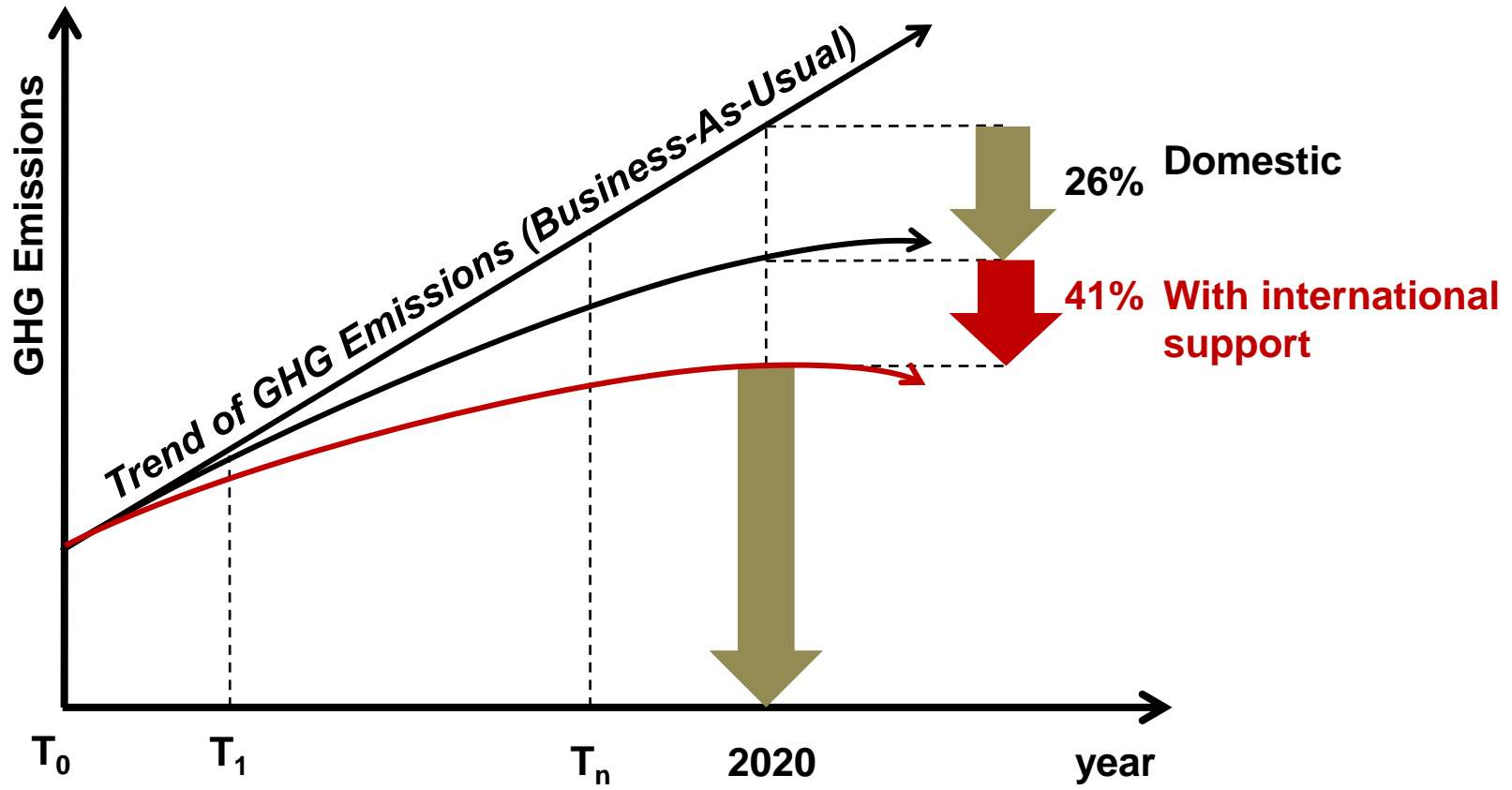


Indonesian emission compared with global emission

(Source : Mc. Kinsey)



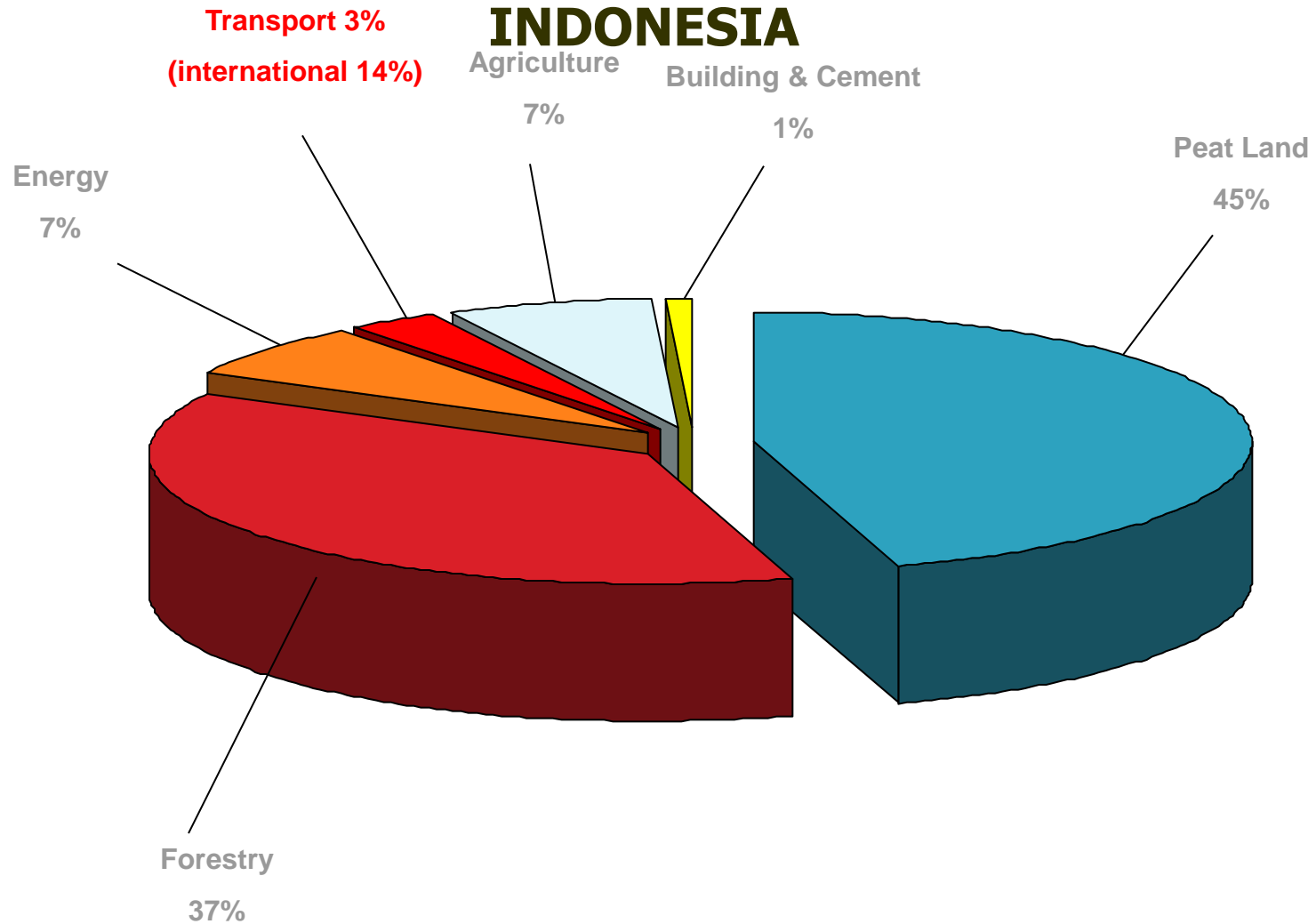
# Indonesia's CO<sub>2</sub> Emission Reduction Targets



- Transportation sector consumes 255,830 BOE (*Barrel of Equivalent*) or around 36% from total national energy in 2010, Around 88% fuel consume for land transportation.
- National transportation consume 51 % from total national fuel consumption.
- Transportation sector contribute 3 % of total Green House Gas
- Land Transportation contribute 89 % from total emission in transportation.
- We should pay more attention due to the rapid growth of transportation even though it contributes 3% especially in urban areas.



