



International
Energy Agency

Secure • Sustainable • Together

SAVING OIL IN A HURRY - DEMAND MANAGEMENT MEASURES

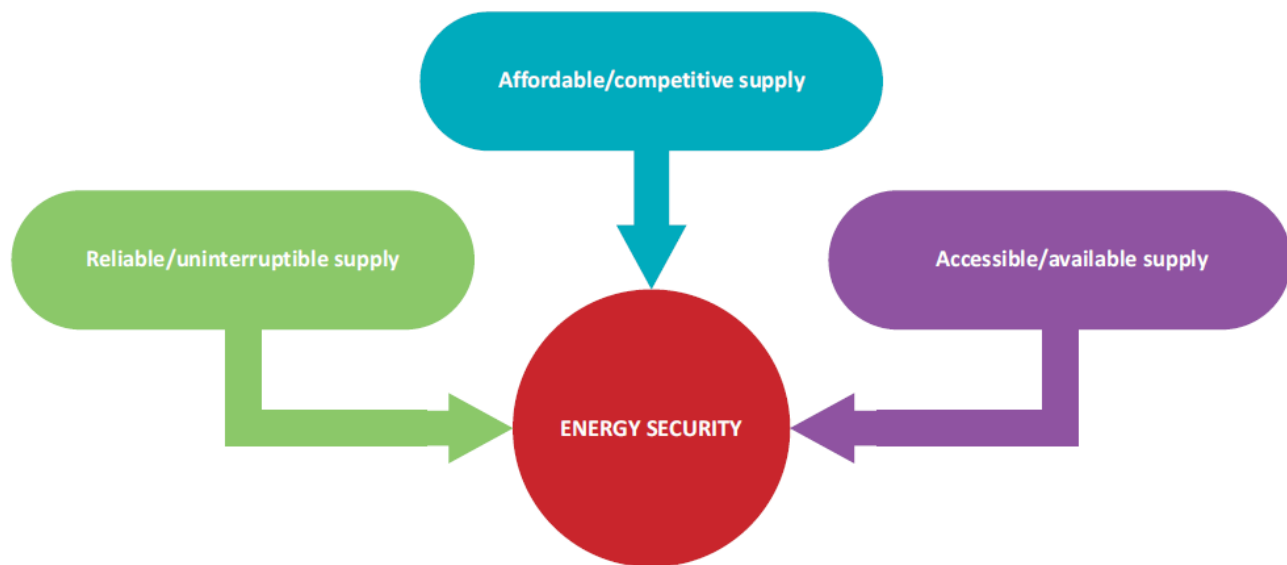
Transport, Energy Efficiency & Behaviour Workshop, May 2016

Martin Young, Head of Emergency Policy Division

- **IEA established against backdrop of 1973-1974 oil crisis**
 - Avoiding competition for limited resources
 - Coordinated mechanisms for response
 - Safety net
- **Today, energy security as urgent as ever**
 - Oil security remains cornerstone
 - IEA move to a more comprehensive approach beyond oil

