



# Sustainable Energy for Development

## GOALS:

The evolution of technologies provides remote, non-grid connected communities in developing countries the opportunity to take advantage of small power devices. This project will deliver a tangible output in the form of a prototype product for individual consumer applications (e.g. domestic & educational use) and inform design parameters for an optimal charging station to support off-grid, battery based electrical services.

## TECHNOLOGIES:

Renewable generation, charge control, energy storage, light emitting diodes, energy monitoring and management.

## RESEARCH ISSUES:

Investigate the correlation of energy and social well being and associated energy costs. Research current methods of delivering off-grid electrical services and optimisation criteria for 'central' charging stations and 'distributed' battery based consumer units.

## TEAM ADVISORS:

Dr. Stuart Galloway, Dr. Scott Strachan, Mike Dolan

## PROJECT PARTNERS & SPONSORS:

Incorporation of Hammermen of Glasgow

## DESIRED DISCIPLINES & PREPARATION:

### EEE/EME/CES:

Individuals should have a background or strong interest in renewable generation, portable energy solutions and enhancement of developing nations. The participatory students will gain an excellent understanding of energy usage/availability in the developing world context, energy storage technologies, energy economics, development of system and user requirement specification, design via simulation, material selection and procurement, product build and energy management systems and requirements.

## CONTACT:

Dr. Stuart Galloway (stuart.galloway@eee.strath.ac.uk)