# PERCENTAGE OF TOTAL EMISSION IN INDONESIA

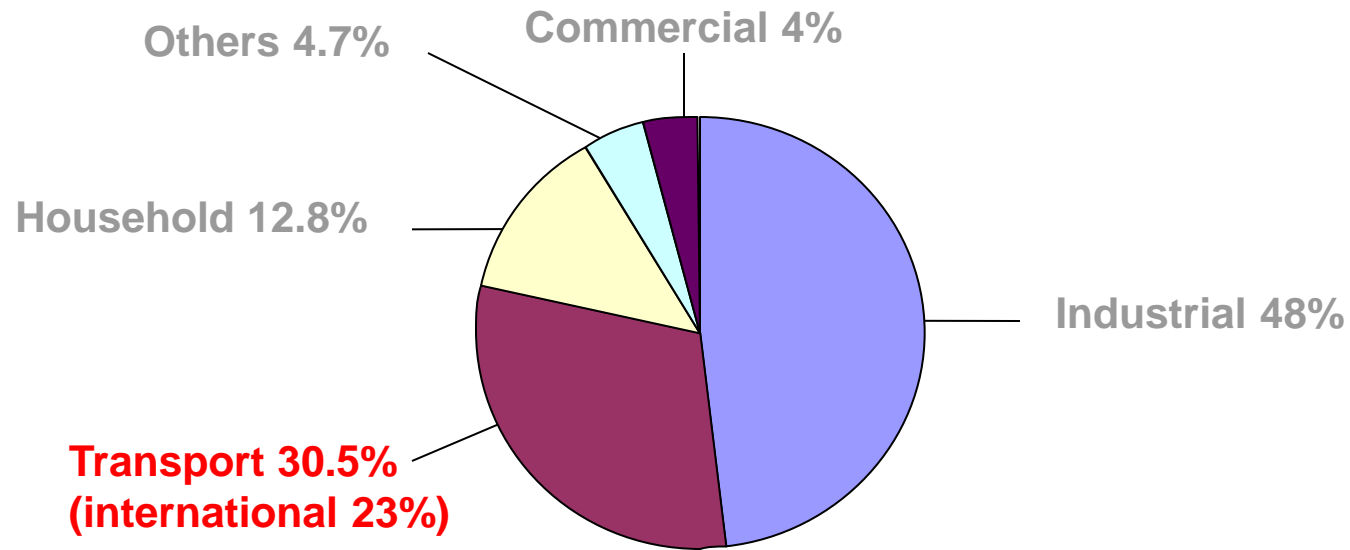


Source : Mc. Kinsey

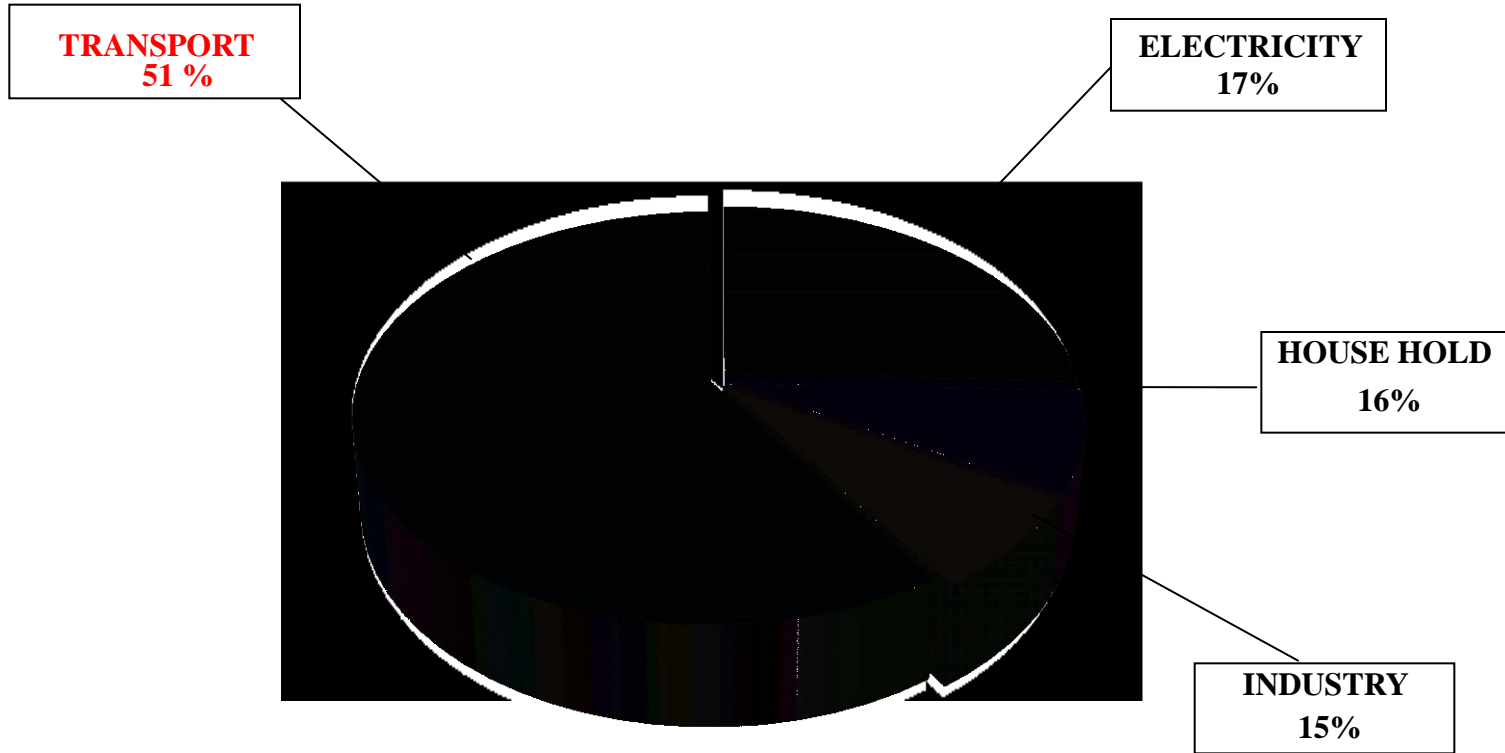


# ENERGY CONSUMPTION

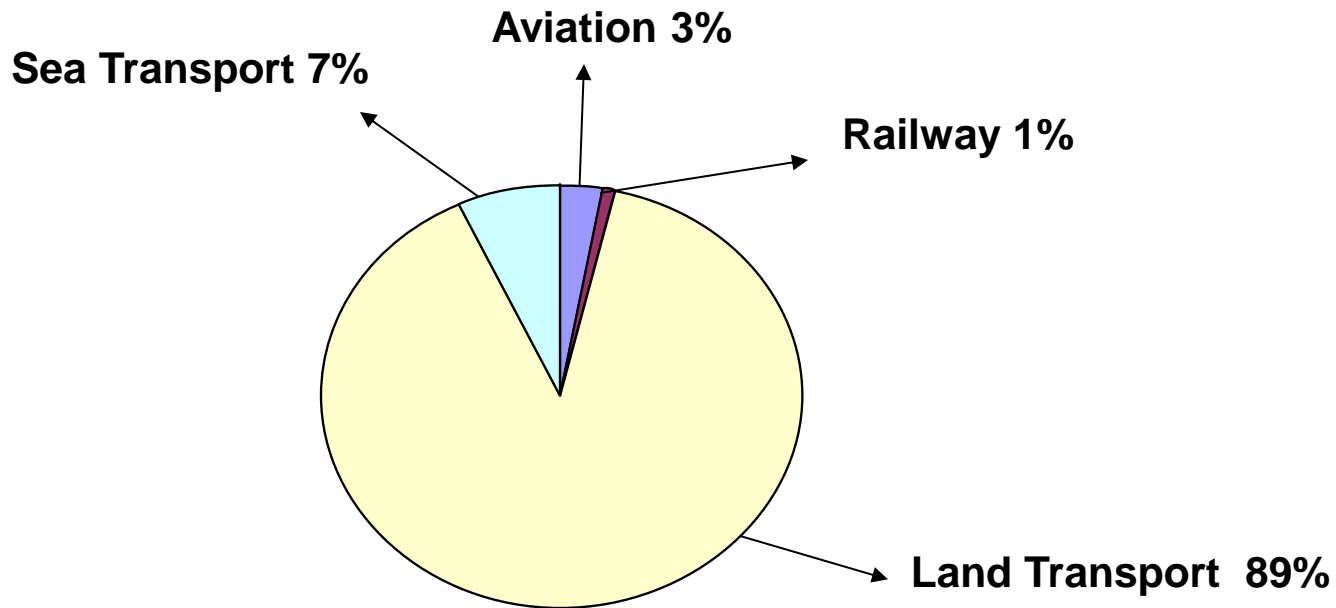
(2007 : Mc Kinsey)