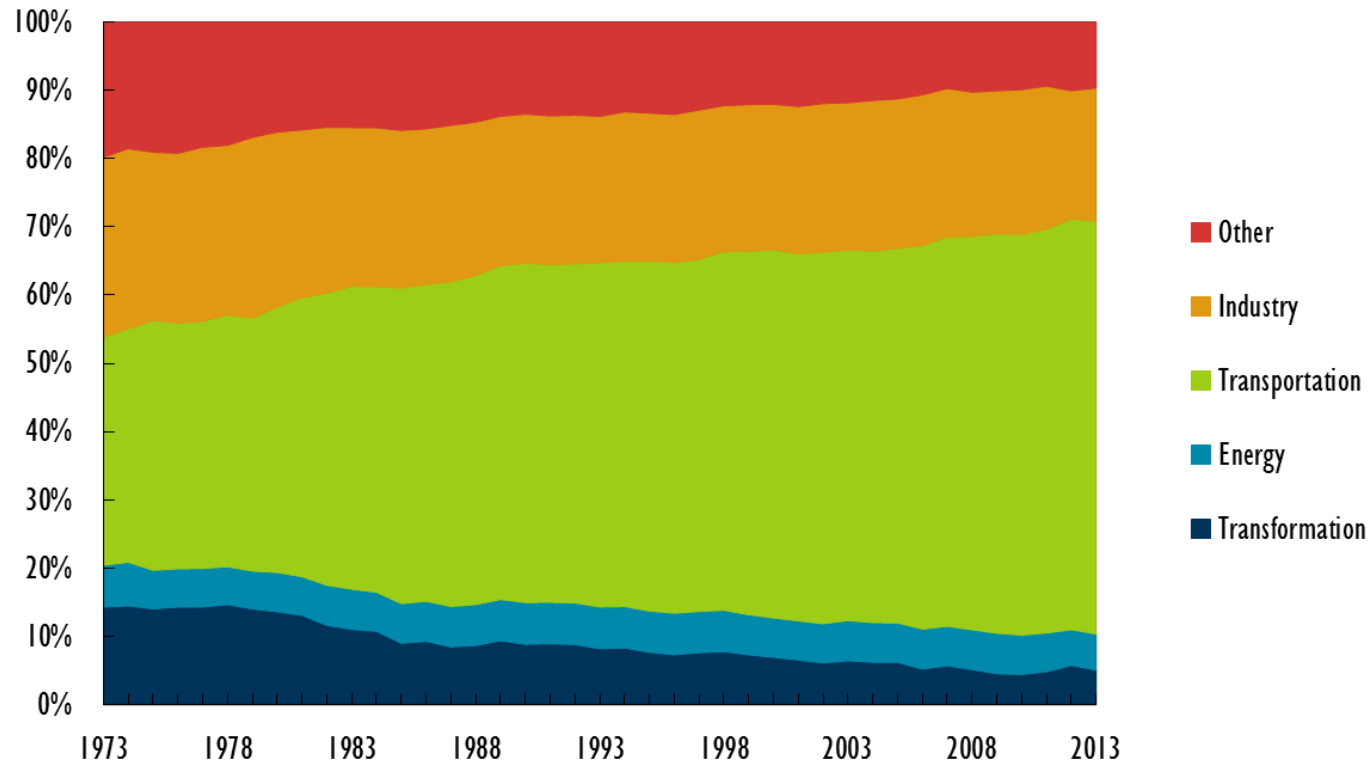
IEA definition of Energy Security

*“Uninterrupted
availability of
energy sources at
an affordable price”*



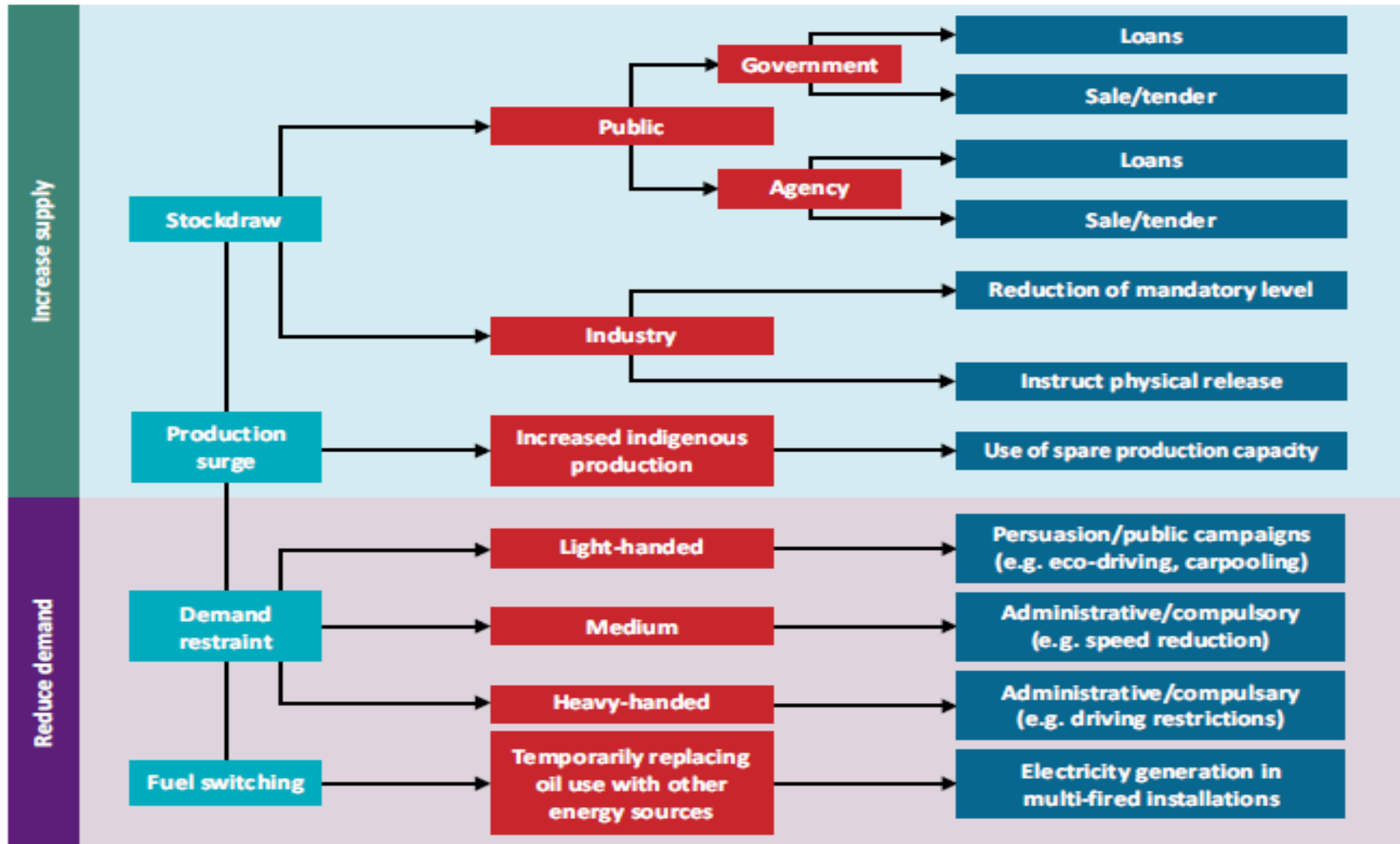
- ***Agreement on International Energy Program (IEP) = IEA's founding treaty from 1974***
- **Key IEP obligations for oil security for IEA Member Countries:**
 - Hold emergency oil stocks equivalent to 90 days of net-imports
 - Maintain program of oil demand restraint measures to reduce final consumption by 7% & 10%
 - Also allowed fuel switching & production surge

