GREATER MEKONG SUBREGION
CORE ENVIRONMENT PROGRAM

matching transport with climate finance

GMS Green Freight Initiative

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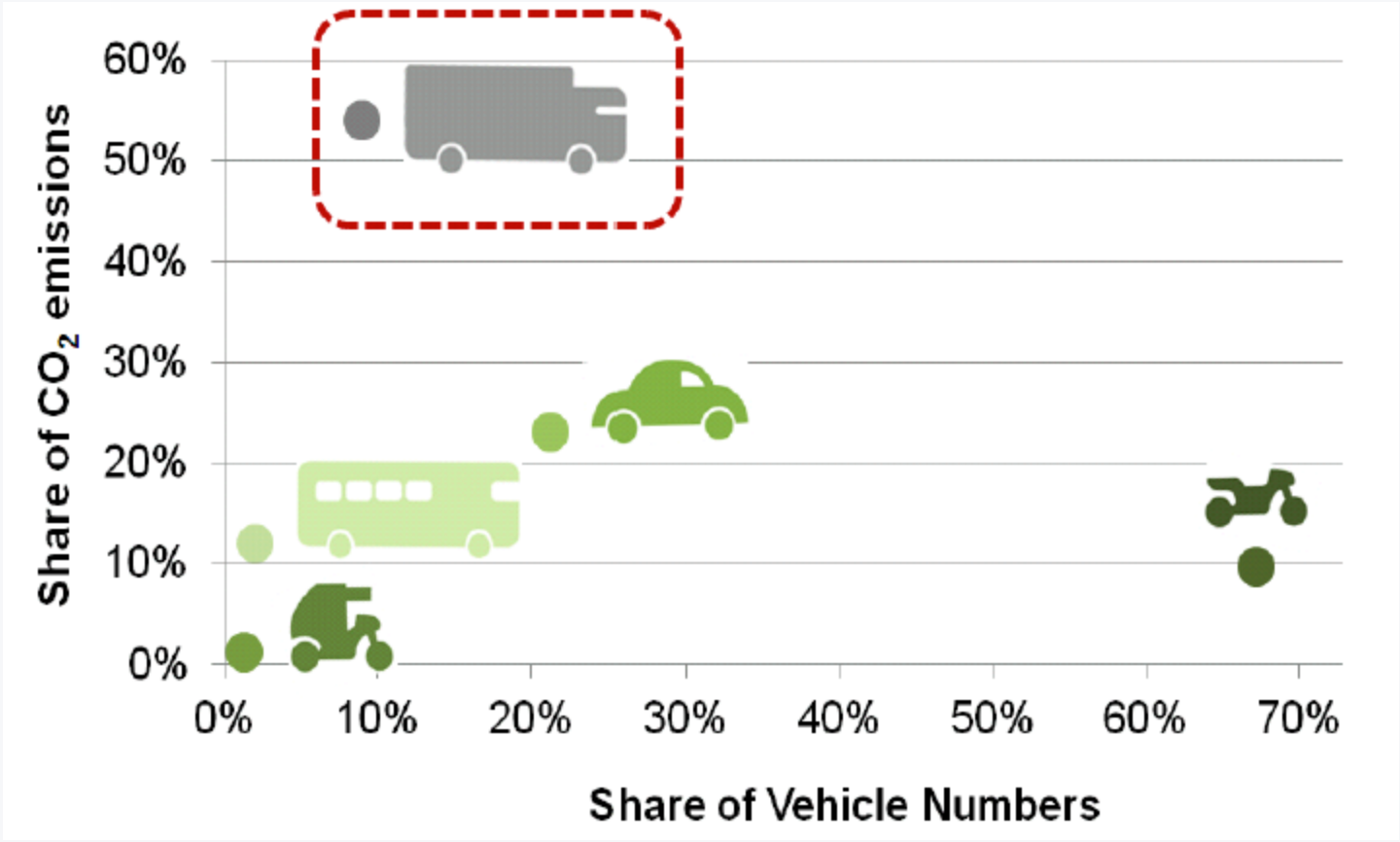
Truck's disproportionate contribution to transport CO2 emissions in Asia