# NATIONAL OIL FUEL CONSUMPTION



# EMISSION FROM EACH TRANSPORT MODE

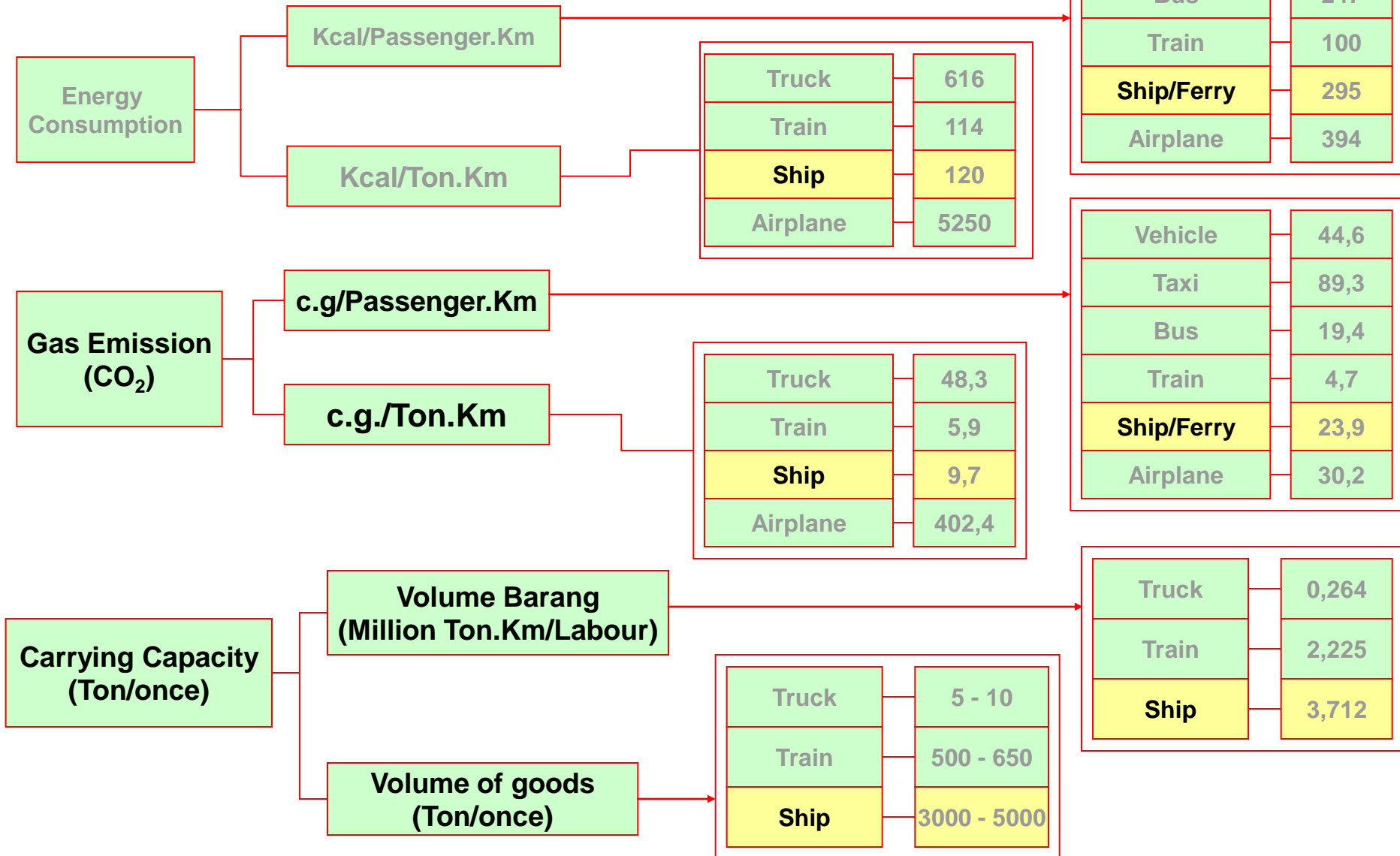


## 2005

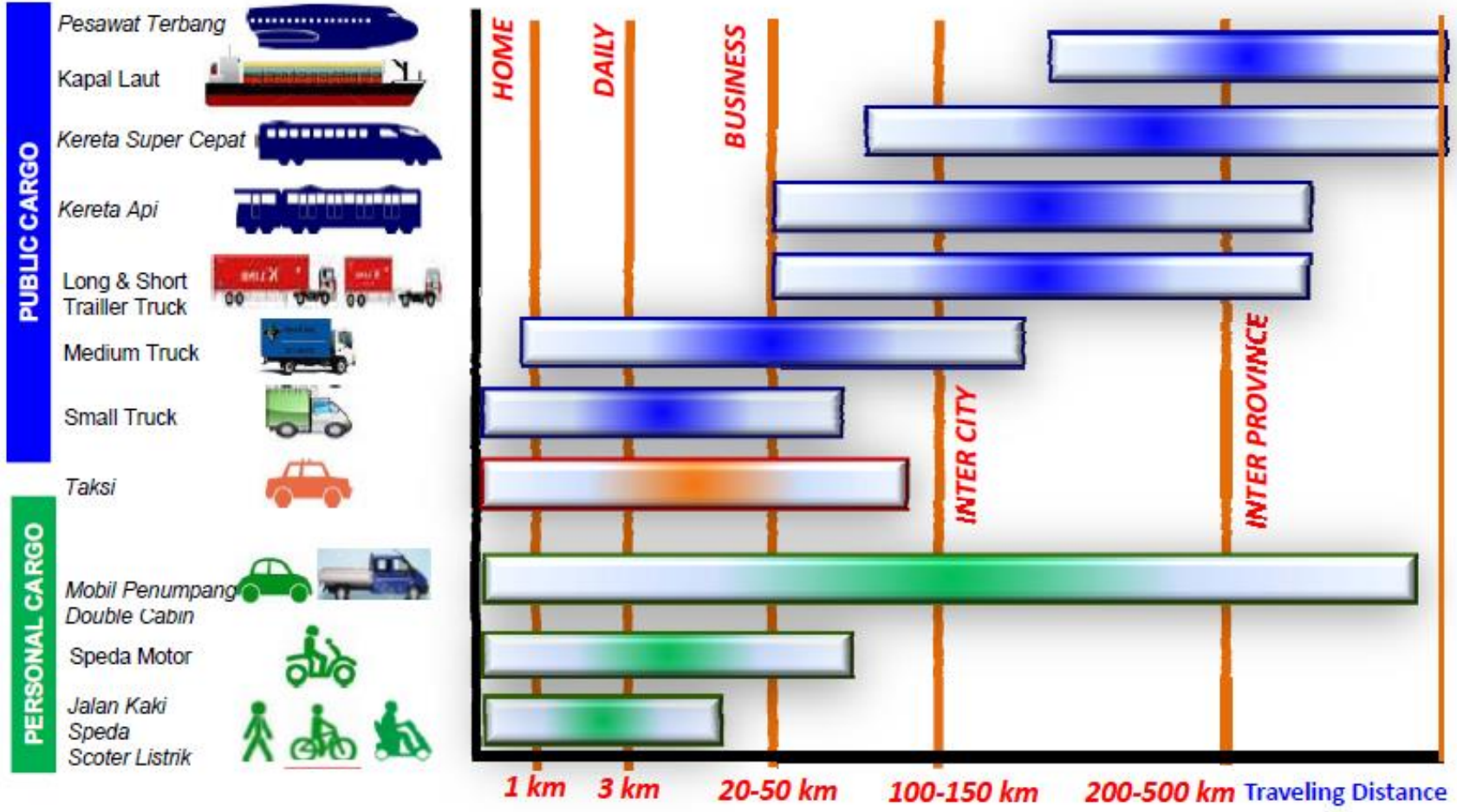
- 1) Emission from transport 70 million ton in 2005 (compare with total emission nationally 2250 million ton)
- 2) Transport use 33 mill kilo liter/year (i.e 48% of national consumption) fossil fuel.
- 3) Increase fuel consumption per year 6 to 8%
- 4) Transp emission is predicted to be 250 mill ton by 2020 and 500 mill ton by 2030 (Mc Kinsey)

