Association for Emissions Control by Catalyst AISBL

THE SOCIO-ECONOMIC IMPORTANCE OF THE EUROPEAN EMISSIONS CONTROL INDUSTRY

The manufacturers of emissions control equipment in Europe create and supply substrates for emissions control catalysts, particulate filters, and homogeneous catalysts and develop and provide the processes to coat substrates with catalytically active materials. The industry provides these components and processes to a value chain including the 1st-tier system suppliers for the automotive industry and thence to the OEMs themselves. The developments spearheaded by the industry also spur investment in control systems, dosing systems, sensors, diagnostics and systems architecture. The industry thus generates investment, employment and income in the EU.

In view of the need for the European Commission to conduct Impact Assessments on new legislative proposals, AECC* initiated a study to put the socio-economic aspects of emissions control into context. This complements the benefits for air quality and hence human health.

AECC asked the Flemish Institute for Technological Research (VITO) to conduct this independent study, based upon a review of existing literature on the effects of emissions legislation on innovation and productivity. That review of literature indicates that:

- Little innovation in post-combustion technologies would have taken place in the absence of regulatory standards.
- Stringent regulation led to radical technological change rather than incremental innovation.
- Emissions standards had important effects on innovation at different levels in the supply chain.
- Changes in the stringency of emissions levels have led to investment in better communication between assemblers and suppliers.
- The innovation needed for regulatory compliance has led to complementary technological changes with beneficial side-effects for users (e.g. reduced maintenance costs, better combustion control and higher energy efficiency).

The widespread application of EU-based UN emissions regulations in the world also highlights the global importance of EU Regulations. The study found that:

- In countries with strong emissions standards, increasing stringency of the standards can lead to an increase in net domestic innovation.
- Developing countries mostly use “off the shelf” technology that originates from pioneering countries. Increasing stringency of regulatory standards in these follower countries leads to knowledge import into these countries in the form of non-resident patent filing.
- Stricter home market standards provide competitive advantage in export markets vs. companies without similar experience.
- If the EU maintains its leading position [on emissions legislation], increasing the stringency of emission standards over time should lead important trading partners in the developing world to also increase their stringency levels as well.
- This could in turn lead to technology flows from the EU to the rest of the world, and could bring important benefits to the European automobile industry and its suppliers in the long run.

In addition to these aspects, the impacts of recent health deliberations need to be fully taken into account in Impact Assessments – especially the UN WHO-IARC determinations of diesel exhaust, outdoor air pollution, and particulate matter as carcinogenic to humans. For applications such as NRMM and tractor emissions, the effects of occupational exposure should be taken into account in addition to general levels of population exposure. Currently the way in which the monetised value of health effects is handled in different Impact Assessments is unclear: for instance the perceived monetised benefits of noise abatement appear from recent assessments to be substantially greater than those allocated for the effects of pollutant emissions.

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**AECC is an international non-profit scientific association of European companies engaged in the development, production and testing of catalyst and filter based technologies for vehicle and engine emissions control. AECC’s members are: BASF Catalysts Germany GmbH, Germany; Corning GmbH, Germany; Emitec Gesellschaft für Emissionstechnologie mbH, Germany; Ibiden Deutschland GmbH, Germany; Johnson Matthey PLC, United Kingdom; NGK Europe GmbH, Germany; Solvay, France and Umicore AG & Co. KG, Germany.*

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