

and Sustainable Transportation Systems

The global community faces a fragile ecosystem together with an expanding population, economies expanding at rapid rates while consuming greater amounts of natural resources and the knowledge that those resources are limited. Expanding global economies naturally require greater amounts of energy to sustain the growth. Transportation systems consume a significant portion of the energy needs of any economy. All nations and their industry partners need to work together to develop transportation systems that both ensure economic growth but at the same time are sustainable and preserve the ecosystem.

Challenges facing transportation today include:

- Cost effective technologies to meet existing fuel economy and Green House Gasses (GHG) standards for light duty vehicles as well as future fuel economy standards for medium and heavy duty trucks.
- Lower emissions and reduced noise level engines for commercial aircraft.
- Low emission, higher efficiency powertrains to meet regulations for off-road vehicles.
- Substantially reducing GHG emissions from all relevant systems in vehicles, such as mobile air conditioning.
- Battery systems for vehicles that will be of high energy density, cost competitive, scalable and permit integration into the electrical infrastructure in order to reduce dependency on oil.
- Effective utilization of 2nd and 3rd generation biofuels into vehicle systems to reduce dependency on carbon based fuels.

What SAE International Can Offer:

SAE International is a non-biased global source of technical information that can be used by government decision makers as part of the process when formulating legislation or regulations related to environmental and sustainability issues in all forms of transportation. The information comes in many forms including peer-reviewed technical papers, workshop or symposia findings, technical standards, cooperative research studies, etc. The sources of the information include the best and brightest individuals from the private sector, academia and government both in the U.S. and throughout the world.

Examples include:

- SAE has recently published a group of standards involving Smart Grid interoperability including "J1772™ - SAE Electric Vehicle Conductive Charge Coupler." Work continues on other standards in this area.
- SAE has developed standards to address measurement of fuel economy for hybrid electric vehicles.
- SAE's global aerospace standards promote reduction of engine noise and emissions
- SAE has partnered with the U.S. EPA and the global automotive industry to research and select the next generation of refrigerants for mobile air conditioning systems.
- SAE conducts global conferences with technical publication presentations and workshops with technical experts to identify and expose the latest technologies related to advanced powertrain including high efficiency aircraft turbine engines, advanced batteries and power electronics, fuel cells, next generation biofuel capable engines and advanced combustion engines.
- SAE has developed standards to assist manufacturers in electronic compilation of vehicle chemical content to comply with environmental reporting regulations.
- SAE International was approved by the Michigan Department of Natural Resources and Environment (DNRE) to develop a workshop devoted to exploring the feasibility of establishing a Center for Green Innovation & Technology Transfer for the automotive industry in Michigan.

Contact Us:

To explore SAE's technical information, whether it is technical papers, standards, and/or SAE Fellows who are industry experts related to automotive, commercial vehicle or aerospace issues, please contact the following:

Automotive or Commercial Vehicle

Tim Mellon ▪ tim@sae.org ▪ 202.434.8944

Aerospace

Bruce Mahone ▪ bmahone@sae.org ▪ 202.434.8943