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***Renewable Energy and a Climate Action Plan for Furman University: Carbon
Neutrality by 2026.***

In 2007, Furman University president David Shi signed the American College and University President's Climate Commitment, which aimed for Furman to reach carbon neutrality by the university's bicentennial in 2026. In Furman's Climate Action Plan, expansion of renewable energy initiatives is listed as a major area of focus. Therefore, this project examines possible areas in which Furman University can expand solar and wind energy on campus through both a scientific and economic lens. Amongst the proposals that we consider as a part of this study are development of solar energy on the off-campus W.R. Grace property, expansion of existing on-campus rooftop and parking lot solar energy, and construction of a wind turbine at or near the summit of Paris Mountain. These projects are compared financially with the cost of purchasing Renewable Energy Credits on the open market starting in 2026 in addition to Furman's existing energy purchases. These credits currently cost approximately \$1.15 in voluntary markets, along with an estimated \$3.76 expected increase in the price of commercial energy over the

course of this period. Using this financial analysis and an evaluation of the state of solar energy in South Carolina and around the world, we find that there are multiple opportunities for an expansion of on-campus solar facilities that will become profitable within our target timeframe. We suggest that solar development of the former W.R. Grace Property and Timmons Arena should be approved and prioritized in order to best take advantage of the current tax and legislative climate. Further rooftop and parking lot development should also be considered, though they feature a longer period of return on the investment. Near-campus wind development features multiple hurdles at this time, but other opportunities exist in areas with a higher natural wind resource. It is hoped that one or more of these proposals will be found viable and approved, furthering Furman's commitment to sustainability.