Energy Harvesting Through Speed Breaker: Case Study at Samdrup Jongkhar Check Post

Prakash Bhattarai^{1*}, Thinley Choden², Lalita Puwar³, Phub Gyeltshen⁴, Shah Bir Rai⁵, Tandin Wangdi⁶
^{1,2,3,4} Student, Department of Electrical Engineering, Jigme Namgyel Engineering College, Royal University of Bhutan
⁵ Faculty, Department of Electrical Engineering, Jigme Namgyel Engineering College, Royal University of Bhutan
⁶ Faculty, Department of Mechanical Engineering, Jigme Namgyel Engineering College, Royal University of Bhutan
inec05160014@inec.edu.bt

Abstract---This project introduces a new way of generating electrical energy using the potential and kinetic energy of a moving vehicle. It can be described as harvesting electrical energy with the use of a speed breaker combined with rack and pinion mechanism. This project focuses on designing the model and subjecting it to simulation. Under simulation, the model will

be subjected to various forces. Based on the result obtained, the applicability of this model in everyday life can be analyzed.

Keywords- Energy, Speed breaker, Rack and pinion mechanism, Designing, Simulation.