# Comparison of Mode Characteristic in Energy Consumption, Gas Emission and Carrying Capacity

Source : Japan Transport Economy Research Center

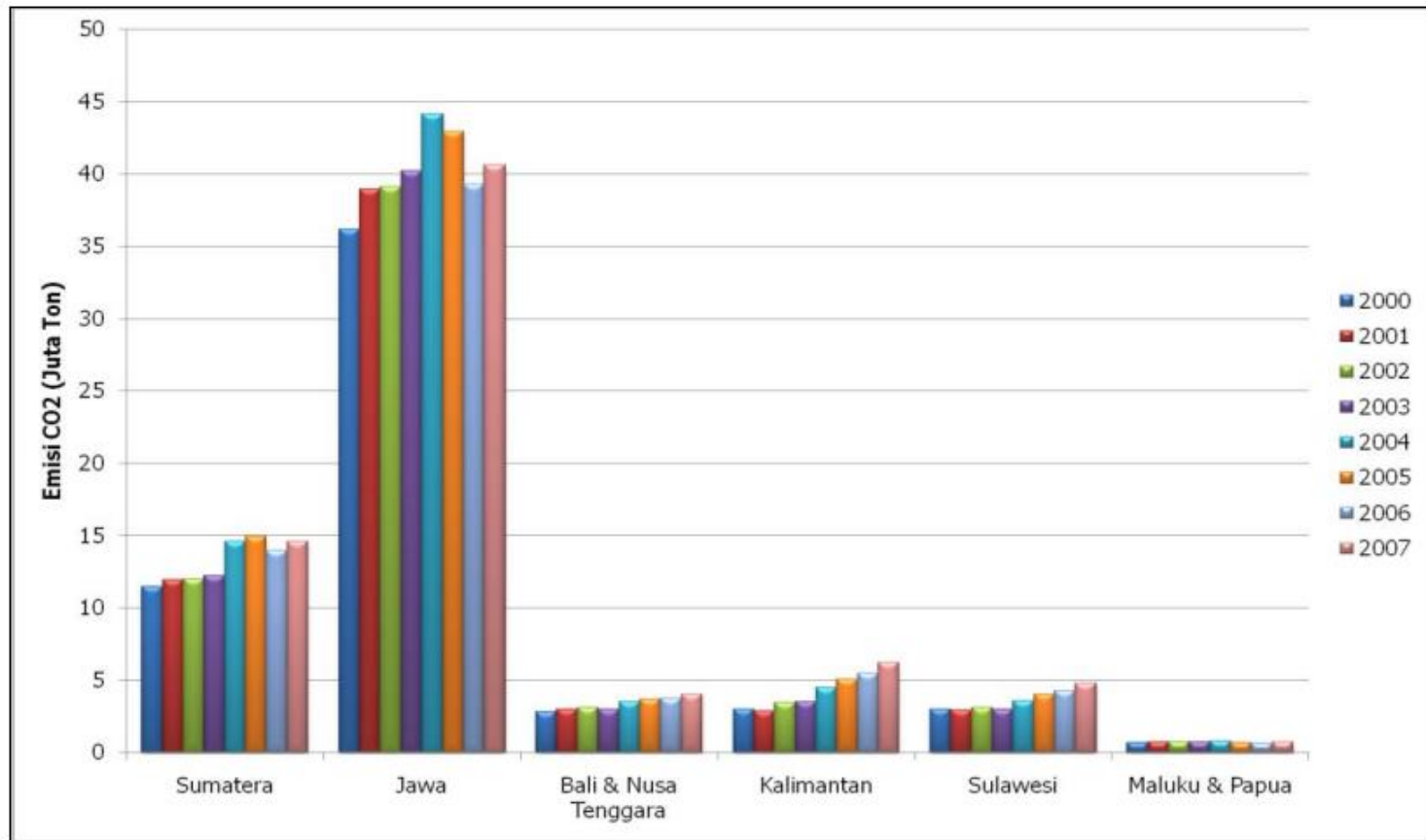


# CHARATERISTIC MODE OF TRANSPORT



Source : Gaikindo (Indonesian Otomotive Industry)

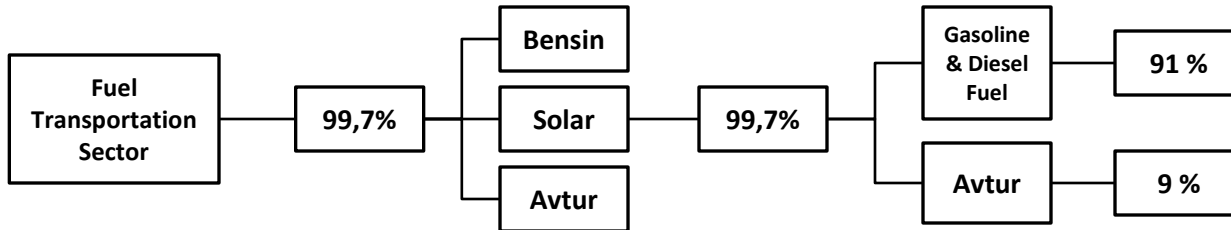
# Emission CO<sub>2</sub> (.000 ton) From Vehicle per each Islands, 2000 - 2007



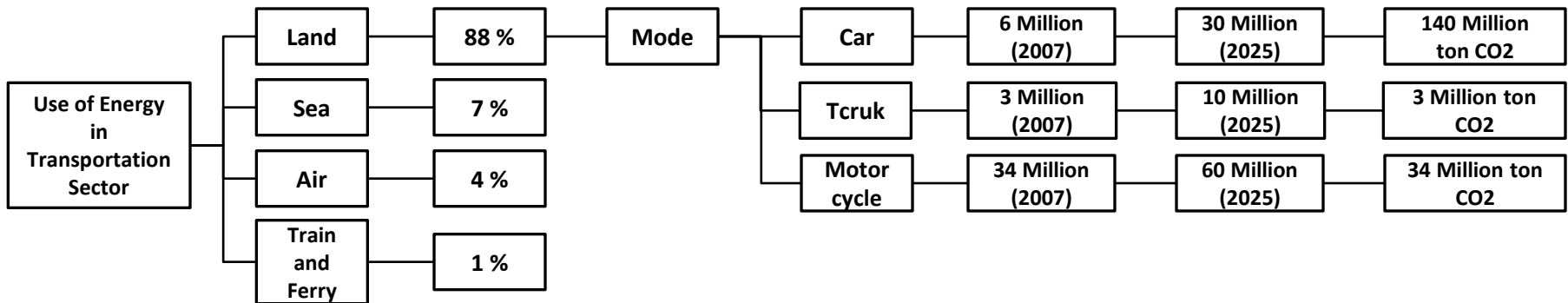
Source : Ministry of Environment, 2009

*Based on average gasoline and diesel consumption and emission factor calculation*

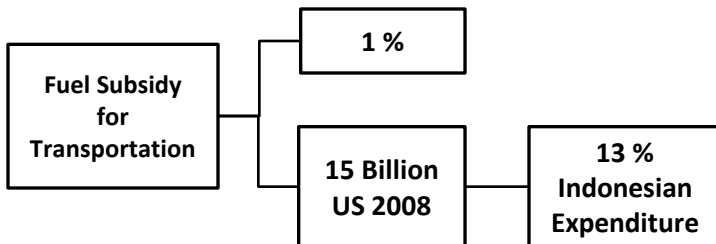
# Outline of Fuel Use in Transportation Sector and Gas Emission



