

ATC

Introduction to ATC



Introduction to ATC – Additive Technical Committee

- The Technical Committee of Petroleum Additive Manufacturers in Europe (ATC) exists to:
 - discuss topics of a technical and statutory nature which are a concern to our industry
 - develop common industry approaches in response to health, safety and regulatory legislation which are based on scientific and technical principles, to the benefit of end consumers and environmental protection
 - provide its members with a platform to build and share high-level technical expertise
 - cooperate with relevant stakeholders active in the development of petroleum additive specifications and testing

Full Members



Associate Members



Fuel and Lubricant Additive Industry



Fuel and Lubricant Additive Industry in Europe

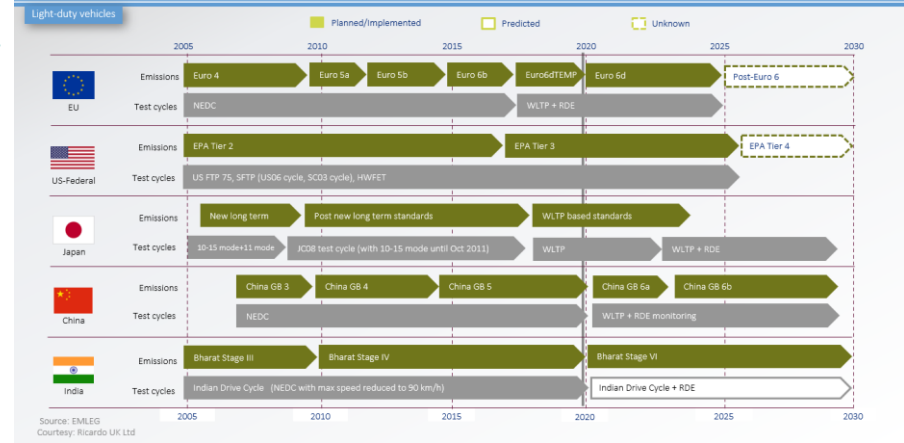
The petroleum additive industry is a research and development intensive industry

- World-wide the industry has a turnover of about €11700 million of which the European market is about €3600 million
- The industry employs directly about 3800 people in Europe and about 12000 globally
- The industry operates more than 35 research and development establishments and manufacturing sites in Europe, and more than 100 globally
- World-wide the industry spends about €600 million/annum on research and development, of which €240 million is spent in Europe
- All lubricants on the market contain additives to improve their stability and performance
- Over 95% of road retail fuels are treated with performance additives
- All European refineries use additives in some capacity
- The petroleum additive industry in Europe is a major exporter

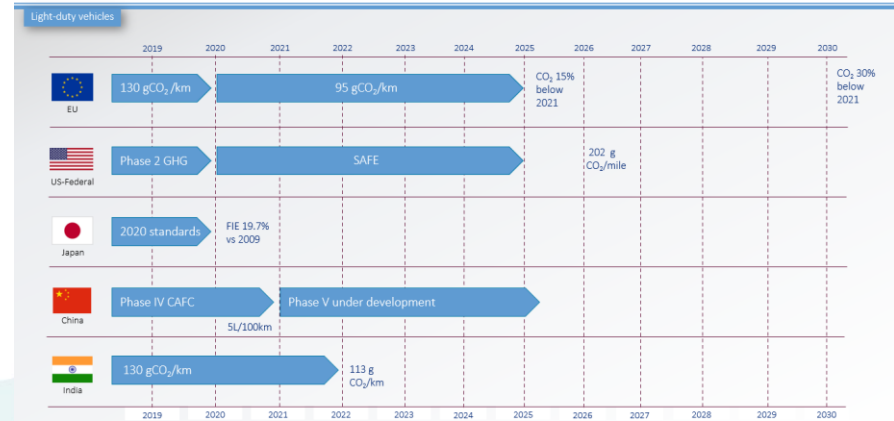
Lubricant Additives as Enablers

- Lubricant additives have enabled OEMs to achieve the emissions reductions needed in moving from Euro I to Euro VI engines
 - Significant reduction in damaging pollutants
- As Fuel Economy requirements have increased, lubricant additives have enabled
 - Lower viscosity oils
 - Friction modified oils
 - Engineering changes to lower friction in engines
- Additives enable longer oil drain intervals by improved oil protection
 - Extending lifetime of engine hardware
 - Significantly reducing oil consumption
 - Generating less waste oil

