The paper will examine where the drive for alternative fuels in Aviation is coming from. It will highlight how the relative importance of drivers such as: improving supply diversity, enhancing product performance and mitigation of environmental impact vary from segment to segment. For the key segments of commercial air transport, military and general aviation, current activities and future plans will be summarised. As with automotive fuels, there is particular interest in reducing the CO2 impact of fuel use and the session will include particular focus on the potential for bio-derived fuels in aviation. The review will cover not only technologies that may be viable in the reasonably short term but also the longer-term ideas that are being proposed and developed around the world. No session on alternative fuels for aviation can fail to mention hydrogen and a very short evaluation will be presented. Simple, straightforward but, above all, interesting questions will be welcome.