Source : KLH 2008

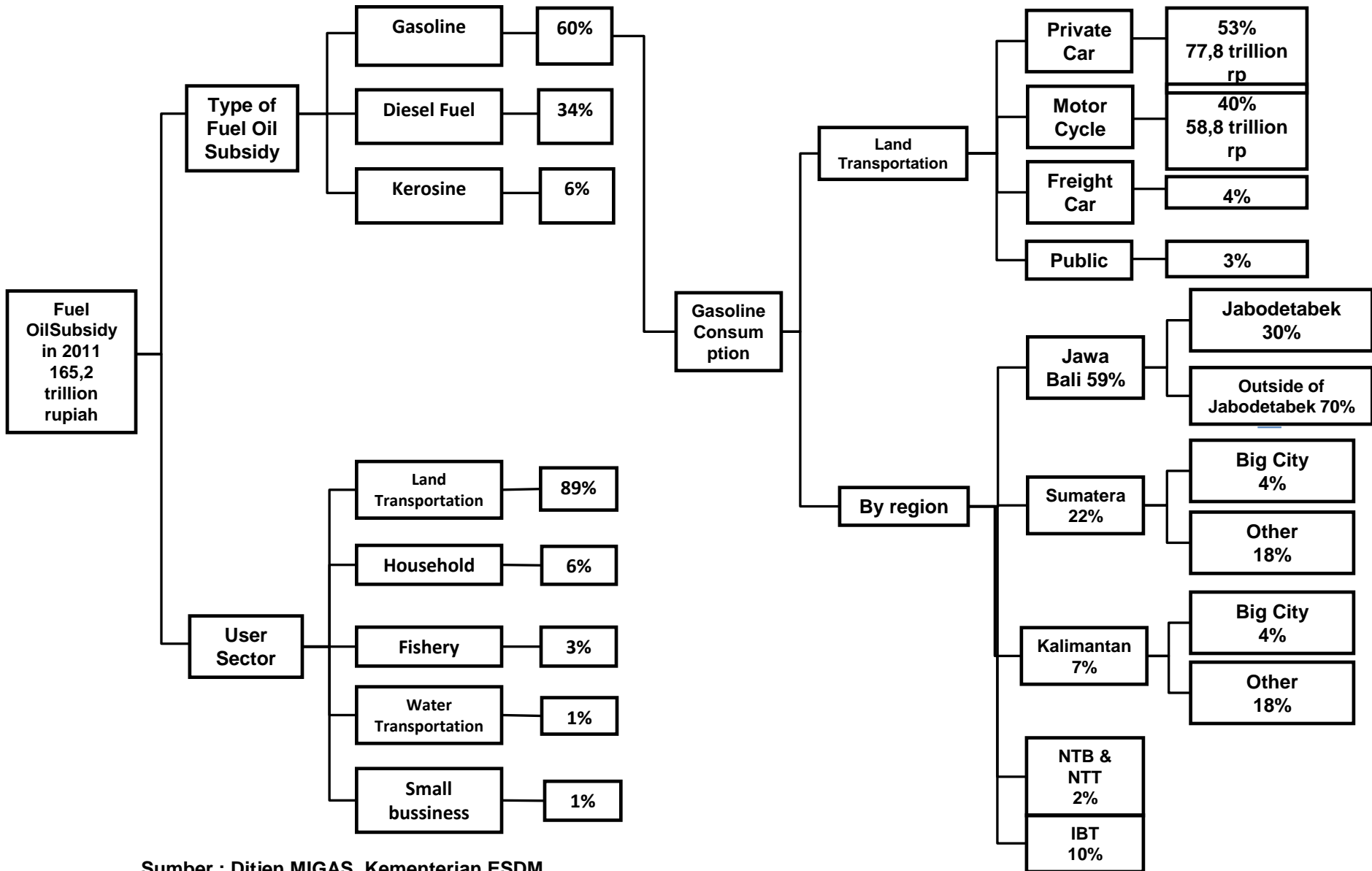


Source : BPPT dan KLH 2009



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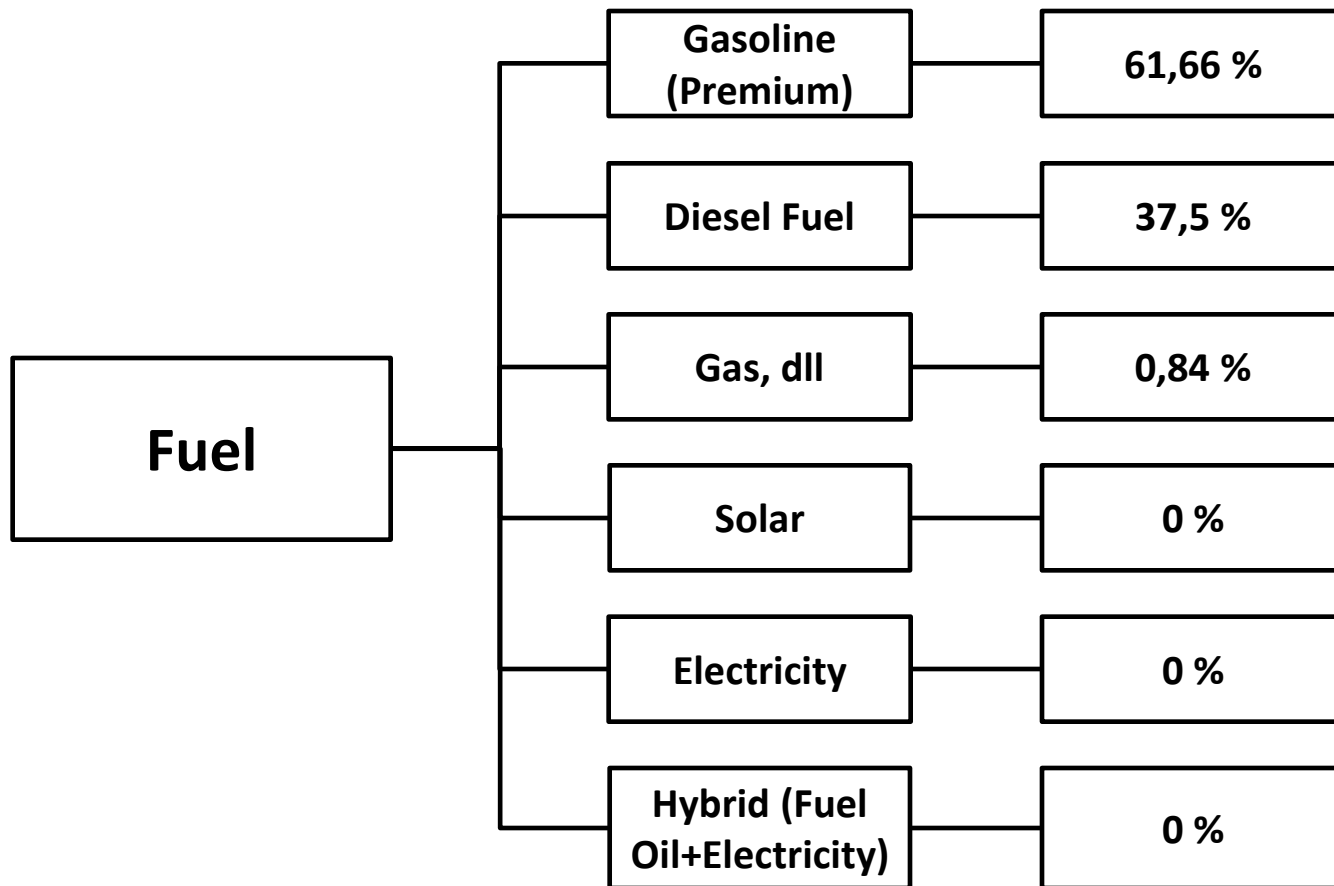
# Outline of Fuel Subsidy Use in 2011



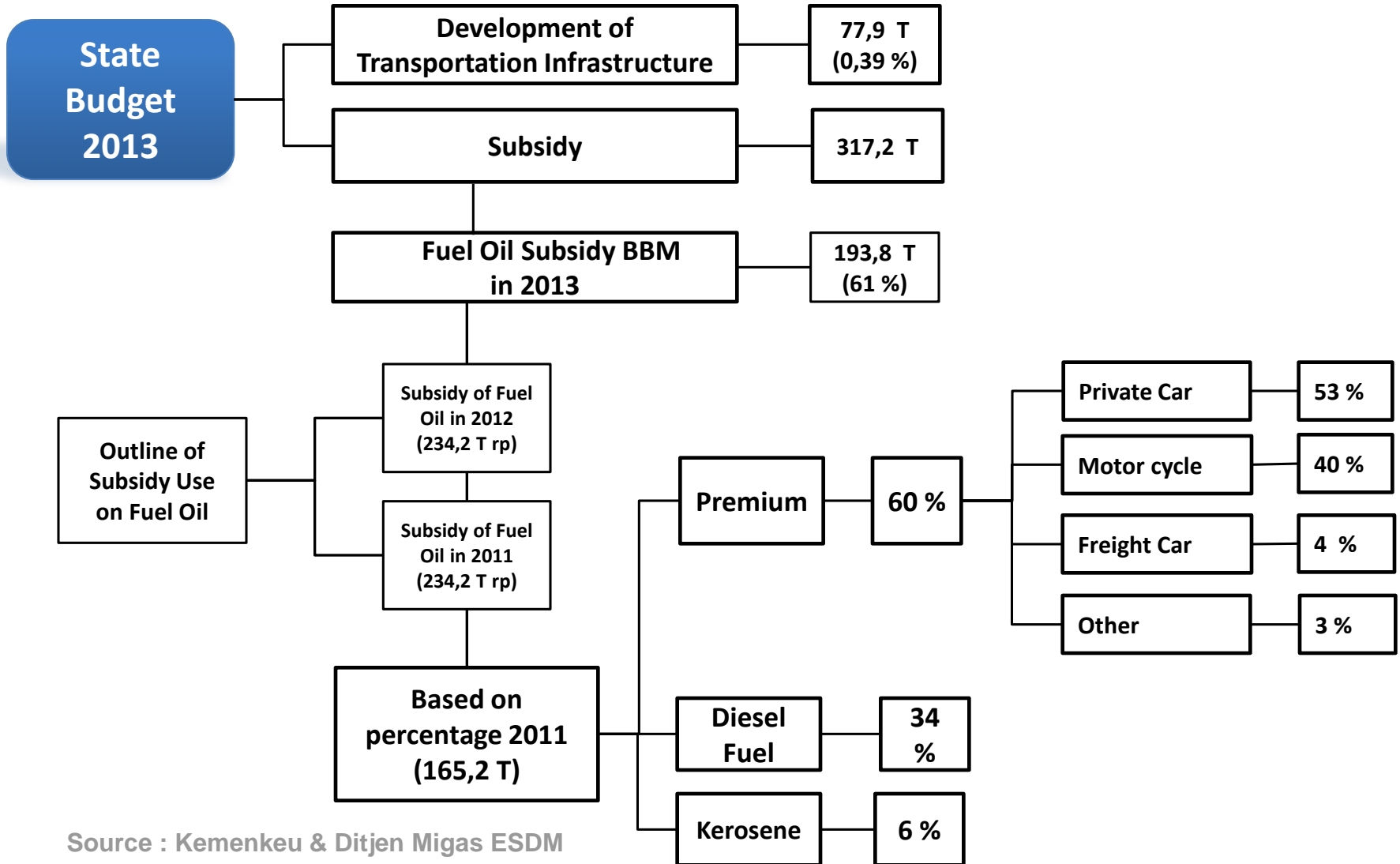
Sumber : Ditjen MIGAS, Kementerian ESDM (2011)



