

# Community Based Electric Power Generation through Bicycles Dynamos' Usage

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The opportunity of power generation by the use of storing energy surplus from bicycle dynamos was pursued. During daylight hours dynamos generate light of virtually no use, the main goal of this project is to store this energy; which would later be offloaded onto a power grid and available for consumer use. In this research power usage from the city of Oldenburg in Lower Saxony, Germany is compared against the amount of green energy generated using method. Oldenburg is currently among the top energy-wasters in Germany, with a consumption per-capita of +15.5% more than the German average [Statistisches Bundesamt, 2013]. Projected calculations for 50% of the population in Oldenburg [www.oldenburg.de, 2014] generating 1 Ah per-day using this method would result in 2.07% of the city's current consumption being generated through bicycle dynamos. The same calculation for a city with a lower consumption rate such as Dresden would see 3% of their energy consumption being generated through bicycle power usage. This research also covers a future projection of the system in which users could track their power generation through the Internet and optimally acquire monetary rewards in their electric bills.