**Key findings**

- **Fuel economy standards**: In place in most OECD member countries. Light-duty vehicles (LDVs) and heavy-duty vehicles (HDVs) have fuel economy standards.

- **Upstream emissions**: Include when developing new technologies.

- **Governments**: Support advanced technologies for fuels and vehicles.

- **Technologies**: Commercially viable over the next ten to 20 years.

- **Policies**: Needed to ensure potential realized.

**Policy actions and milestones**

- **Regulatory frameworks**
  - **Light-duty vehicles (LDVs)**
  - **Heavy-duty vehicles (HDVs)**

- **Testing and measurement**
  - **Global standards**
  - **Calibration and certification**

- **RD&D**
  - **Research and development**
  - **Public/private partnerships**

- **Public awareness**
  - **Information and education**

- **Incentives**
  - **Fiscal measures**

- **Modal shift**
  - **Facilitation of change**

**Energy reduction potential from fuel economy improvement**

**CO₂ mitigation potential from fuel economy improvement**

**Evolution of fuel economy, and regulation targets enacted and proposed, 2000 to 2025**
The cost curve figures for cars and trucks show the increasing cost and fuel savings (per vehicle lifetime) associated with different degrees of fuel economy improvement, and indicate that fuel savings is greater than cost except for very high percentage changes in fuel economy (since the dotted lines showing fuel savings are above the areas indicating cost). The figures also show the expected reduction in technology costs between today and 2020, reflecting innovations, scale economies and optimizations in the production of new technologies. For example, for gasoline cars, cutting fuel economy by 50% costs around EUR 3,000 today, but this drops to under EUR 2,000 by 2020.

Technologies for fuel economy improvements for trucks are more expensive than for cars; this, however, should not prevent the adoption of these technologies by truck owners for two reasons:

- Trucks are often driven much more per year, and over their lifetimes, than cars, so the fuel savings is larger;
- Trucks are more expensive to buy and so the premium cost percentage for fuel efficient technologies is similar (or similar to passenger cars).

These fuel economy improvements are achieved with internal combustion engines; additional improvements from shifting to electric vehicles can also help, but the cost will be higher in the near term.

The graph on the right further shows the numbers of vehicle fitted with conventional internal combustion engines in the next two decades. The vehicles fitted with conventional internal combustion engines will represent more than 90% of new sales in the coming decade, and will remain dominant throughout the 2020s.

Importance of ICE engines in future sales

The IEA fuel economy readiness index is a scoring system combining countries’ implementation of four key policies to incentivise fuel economy: fuel tax, CO₂-based vehicle purchase taxation, labelling schemes, and fuel economy standards for light duty vehicles (LDVs) and heavy duty vehicles (HDVs). More details on the scoring scale can be found in page 41 of the main report.

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