OECD Oil consumption by sector 1973-2013



- *Increased oil use in transportation (60%) & expected to rise*
- *Accentuates potential economic impact of disruption*

IEA oil emergency response measures



■ Demand restraint

- Most policies focus on transportation sector
 - Light measures = public persuasion campaigns for eco-driving / carpooling
 - Medium measures = compulsory speed limit reduction
 - Heavy measures = driving restrictions or fuel rationing

■ Fuel switching

- Significant decline since 1970s
- Virtually no potential for short-term switching in transport

■ Other

- Relaxation of regulation, e.g. on fuel quality specifications

- Purpose of emergency response measures to mitigate economic harm arising from oil supply disruptions
- But demand restraint policies curtail economic activity
- Better use in longer duration disruptions to maximize effectiveness of available supplies / resources
- All IEA countries have demand restraint policies but not generally developed
- Any policy development focused on demand management, i.e. managing panic buying

Saving Oil in a Hurry publication



- IEA started project to identify best practice on demand restraint that led to “*Saving Oil In A Hurry*” book published in 2005
- Prepared Guidelines for Demand Restraint based on SOIAH
- Have been working to update revisiting this study based on new experience, new technologies etc.
- Draft paper shared with IEA’s SEQ Committee

- Car- & ride-sharing
- Driving restrictions (e.g. speed limits, driving bans)
- Multi-fuel light-duty vehicles
- Pricing & parking policies
- Eco-driving & vehicle efficiency measures
- Public transit (service upgrades & fare reductions)
- Employer & institutional measures
- Freight trucking
- Fuel allocation (most extreme)

