Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 08/17/2016
PROJECT AREA: Special Projects

TITLE: Small Scale Renewable Energy Installations (REIs)

PROBLEM STATEMENT:
Fossil fuel price instability and their associated noxious characteristics have brought sustainable energy production to the forefront of the conversation for many DOTs. All of Arkansas’s neighboring states have, at the very least, investigated a REI initiative. Coal and natural gas are the states dominate electricity sources and as the states population increase, so to will the demand for more energy. For AHTD, localized small scale renewable energy production at locations such as rest areas and maintenance yards would offer some power grid relief. Also, AHTD facilities such as rest areas, are exposed to the many travelers that make use of them and an REI initiative would present the opportunity for education and highly visible environmental responsibility. Wind and solar energy are the leading renewable energy sources that surrounding states have used for their REI. The entire state of Arkansas is exposed to enough sun light to make a solar based REI feasible and the northwest portion of the state could offer wind energy production. Utilizing an REI would create jobs, provide energy independence, and reduce green house gas emissions (GHG) associated with the states transportation sector.

OBJECTIVES:
1. Identify what type of REI is best suited for what geographic and facility location.
2. Develop a feasibility assessment based on type of REI, location, and emerging technologies.

FORM OF RESEARCH IMPLEMENTATION:
Research findings will provide recommendations for type, location, and technologies that maximize REI investment.

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Estimated Project Duration: 24