

# Transportation Transformation

- Energy • Climate Change • Transportation

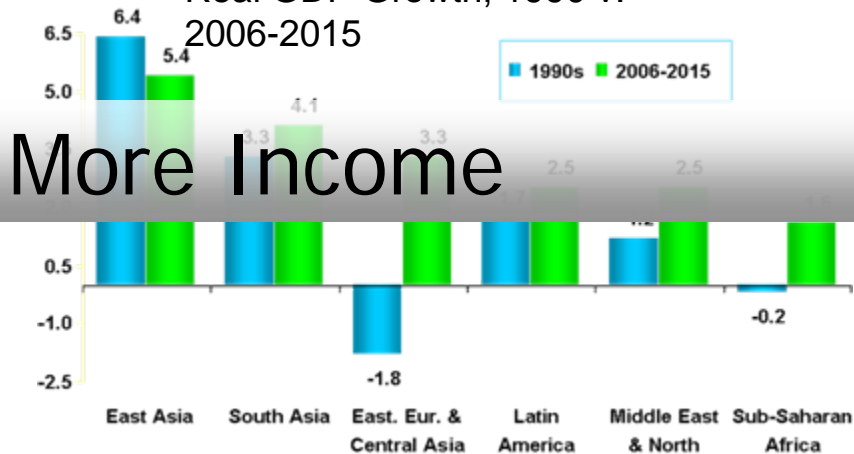
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31 July 2009 • Asilomar



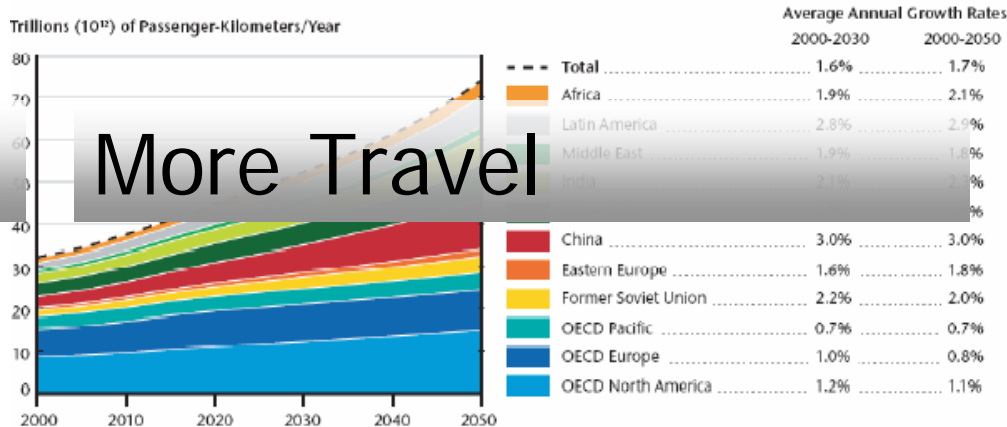
# Energy Security as a global Common Driver

Real GDP Growth, 1990 v. 2006-2015



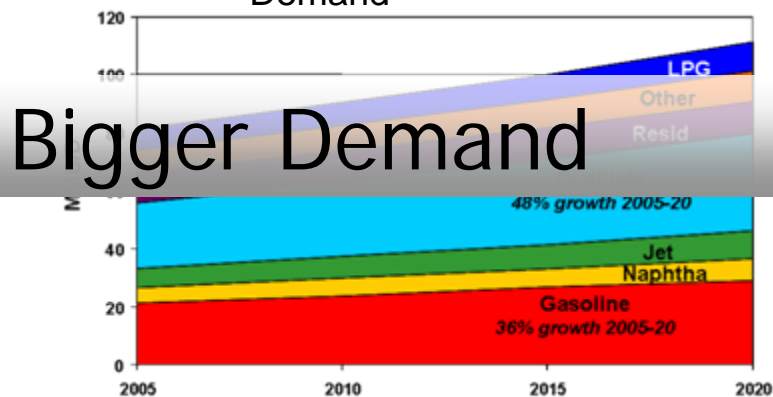
More Income

Total Passenger Miles Traveled / Region

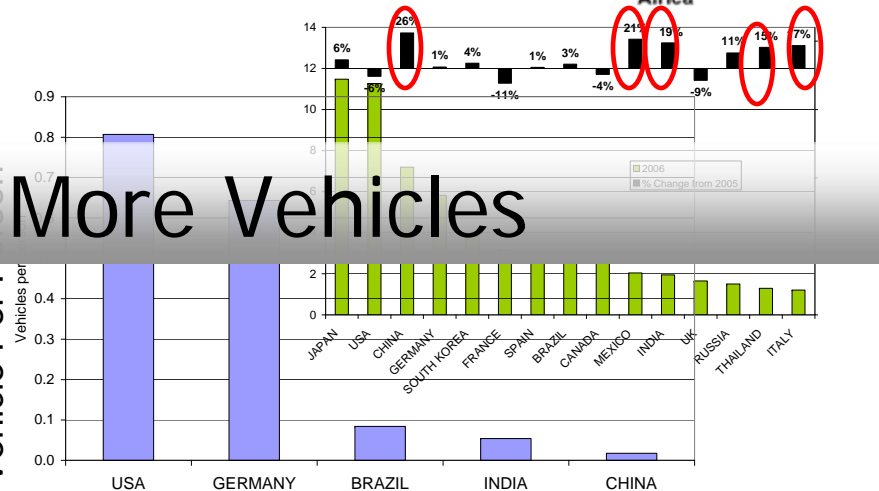


More Travel

World Petroleum Product Demand



Bigger Demand



More Vehicles

Developing countries over 3/4 of increase in global CO2 emissions between 2004 and 2030. Fastest annual growth in emissions in the transport sector, (avg.1.3%)

# International Action to Meet Transportation Transformation

- ⊖ **Integrated Approach Necessary** : Link between transport, energy, climate, health, planning, R&D policy, demand management, consumer behavior ...
- ⊖ **Behavior Change Essential**: Modal switch, efficiency, high price value etc..
- ⊖ **West Must Lead by Example** : EU/US actions in low carbon transport policy and carbon market development reality. Harmonization/alignment key!
- ⊖ **Allow for Cultural Difference and National Prioritization**: Developing countries will leapfrog & **maximize on GHG co benefits** from other policies technologies. Empowerment via information exchange and own solutions
- ⊖ **Engage Developing Countries on Their Priorities and Terms** : Bring developing countries to table via trust built on bilateral MOU's, global technology and low carbon business investment e.g. carbon trust concept
- ⊖ **Technology & Knowledge Transfer**: Need more focus on transfer of technology and knowledge across industry and governments globally, North/South, and South/North. Partnerships, CDM and new mechanisms?
- ⊖ **Accurate Price & Market Signals Fundamental**: Include full externalities in energy and transport pricing to stimulate innovation, and create global carbon market . Rich in developing countries will feel most impact
- ⊖ **Long Term Infrastructure Investment & Planning**: Ensure infrastructure in place to uphold transportation transformation .

# Main Constraints TO Transportation Transformation

- θ Current energy and transport pricing structures
- θ Low carbon price
- θ Land use issues
- θ Infrastructure development
- θ Future technology costs (start with what we have!)
- θ “Seed/well to tank” LCA modeling and indirect land use factors
- θ Energy demand growth vs. low carbon goals
- θ Allocation of carbon credit needs to be sorted
- θ Complexity of solutions and different interest groups
- θ Sustainability criteria and leakage impact on developing world
- θ Short term political gains vs. long term strategies
- θ Local, national, global politics and egos
- θ Behavior change and major paradigm shift acceptance still most important factor!