■ Modal Shifts

- expanded public transit & pedestrian/bicycling alternatives to cars

■ Alternative Fuels

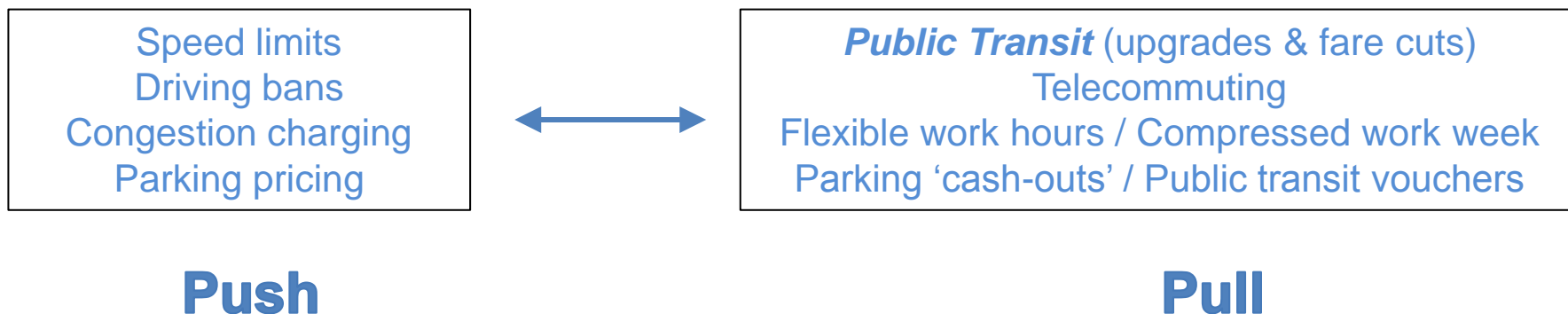
- including biofuels, hybrid electric drive, & natural gas
- begun to provide viable substitutes to petroleum-based fuels since 2005

■ Freight/Logistics

- which, with on-going revolutions in information technology and logistics, may provide some further opportunities for demand restraint savings

■ Regional Analysis

- **Short-term supply disruptions** require different responses & measures than **long-term energy savings** promotion
- Measures should **increase options for individuals & companies** to deal with disruption
- **Oil price signals can help consumers respond to disruption.**
- **Rationing should be last resort.**
- **Most measures require advanced planning.**
- “Pull” measures generally preferable to “push” measures, though having both may create synergies.

