

Feasibility Design to Transition the City of Annapolis to Carbon Neutrality

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Abstract: Governments have become aware of the repercussions of greenhouse gasses and are looking to decelerate the effects of climate change. Specifically, the Annapolis Government has taken initiative to transition their power sources to carbon neutral generation. An analysis identified two ways of improvement. First, a Java simulation determined the minimum/maximum power output of solar/wind farms based on geographical locations, and weather data. The output determined the highest producing energy supply, dependent on time of day. Second, the city owned vehicles were evaluated by comparing electric/hybrid vehicles to the current police vehicles. The project recommends to implement a solar farm and solar panels on buildings, purchase three types of vehicles for the police force, Chevrolet Bolt EV, Ford Fusion EV, and Zero electric motorcycles, and for transit vehicles, the BYD electric transit busses and the Ford E450 electric vans. The implementation of these changes will insure carbon neutrality by 2050.

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