# Use of Energy Resource on All Type of Motor Vehicle (Based on Percentage)

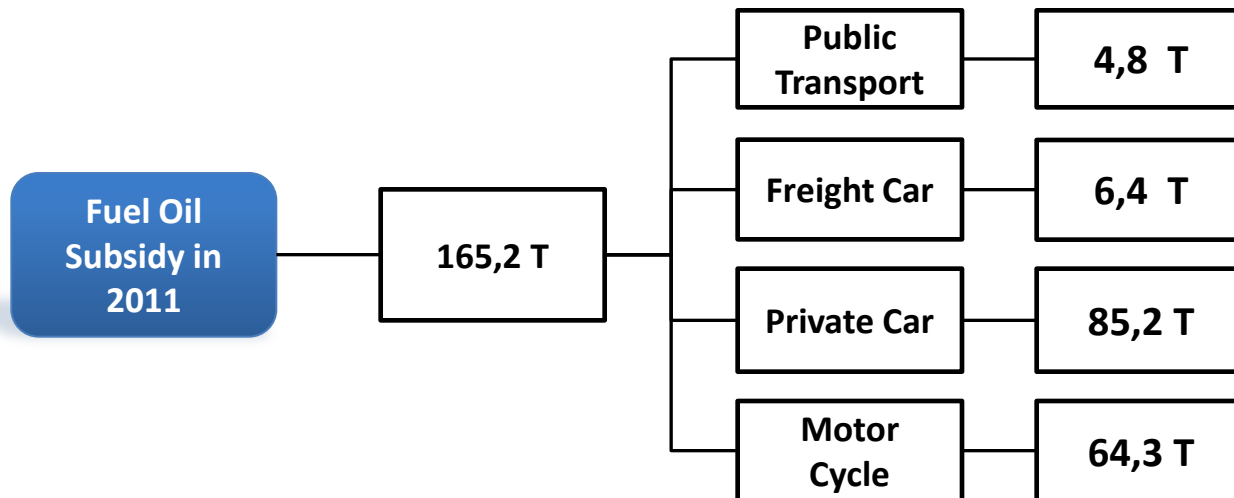
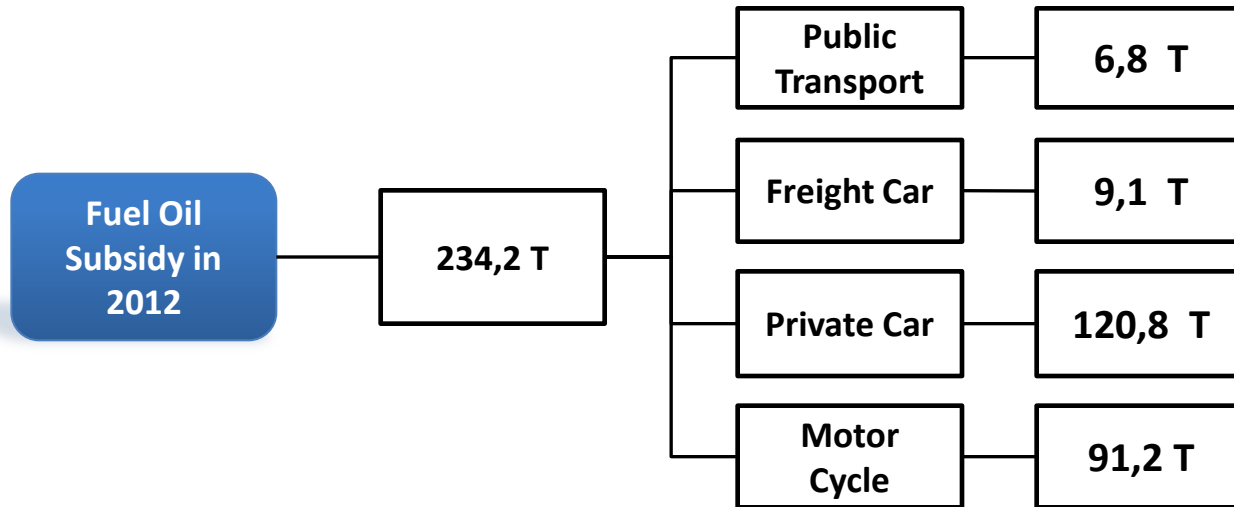


# Outline of Budget Distribution for Transportation Sector in State Budget (APBN) 2013



Source : Kemenkeu & Ditjen Migas ESDM

# Subsidy Distribution of Fuel Oil on Land Transportation



# TRANSPORT PARADOX ?



## **-SEA Tansp to AIR transp**

(inter-island ship passengers decreasing, while air pax increasing)

## **-TRAIN to CAR**

(Bandung to Jakarta, as new highway built)

## **-PUBLIC Trans to MOTOR CYCLE**

(Efficiency, Low Capacity Public Transp)

## **-Company Bus to Private Car, and SMALL CAR to BIGGER CAR** (Company n Govt)

## **-BI-CYCLE to MOTOR CYCLE**

(Students in JOGYA,BANDUNG,etc)

# AVOID-SHIFT-IMPROVE ?



- AVOID** unnecessary travel
- SHIFT** to Public Transport
- IMPROVE** transport system n facilities

## REALITY :

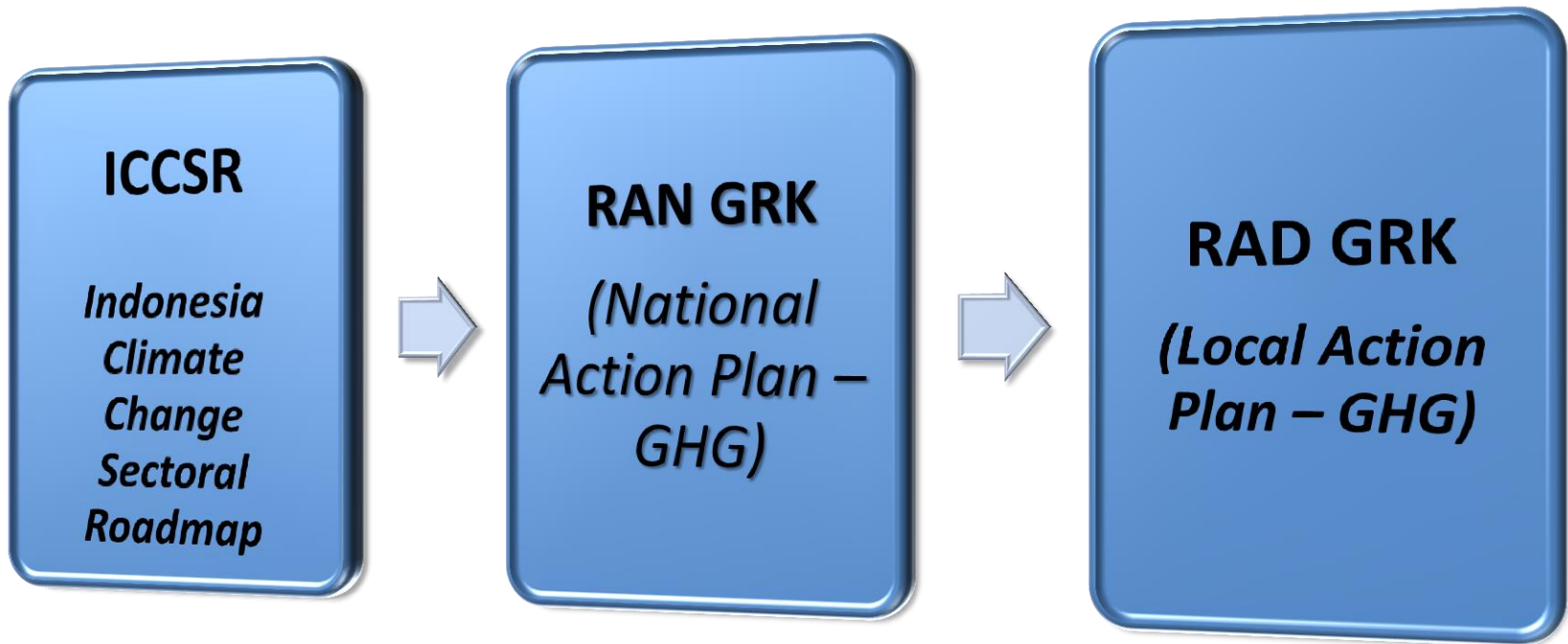
- Low Income :Cost Transpt 40% income
- Commuting is a necessity
- Public Transp is the only **AFFORDABLE** means
- Public Transp is low capacity or not available
- Necessity, Efficiency, Conveniency