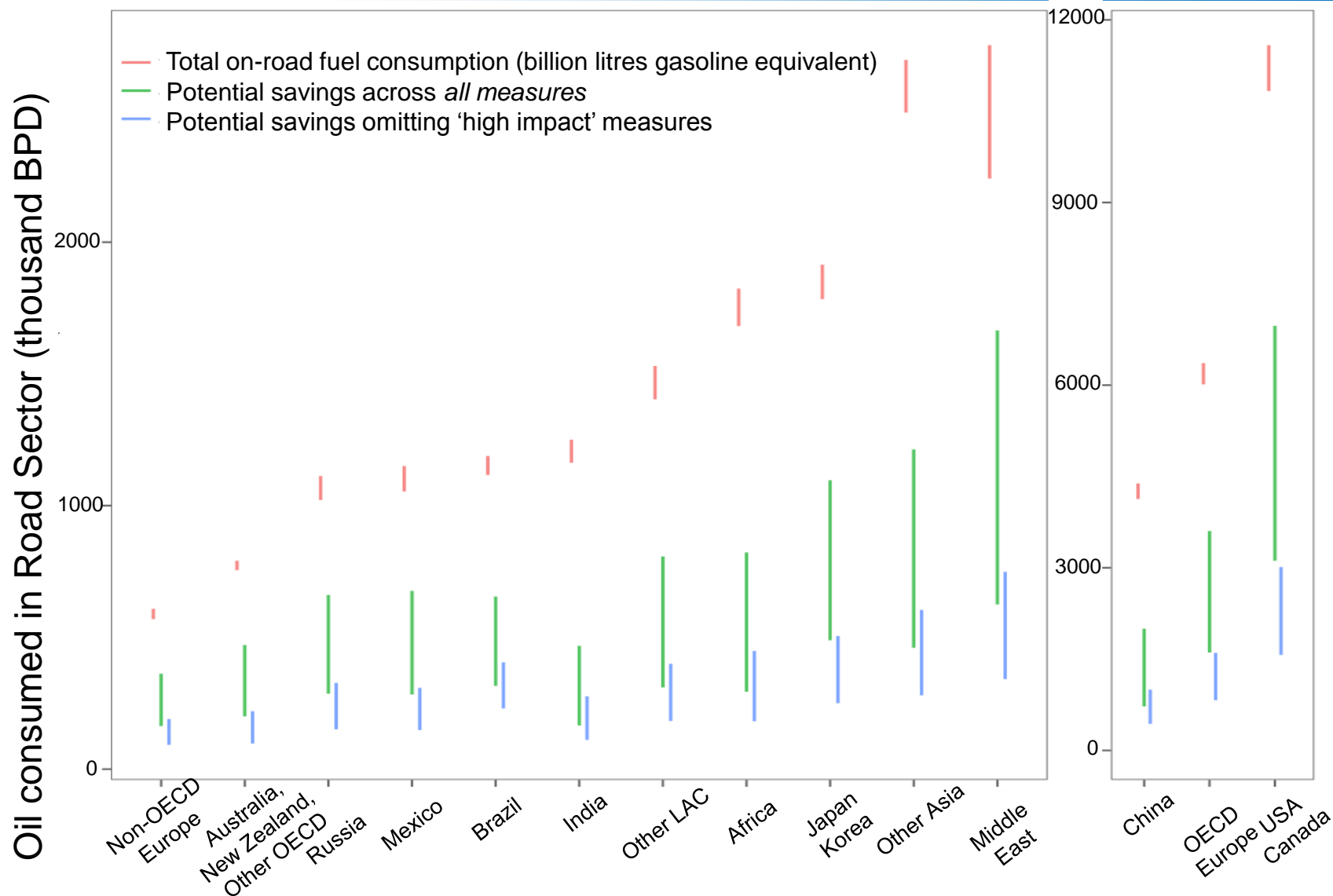


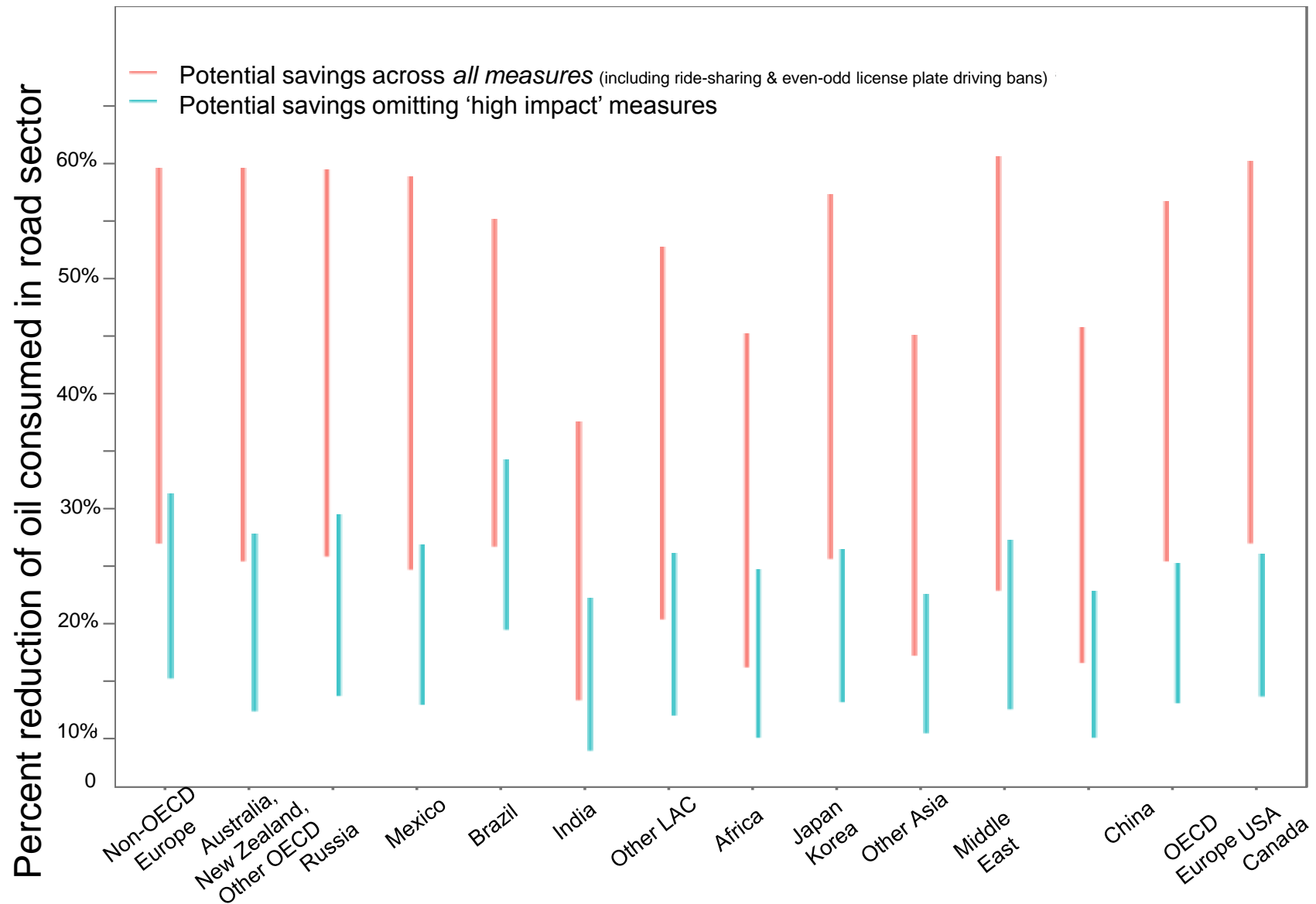
- Low-cost measures offer large savings available to all countries
- Ride sharing has great potential
- Public transit systems can help – where they exist
- Driving bans are effective but sub-optimal
- Pricing strategies can be effective /efficient, but may be unpopular
- Information & public awareness campaigns are valuable reminders for people to take important fuel savings actions
- Alternative fuels can help – but only where they are available
- Freight (trucking) offers several promising strategies
- One size does not fit all – every country unique