Global emissions reduction challenges



Reducing carbon emissions and improving fuel economy



Fuel Additives

- Fuel additives are essential to meet requirements of latest fuel specifications and standards covering refineries, terminals, all sectors of transportation, heating and power generation
- Cover a broad spectrum of applications, including improved safety, storage, handling, operation and end use performance of fuels
 - reduced exhaust pollutant levels
 - increased combustion efficiency
 - increased specific power output
 - increased fuel efficiency
 - increased service interval duration
 - greater reliability
 - increased stability, handling and safety

	Refining / terminal	Transportation	Heating / Power gen.
Antioxidants			
Stability improvers			
Deposit Control			
Octane / cetane imp.			
Combustion imp.			
Metal deactivators			
Drag reducers			
Dyes			
Lubricity improvers			
Friction modifiers			
Cold Flow improvers			
Antifoam			
Corrosion inhibitors			
Antistatic			
Dehazers			
Reodorant			

Additives R&D cycle

- Petroleum additive manufacturers develop chemistry and formulate additives with desired performance for fuel and lubricant manufacturers
 - Formulating high-performance fuels and lubricants is very complex
 - Must balance numerous ingredients to maintain optimal performance demands
 - Not possible to simply switch one substance for another without negatively impacting performance of additive and consequently the fuel or lubricant
 - Extensive performance qualification testing required by equipment, vehicle manufacturers and fuel producers
 - The substitution of a single substance can easily take 5-10 years and require very significant investments (R&D costs, tox testing, equipment testing, sourcing new raw materials, OPEX)

ATC Position On Essential Uses



The EU Chemical Strategy for Sustainability

- ATC embraces the spirit of the EU Green Deal and the EU Chemical Strategy for Sustainability (CSS) and fully recognises that industry has a role to play in tackling the societal and environmental challenges we face and in achieving the objectives set out by the EU Commission
- We also believe that regulatory actions should be taken following a holistic approach, balancing the several trade-offs at play and considering the interdependencies that characterise a complex society
 - For example, a restriction of a chemical based on hazard properties alone could lead to the adoption of different chemistry with potential sustainability deficits, when the whole life-cycle of the chemical is taken into account

ATC Concerns

- A potential shift of focus towards hazard-based regulatory processes under the “generic approach to risk management”
 - In order to invest, industry needs regulations and process that are predictable, science-based and guided by the proportionality principle enshrined in the EU treaties
- Hazardous substances should not be restricted or banned without due consideration of the societal benefits derived and the availability of technically/economically viable alternatives
- An acceleration of substitution of hazardous substances purely on the basis of “non-essentiality” as judged against overly simplistic criteria should be avoided
 - This could lead to “regrettable substitution”. A holistic approach should instead be adopted, considering the environmental and societal impact of products (positive and negative) as a whole
 - The lubricant and fuel additives sector is a perfect example to illustrate this

Essentiality of Fuel and Lubricant Additives

- Lubricant and Fuel Additives are used in multiple applications, such as: transportation, renewable energy systems, transmission systems, hydraulic systems, metal working, power generation and other industrial processes
- They are essential for:
 - Emissions reduction (CO₂, NO_x, particulates) that enable to achieve EU emissions targets
 - Increasing fuel efficiency & equipment durability
 - Enhancing technical performance of lubricants and fuels in engines and machinery
 - Increasing drain intervals for lubricants, thus reducing use of mineral oils and other chemicals
 - Improving safety, storage and handling properties
 - Enabling use of biofuels and renewable base oils
 - Supporting the electrification and decarbonisation of transportation

Therefore significantly contributing to the EU sustainability goals of the Green Deal and CSS

ATC Proposals

- Lubricant and Fuel additives are Essential for society and contribute to the goals of the CSS
- An assessment of Essentiality should be the last step in decision-making processes
- Essentiality should not form the basis of screening to fast-track the restriction of hazardous substances that may otherwise be beneficial to society and whose risks are well managed
- Essentiality should be a holistic concept which should not focus solely on the hazard of a substance but consider its overall impact on the environment, human health and society
- The Essential Use concept must be applied in a transparent and predictable way, with decision-making involving all interested stakeholders

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