DRIVING CHANGE: SOLAR-POWERED TRANSPORTATION PATH TO A CARBON-FREE FUTURE

Session B, Breakout Room #: 14

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Ground transportation is an integral part of our economy and daily lives, but it also contributes significantly to carbon emissions, fueling climate change. The transportation industry must transform to combat this pressing issue, and solar energy emerges as the pivotal solution. Solar power, a widely adopted source of clean energy in homes, commercial structures, and solar farms, holds the potential to revolutionize ground transportation and substantially reduce emissions. The primary aim of this study was to explore how solar energy can reshape transportation and propel us toward a 100% carbon-free future. This summer, I worked at Merlin Solar, a pioneering solar company that has developed flexible solar panels featuring a patented grid pattern technology. I conducted performance tests, comparing our panels to previous models and competitors. In addition to my Merlin Internship, I have had a role as an Aptera car ambassador, which has shed light on the immense promise of cars layered with solar panels. Aptera's solar electric car, designed strictly mathematically for maximum efficiency, can be charged entirely through solar panels, producing zero emissions and requiring only one or two monthly charges. Merlin Solar's flexible panels can be seamlessly integrated into large vehicles, powering them while enabling refrigeration and eliminating the need for idling and jump-starting dead batteries. These innovations have the potential to make a significant impact on reducing carbon emissions from conventional vehicles. As climate change continues to advance, the emergence of these innovative solar transportation solutions offers hope for a sustainable and eco-friendly future.