Estimated potential for saving

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Measure (note that different measures can overlap, so savings cannot be added)	Expected oil savings across all IEA Member countries
Odd/even day driving ban	~ 5 mb/d
Car-pooling infrastructure and programme	~1.5 mb/d
Ecodriving	~1.2 mb/d
Telecommuting	~0.8 mb/d
Speed limits at 90 kph	~0.7 mb/d
One day in ten driving ban	~0.6 mb/d
Compressed four-day work week	~0.6 mb/d





Region	Total on-road fuel use (thousand bbl/d)	Best Measure(s)	Savings (% of GDP/LVs road fuel use)
USA & Canada	1,584	Change Parking Pricing Employer-Institutional TDM Fuel Switching	3.1% 1.4% 2.3%
Mexico	1,150	Fare Reductions Urban Bus Ecodriving Speed Limit Reduction	1.1% 1.3% 4.7%
OECD Europe	5,362	Change Parking Pricing Fare Reductions Urban Bus Employer-Institutional TDM	3.3% 0.7% 1.4%
Japan & Korea	1,915	Fare Reductions high-capacity public transit Change Parking Pricing Employer-Institutional TDM	0.8% 2.9% 1.6%
Australia-New Zealand / Other OECD	791	Ecodriving Change Parking Pricing Fare Reductions Urban Bus	2.2% 1.4% 2.4%
Non-OECD Europe	609	Change Parking Pricing Fuel Switching Fare Reductions Urban Bus	3.3% 2.9% 1.6%
Russia	1,112	Change Parking Pricing Employer-Institutional TDM Fare Reductions Urban Bus	3.6% 1.5% 2.7%
China	4,385	Congestion Pricing Public Transit Improvements Fare Reductions Urban Bus	2.5% 0.7% 2.5%
India	1,250	Change Parking Pricing Fuel Switching Fare Reductions Urban Bus	2.2% 1.7% 7.2%
Other Asia	2,692	Fuel Switching Public Transit Improvements Fare Reductions Urban Bus	3.4% 0.7% 2.5%
Middle East	2,748	Change Pricing Policies Ecodriving Campaign Fare Reductions Urban Bus	6.1% 1.3% 1.2%
Africa	1,824	Fare Reductions Urban Bus Speed Limit Reduction Public Transit Improvements	5.9% 5.8% 1.1%
Brazil	1,189	Fuel Switching Fare Reductions Urban Bus Employer-Institutional TDM	4.2% 3.3% 1.7%
Other Latin American Countries	1,530	Speed Limit Reduction Fare Reductions Urban Bus Public Transit Improvements	6.1% 3.8% 0.7%

- Different sets of most effective measures for different regions
- Some overlap for measures such as eco-driving / fare reduction across multiple regions

- **Transportation = most important sector for potential savings**
- **Range of potential actions to save significant oil “in a hurry” for every country**
- Costs difficult to estimate but some measures likely to be lower cost (either to society or governments or both)
- Changing transportation dynamics offer new opportunities (ride sharing, alternative fuels)
- Trucking potentially important area for all countries
- Short-term measures require advanced planning; **some could save oil quickly & lead to lasting behavioural changes.**
- Countries should undertake own analysis using these methods

- Aim to publish report as academic study
- Have SEQ delegate comments *BUT* generally from energy ministries so helpful to have input from transport experts
- Want to prepare practical guide for policymakers on how to make it happen but may take longer

Thank you!

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