# ACTION PLANS TO REDUCE CO<sub>2</sub> EMISSIONS IN TRANSPORT SECTOR



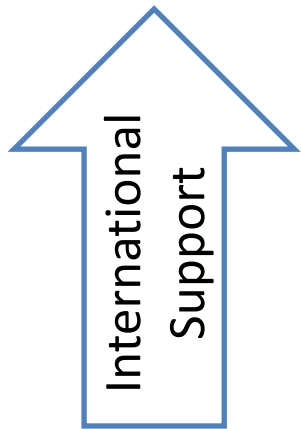
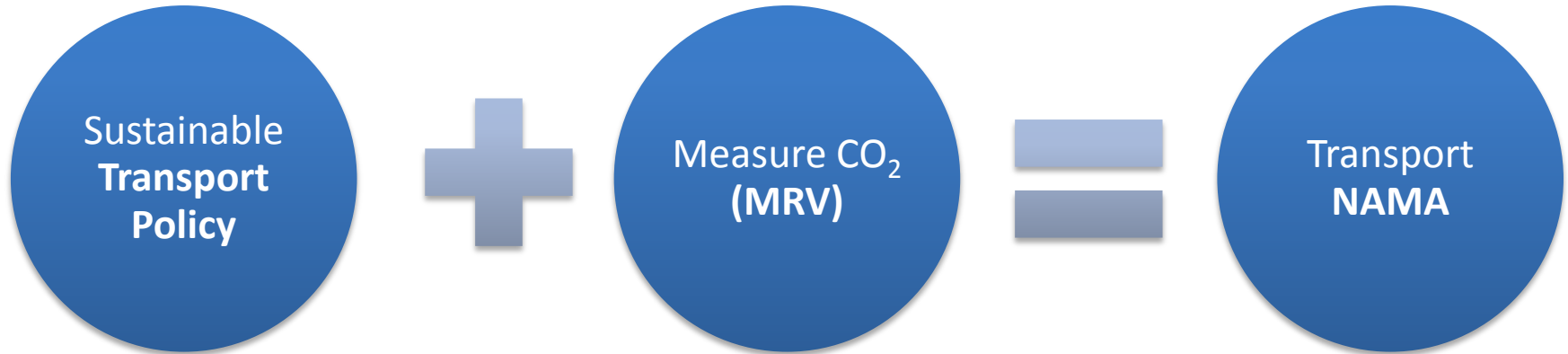
# INDONESIAN TARGET TO DECREASE GREEN HOUSE GASES EMISSION



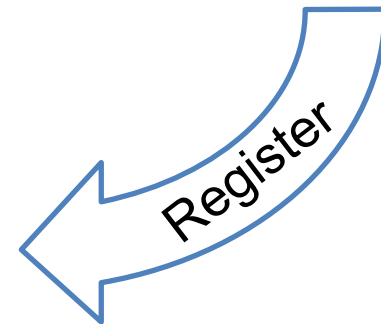
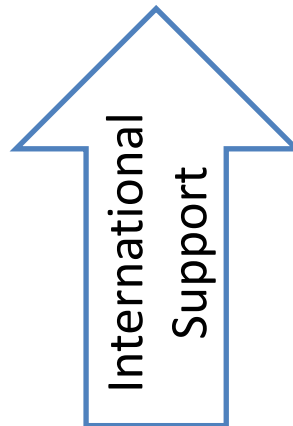


# What makes a policy a NAMA?

Nationally Appropriate Mitigation Action



Developed countries  
international  
commitments





**NATIONAL ACTION PLAN  
FOR GREEN HOUSES  
GASES IN  
TRANSPORTATION  
SECTOR**

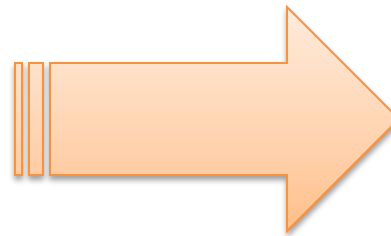
**LAND  
TRANSPORT**

**SEA  
TRANSPORT**

**AIR  
TRANSPORT**

**RAIL  
TRANSPORT**

**Proposed as  
NAMAs**

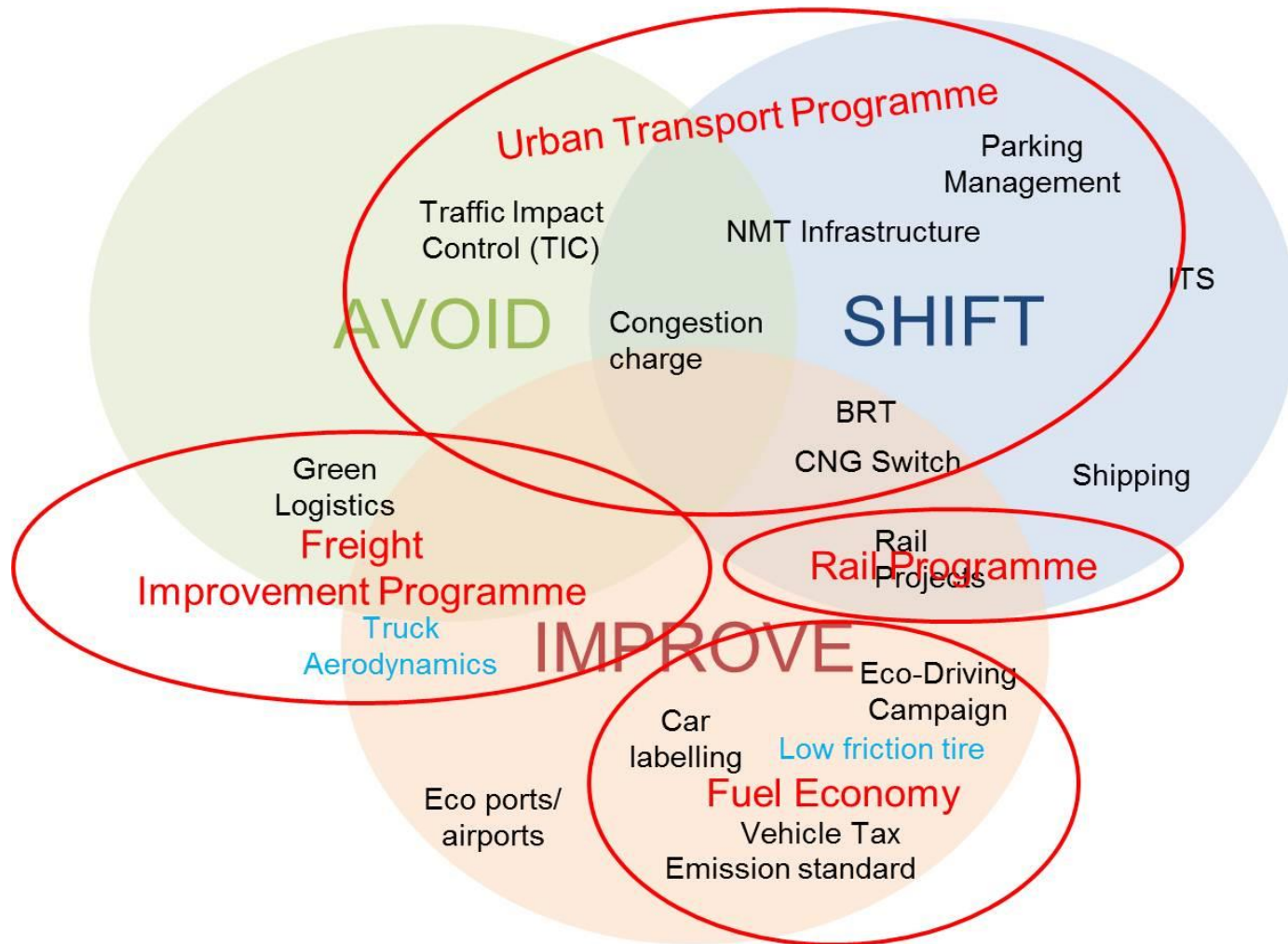


**NAMAs**

**Nationally  
Appropriate  
Mitigation Actins**



# Formulating NAMA



# NAMAs in Indonesia

## Bali Action Plan

*“Nationally Appropriate Mitigation Actions (NAMAs) by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner”*

- Bali Action Plan on COP13 in 2007
- Commitment of Indonesian Government on G20 meeting in Pittsburgh 2009 to reduce until 26% and additional 15% with international support until 41% on 2020
- Presidential Regulation of the Republic of Indonesia #61/2011 on the National Action Plan for Greenhouse Gas Emissions Reduction

