

## IEA-PCRA Workshop on heavy-duty vehicle fuel efficiency regulations in India

29 April 2015, India Habitat Center, New Delhi, India

1. An international workshop on Heavy-Duty Vehicle (HDV) fuel efficiency regulations in India was held on Wednesday, 29 April 2015 at the India Habitat Center in New Delhi. The event was co-hosted by the Indian Petroleum Conservation Research Association (PCRA) and the International Energy Agency (IEA) and organised with the cooperation of the International Council on Clean Transportation (ICCT). A follow up meeting with government representatives and international experts was held on 30 April 2015, at the PCRA headquarters.
2. The workshop featured contributions from the IEA Secretariat, international experts from Europe, Japan, the Republic of Korea and the United States of America (USA), representatives of the ICCT, the Indian government, Indian and European Original Equipment Manufacturers (OEMs) and automotive component suppliers.
3. The event was supported by the IEA Energy Efficiency in Emerging Economies (E4) programme. It was aligned with the priorities identified in the G20 energy efficiency action plan and the IEA involvement in the Global Fuel Economy Initiative (GFEI). The meeting, welcomed and well attended by Indian stakeholders, also involved the participation of institutional delegates from emerging economies (Indonesia, Mexico, Thailand and Viet Nam).
4. Diverging opinions were voiced by the different stakeholders on a number of important aspects, such as testing procedures, timelines and scope. Nevertheless, a number of clear indications emerged from the discussion.
5. There was a clear need voiced by institutional stakeholders to take action to tackle energy security issues, and a clear identification of HDVs as one of the areas where such action could deliver interesting results.
6. All industry stakeholders supported the creation of HDV fuel economy regulation in India.
7. All industry stakeholders expressed a clear preference for the development of an HDV fuel consumption simulation tool for the Indian context, suggesting in particular to take advantage of the current development of the Vehicle Energy Consumption Calculation Tool VECTO in the European Union. Early action from Indian policy makers in this direction would demonstrate a commitment to work towards a consensual solution.
8. Different opinions were voiced by speakers and attendees on the timelines for the development of such a simulation tool. Several elements (such as the long time required for the development of VECTO in Europe, the need to finalise its development, the need to adapt a simulation tool building on VECTO to Indian conditions, the complexity of the development of such a tool or the adaptation of the European one, the substantial amount of cooperation needed amongst stakeholders, and the time required to establish mutual trust amongst them) indicated that focusing entirely on the development of a simulation tool fitting Indian needs could increase the risk of delaying the start of regulating HDV fuel economy in India for several years. If this was the case,

inefficient technologies may be locked in for the lifetime of vehicles that would enter the market before a regulatory framework is operational.

9. Working jointly on the possibility to rapidly implement proven effective measures and, in parallel, on the capture of the opportunities stemming from the European regulatory framework, emerged as a solution with the potential to meet several requirements:

- the need of policy makers to quickly address energy security issues;
- the possibility to move rapidly in the direction of a simulation tool, preferred by industrial stakeholders; and
- the necessity to manage the risk of delays in the development of a simulation tool adapted to Indian needs.

10. Looking specifically at short term needs, PCRA was of the view that immediate steps to develop fuel economy regulations for HDVs may be undertaken adopting the vehicle-based on-road Constant Speed Fuel Consumption (CSFC) test, considering that this is an already established method under the Central Motor Vehicles Rules (CMVR), viewing this as an interim arrangement. Engine based regulations (coupled with testing procedures based on UN Regulation 49) were also mentioned as a possible solution for short term regulatory developments.

11. OEMs were of the view that the CSFC based approach would lead to high costs as well as issues regarding accuracy, reproducibility, transparency and appropriateness. The positions of institutional stakeholders and industry in the case of engine based standards were less distant. Even if OEM's did not express any preference for this option, engine based standards were seen positively by component suppliers.

12. Undertaking an analysis of technical potentials, costs and benefits associated with engine and vehicle technological improvements emerged as a priority need, especially relevant for the target setting phase of the regulatory instruments. Matching the targets and timing with regulatory developments on pollutant emission limits also emerged as a feature that could help reduce the divergence amongst stakeholders.

13. Finally, the development of regulatory action on minimum rolling resistance requirements was completely unopposed and emerged as an area where regulatory action should be rapidly developed.