Fuel Economy Standards

WHAT THEY ARE

Fuel economy standards are a regulatory instrument in the vehicle policy package. They regulate the efficiency of new vehicles by, in simplest terms, defining annual corporate average standards, or targets, for fuel economy (miles per gallon or kilometre/litre) or greenhouse gas (GHG/CO_2) emissions (in grammes per mile/kilometre). There are different designs, but in general they define a standard for every auto manufacturer, for every year that the regulation applies. In some countries, flexibility mechanisms are offered, such as credits for manufacturers that over comply which can be used in future years or traded with manufacturers that underachieve.

Fuel economy standards have increasingly included provisions to facilitate the uptake of EVs (including battery electric and plug-in hybrid) and fuel-cell vehicles. Fuel economy standards help facilitate the development of advanced technologies and can greatly reduce fuel use, enhance energy security, and reduce emissions. Standards help increase regulatory certainty for manufacturers and can be most appropriate in countries with large markets and vehicle manufacturing facilities.

Currently, fuel economy or GHG/ CO_2 emission standards for new cars exist in over 40 countries, covering more than 80% of new passenger vehicle sales worldwide.

HOW TO IMPLEMENT

Implementation typically involves the following key elements:

1. **Identification of the government agency and legislative** requirements for setting and implementing the standards.
2. **Agreement on the design of the standard**, including the metric – fuel economy or CO_2/ GHG emissions; how and whether vehicle attributes such as weight are considered in setting the standard, its stringency and target years. For trucks, **a market assessment** is key to understand the contribution from different truck categories.
3. **Consensus on test procedures** and **associated protocols** to inform standard setting and monitoring and evaluation.
4. **Agreement on flexibility mechanisms,** such as allowing manufacturers to bank and trade credits and the approach to facilitate adoption of electric and other alternative vehicle as well as whether niche or small-scale manufacturers are exempted.
5. **Setting of penalties for non-compliance.**

For cars, standards can be set as a single value or as a function of vehicle attribute such as footprint or mass. The stringency of the standards can depend on the policy context, wider considerations (e.g. technology costs) and dynamics with key stakeholders. Engagement with stakeholders (especially auto manufacturers) is key throughout the design process. It can be useful to consult consumer groups as well.

It is important to highlight that fuel economy standards present opportunities for both consumers, in terms of fuel cost savings and for manufacturers, in terms of enhancing their competitiveness.

Regulations should, however, allow for the standards to become increasingly stringent over time, with manufacturers needing a two-to-three-year lead-time to prepare for shorter-term targets.

HOW TO MONITOR

A monitoring, evaluation and review process will need to be put into place when standards are implemented, allowing for them to become more stringent over time. Relevant test procedures should be used to verify, monitor and evaluate the implementation of the standards, with monitoring requirements depending on the standard approach. A key part of this will be establishing data-sharing protocols and identifying the legal requirements and entities with responsibility for ensuring compliance. Standards also need to be reviewed and revised on a regular basis to ensure their effectiveness and consistency with ongoing policy developments.