Aircraft Electrical Propulsion – The Next Chapter of Aviation? It is not a question of if, but when. 2 Think:Act Aircraft Electrical Propulsion. 3.

THE BIG. We begin by discussing the history of electric aircraft and the two concurrent technological trends of the More Electric Aircraft and Electrical Propulsion. We then characterise and evaluate the current landscape of research efforts in Electrical Propulsion, considering developments in General Aviation (GA)/Recreational Aircraft, Urban Air Taxis, Regional/Business Aircraft, and Large Commercial Aircraft. The barriers – technological, regulatory and market-based – faced by electric aircraft, are then laid out as well as the advances required to pave the way to an electric future. 2019. Considerations for reducing aviation’s CO2 with aircraft electric propulsion. Journal of Propulsion and Power 35(3):572–82. Hertzke P, Müller N, Schaufuss P, Schenk S, Wu T. 2019. 2016. Commercial Aircraft Propulsion and Energy Systems Research: Reducing Global Carbon Emissions. Washington: National Academies Press. Uber. The Future of Aviation: Electric Airplanes Will Decarbonize the Aviation Industry. Electric airplanes are set to decarbonize the aviation industry, making the environment greener. But when can we expect to see full-electric airplanes in the sky? By Susan Fourtané. Electrical propulsion system: Building the aircraft of the future. Dr. Chez Hall, has been developing research into the areas of aero-engine design for reduced carbon emissions, engine-installation interaction, and low-noise turbomachinery since 2005. Together with his research team at the Whittle Lab, they are working on how a potential replacement for the 737 could work. Electrical propulsion in commercial aircraft may be able to reduce carbon emissions, but only if new technologies attain the specific power,1 weight, and reliability required for a successful commercial fleet. The committee considered six different electric propulsion architectures. As shown in Figure 4.1, one is all-electric, three are hybrid electric, and two are turboelectric Hybrid-electric propulsion for commercial aviation. Advanced Air Transport Technology Project Advanced Air Vehicles Program. 7. The Case for Hybrid Electric Propulsion. • Lower emissions, lower noise, better energy conservation, and more reliable systems. • Considerable success in development of “all-electric” light GA aircraft and UAVs. Lower Carbon Designs: Reduce combustion-based propulsive power (and emissions) using electric motors and/or on-board “clean” energy storage. 10. Future Turboelectric Aircraft Concepts. • Potential side effects of system design considerations. • Provide roadmap and tech maturation plan. Advanced Air Transport Technology Project Advanced Air Vehicles Program.