Source: Clean Air Asia, Energy Efficiency for Heavy Duty Vehicles in Asia

Transport investment in the GMS

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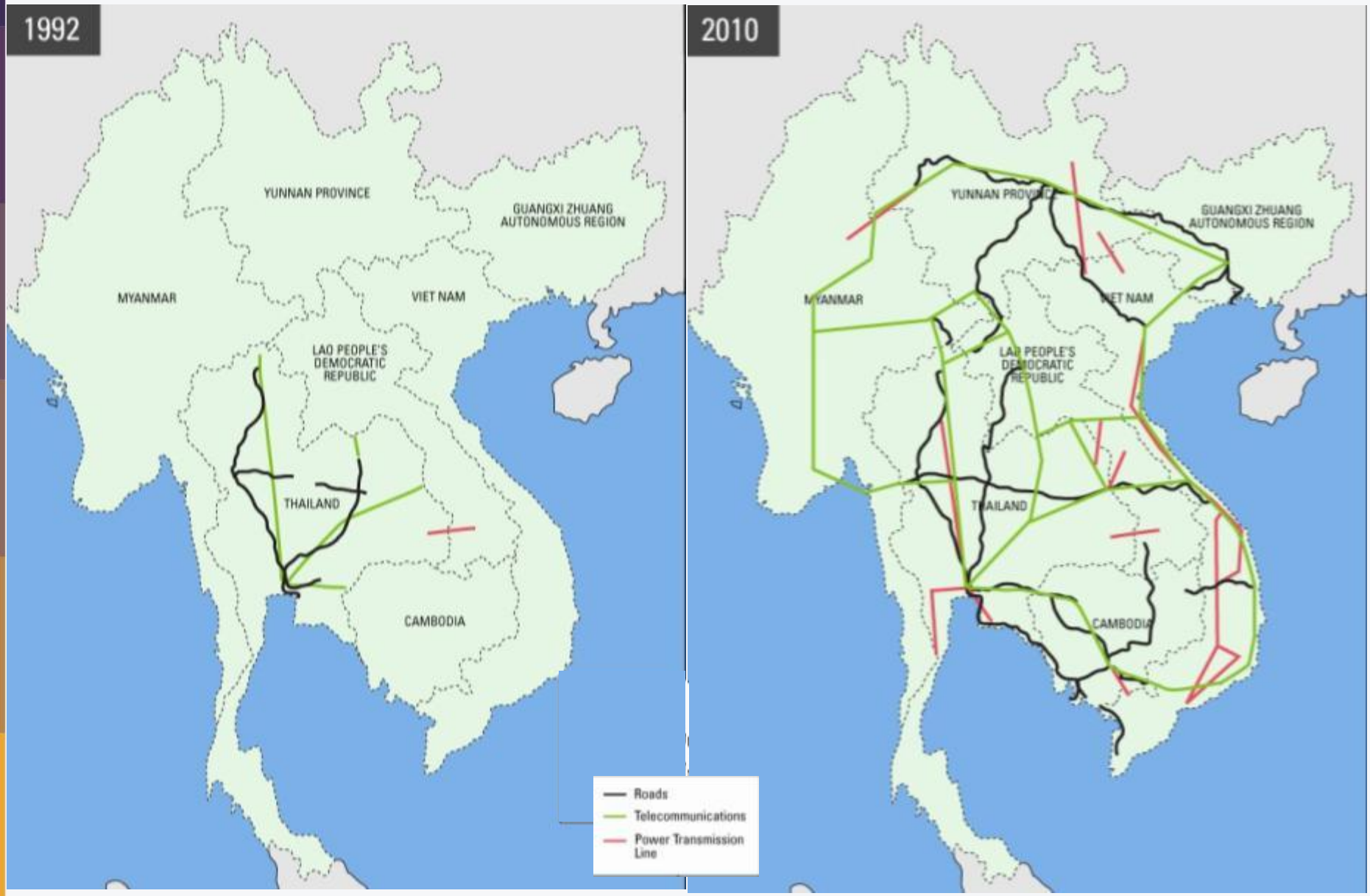