# National Action Plan for Greenhouse Gas Emissions Reduction

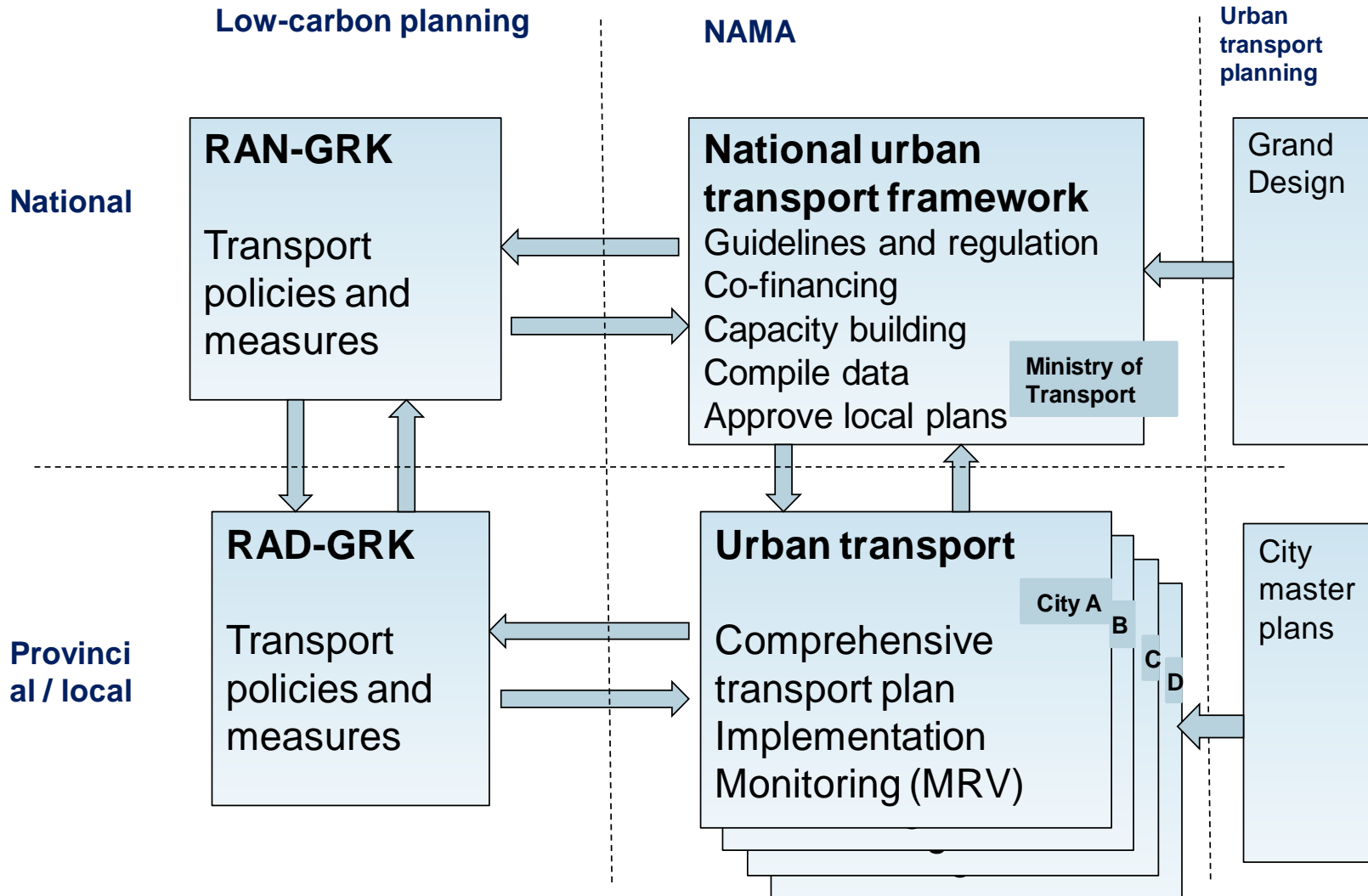
- Considered as Unilateral NAMA
- Cover land, railway, sea, and air transport
- Address mitigation actions, objective, period, location, estimated emission reduction, and responsible institution
- Up to 2012, focused on land and railway transport. Sea and Air transport mitigation actions are under development
- Emission reduction target from Land Transport 4.752 MtCO<sub>2</sub>e
- Measures in land transport includes:
  - ITS development
  - Traffic Impact Control
  - Parking management
  - Congestion charging and road pricing
  - BRT or Semi-BRT reform
  - Public transport revitalizaion
  - Smart driving training
  - Non motorized transport development

# Pilot Project on Supported NAMA

- Considered as Supported NAMA
- Registered as “Sustainable Urban Transport Initiative” on November 2012
- Promote sustainable urban transport in Indonesian Cities
- Activity covers implementation and monitoring measures
- The pilot phase is the implementation of low-carbon mobility plans in three cities (Medan, Manado, Batam) as well as supporting activities on national level
- Timeframe is 8 years started from 2013



# Transport Supported NAMA: Sustainable Urban Transport Initiative

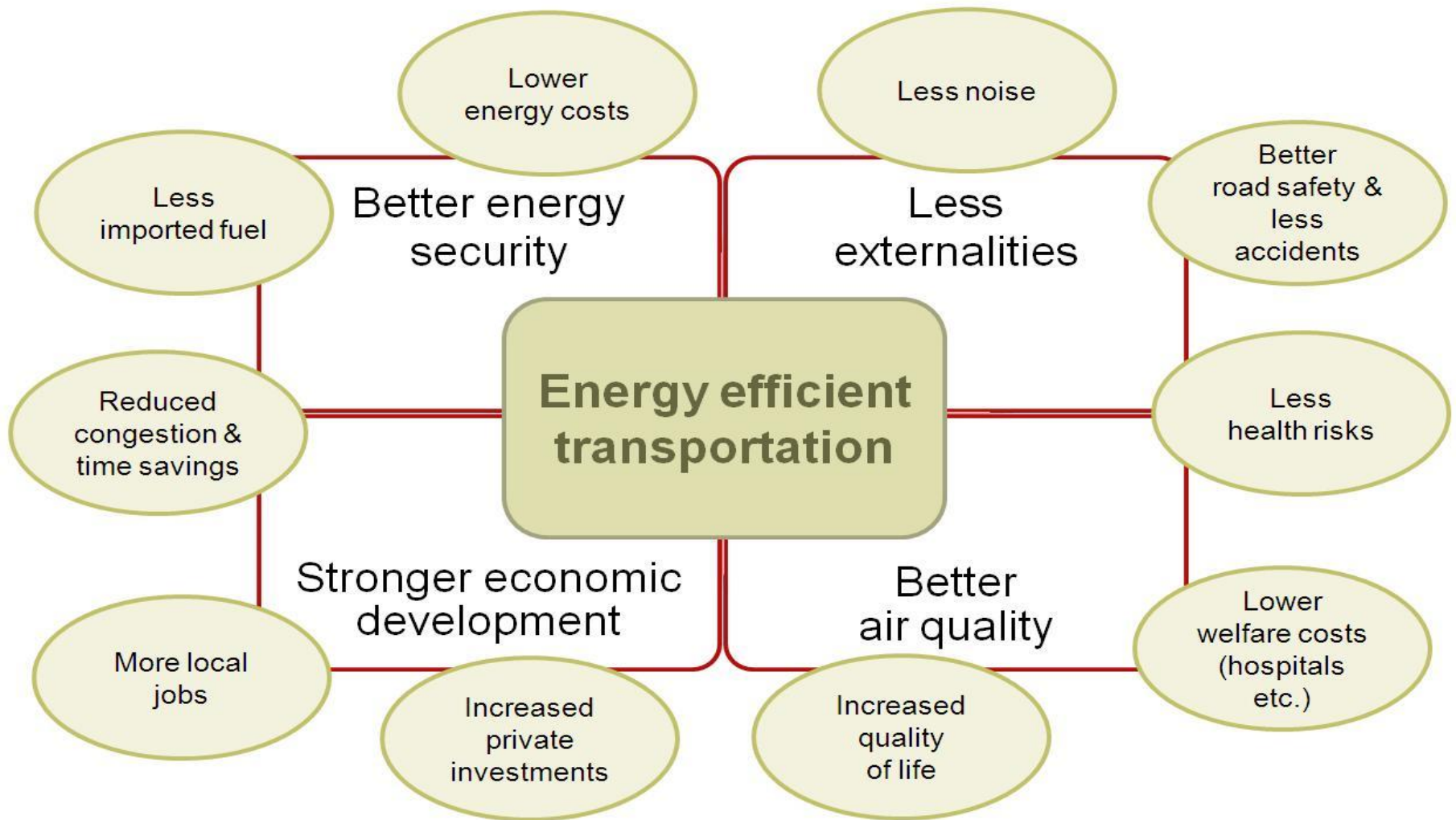




# **Transport Supported NAMA: Sustainable Urban Transport Initiative**

- **Promotes sustainable urban transport in Indonesian Cities**
- **The pilot phase will start with the implementation of low-carbon mobility plans in three cities (Medan, Manado, Batam) as well as supporting activities on national level that aim at upscaling the policies of the pilot phase to more Indonesian cities.**
- **The NAMA covers the following activities:**
  - ❑ **At national level, development of a Policy Framework for Sustainable, Low-carbon Urban Transport**
  - ❑ **At the local or provincial level, development, implementation and MRV of Comprehensive Urban Low-carbon Mobility Plans**

# Benefit from Efficient Transport







*THANK YOU*