Symposium 2021Breakout Session Title:

B301, Part 1/B307, Part 2-Efficiency Town Hall: AV Fuel Economy & Efficiency Regulations and Technologies

Session Contact/Organizers:

- Prof. Dimitris Assanis, Assistant Professor of Mechanical Engineering, SUNY - Stony Brook University
- Dr. Avi Mersky, Senior Researcher, Transportation Program, American Council for an Energy-Efficient Economy

TRB Sponsor/Partner Committees (if any):

- AMS30: TRB Standing Committee on Transportation Energy
- AMS30(3): TRB Subcommittee on Energy and Demand Implications of Connected & Automated Vehicles

Session Description

This year we will have a double session that will focus on understanding the technical and regulatory hurdles of implementing efficiency/emissions regulations for automated vehicles. One session aims to more specifically focus on energy demand analysis of automated vehicles and enabling technologies that promote energy efficiency. The second session aims to focus more specifically on understanding the challenges of developing a regulatory framework for automated vehicle energy efficiency. It is ultimately our goal to convene a conversation amongst industry groups, government agencies and regulators, academics, national labs and public interest groups to further this conversation.

Goals/Objectives/Outputs

- Open the lines of communication between regulatory agencies and stakeholders
- Policy research, data sharing, and forward guidance, needs statements
- Expose "bleeding-edge" energy efficiency enabling technologies/research and analysis
- Understand the true cost ($$$) of implementing AV energy efficiency regulations – or the environmental costs associated with delaying regulation!

Wednesday, July 14 - Technology Session - 8 AM - 11AM EDT

Mr. David Anderson, Program Manager, Energy Efficient Mobility Systems, Vehicle Technologies Office, US Department of Energy (20 min)
Strategic initiatives and Program Updates from Energy Efficient Mobility Systems

Dr. Marina Sofos, Program Director, ARPA-E NEXTCAR II, US Department of Energy (20 min)
Improving the Energy Efficiency of Connected and Automated Vehicles: Results from ARPA-E's NEXTCAR Program

Mr. Rick Mihelic, Director of Emerging Technologies, North American Council for Freight Efficiency (20 min)
Energy Efficiencies of Trucking Automation: Now and into the Future

Prof. Gabor Orosz, Associate Professor, University of Michigan (20 min)
Infrastructure Assisted Automated Driving on Highways

Mr. Dominik Karbowski, Technical Manager, Intelligent Vehicle Control & Electric Aviation Argonne National Laboratory (20 min)
Impact of Vehicle Automation on Energy Consumption

Dr. Therese Langer, Senior Fellow, Transportation, American Council for Energy-Efficient Economy (20 min)
National Academies Light-duty Fuel Economy Report: Findings on CAV Technology Energy Impacts

Mr. Ryan Harrington, Principal, Vehicle Engineering, Exponent (20 min)
Technological Hurdles of Energy Efficient Automation

Panel Q&A (40 min)

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Wednesday, July 14 - Policy Session - 2:30 PM - 4:30 PM EDT

Dr. Jeff Lidicker, Air Resources Engineer, California Air Resources Board (15 min)
Tentative Title: Automated Vehicle Policy for Equity and Clean Air

Dr. Avi Mersky, Senior Researcher, Transportation, American Council for Energy-Efficient Economy (15 min)
AVs and Off-Cycle Emission Credits

Dr. Therese Langer, Senior Fellow, Transportation, American Council for Energy-Efficient Economy (15 min)
National Academies Light-duty Fuel Economy Report: Findings on CAV Technology Energy Impacts

Dr. David Cooke, Senior Vehicles Analyst, Clean Transportation Program, Union of Concerned Scientist (15 min)
Heaven or Hell, and How to Shape AV Regulation to Maximize Potential Benefits

Mr. Ryan Harrington, Principal, Vehicle Engineering, Exponent (15 min)
Regulatory Hurdles of Energy Efficient Automated Vehicle

Panel Q&A (45 min)