Increased emissions from traffic

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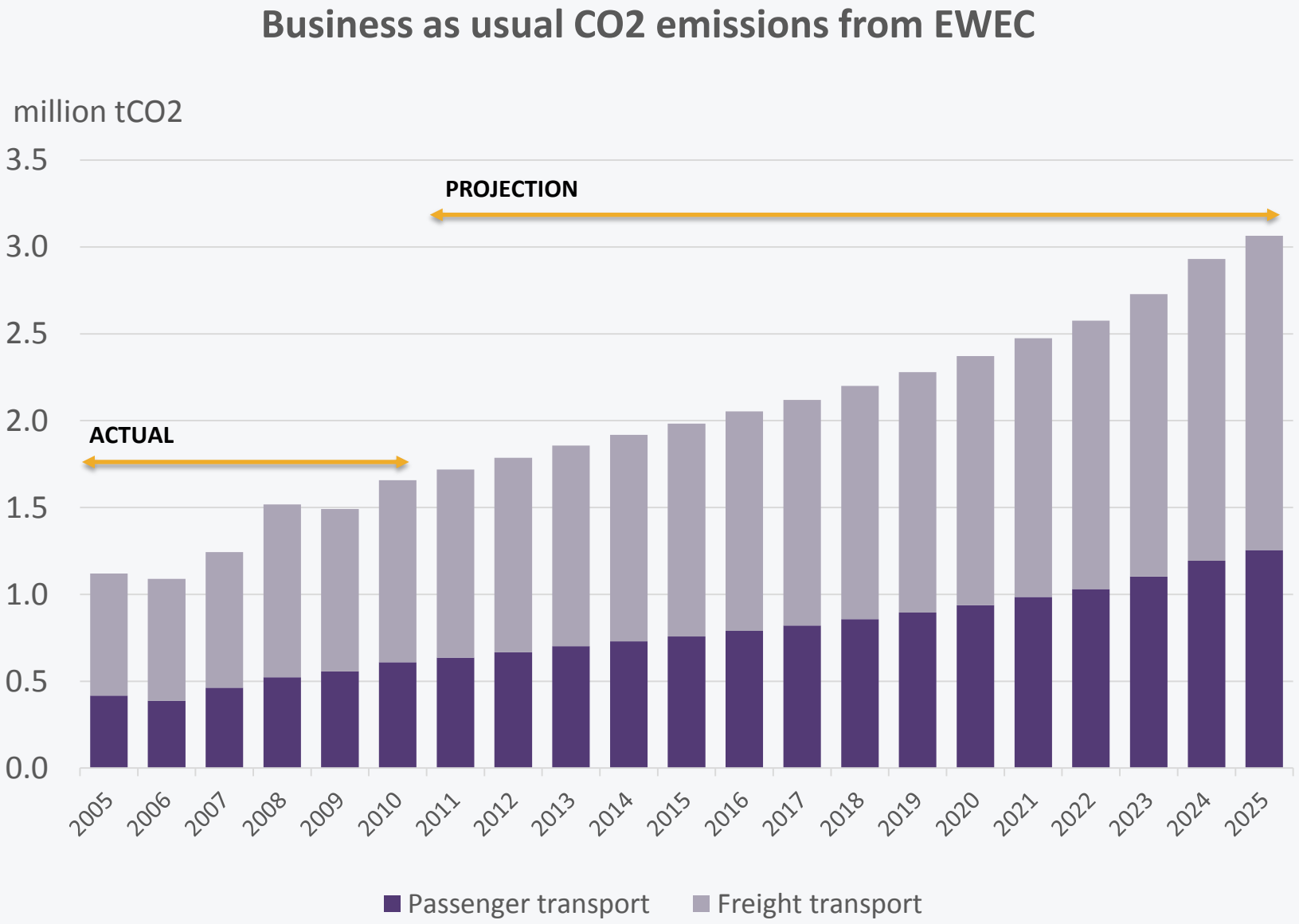

Piloting and demonstrating ‘viable’ solutions to improve freight efficiency

Focus

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Avoid	Shift	Improve	Fuels
• less freight transport e.g. due to industrial policies or fuel price increase	• road to rail, ship, pipelines; largest impact of all options	• retrofit Green Freight Technologies • logistics improvements • driver training • improved maintenance and management • fuel-efficient new trucks • larger trucks	• biofuels, gaseous fuels (e.g. LNG), electric trucks

GMS Green Freight Initiative

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- **Aim:** To reduce GHGs from freight transport
- **Outcome:** Successful testing of approaches to deploy fuel efficiency interventions in road freight companies
- **Scope:** GMS corridor provinces (EWEC)

Improving driver behavior and vehicle maintenance

Promoting green technologies through low cost financing

Improving logistics management and fleet utilization

Approach

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Project Design

- Intervention strategy
- Partners
- Objectives and activities

1 year, 0.1 MUS$

Pilot Phase

- Test, measure and assess options
- Determine potential
- Financial structuring

1.5 years, 0.9 MUS$

Scale-up

- Wide-based application
- Insertion in national policies
- Private-public finance

5 years, 10-50 MUS$

Green Freight Technologies

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- Auxiliary loads in many countries non-relevant
- Increase tire pressure by 1bar saves 1.5% fuel, however automatic tire inflation systems too expensive
- Low average speed of vehicles limits application of aerodynamics
- New trucks offer limited advantage concerning fuel consumption compared to elder trucks
- Impact is traffic, road, and country dependent

Installation of Cab-Roof Deflectors	
Fuel/GHG saving	4-8%
Payback time	6-12 months

Low Rolling Resistance Tires	
Fuel/GHG saving	5-7%
Payback time	6-9 months

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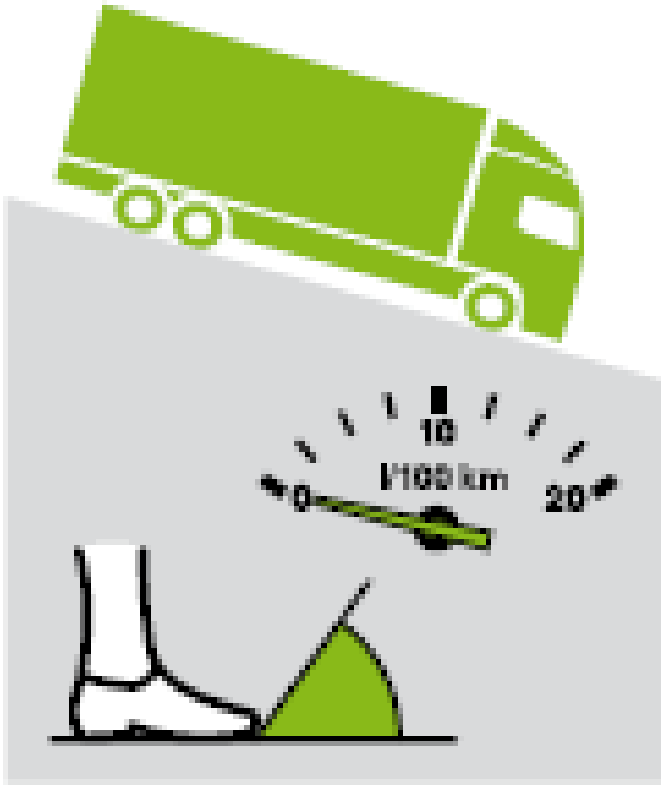
Eco Drive

- Many reports on Eco Drive impact are based on theoretical potentials or results measured during trainings with to optimistic results.
- Longer term monitoring shows an impact for trucks of around 2% fuel savings.
- For sustainability Eco Drive should be integrated in the driver curricula
- Results are better if combined with fuel management and driver incentives at company level and truck diagnostic instruments like FleetBoard.



Logistics and Management

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Empty load factors of nearly 50% are not uncommon…..however….

- Asymetries in distributional networks are frequent – it is therefore important to evaluate initially load factors;
- Lack of performance guarantees and insurance schemes result in trust-based personal contracts limiting the application of instruments such as internet based logistics platforms;
- The trend in Europe is again towards reduced load factor due to market demands for fast delivery;

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Impacts

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Combining measures of GF technologies, Eco Drive and fuel management a reduction of 10% of fuel usage, GHG emissions as well as Black Carbon, Particle Matter and NOx emissions are feasible.

GHG emission reductions per long-haul truck per annum of 25 tons CO_{2e} are feasible (based on 48t truck Euro III; Well-to-Wheel emissions including Black Carbon)

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Financial Structuring

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What does not work:

- Group purchasing: too little; Internet based general platforms like Aamazon take this role; not linked sufficiently with efficiency measures
- ESCOs: measurement to fuzzy; dispute over results; investment volumes to small

What works:

- Climate finance based on pre-defined improvement factors;
- Keep financial structure simple, lean and independent;
- Separate technical assistance and monitoring from finance;
- Realize group based advisory services;

Core elements:

- Negative marginal abatement costs of CO2… but willingness of truckers to go for additional upfront investment is low
- Not only CO2 is reduced but also Black Carbon
- GCF is a potential funding source

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Partners:
GMS BF/ FRETA
FTI, VATA, LIFA
Mekong Institute
CAI ASIA
Grutter Consulting
GIZ

Thank you

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