

Business model for solar-charged e-bikes in Vietnam



Air polluted Hanoi with millions of gasoline motorbikes.



E-bike recharging station.

Background

Studies have found that as much as 40 % of emissions in the city of Hanoi come from motor vehicles; motorcycles being the primary source. Electric two-wheelers (e-bikes) offer a potential solution to this air pollution problem. Combining this innovative technology with a social entrepreneurship model contribute to reducing CO₂ emission (thus climate change mitigation) pollution and promote RE/EE but also.

In addition, it has the potential to improve incomes for the poor, and contribute to the Vietnamese government's goal of providing suitable jobs for 250,000 disabled people by 2015. This project will analyse the potential e-bike market, the available technologies and costs, and develop a business model integrating the disadvantaged.

Good quality, affordable vehicles will be provided to students, who will recharge at solar-powered stations operated by the disabled. Public awareness and disseminating the lessons learnt to policy-makers will maximise the potential for replication in other cities.

Project purpose

To create an innovative business model for recharging and servicing e-bikes in Hanoi that alleviates poverty among the poor and handicapped, reduces CO₂ emissions and is ready for up-scaling.



Main activities and outputs

- Develop a baseline study on the awareness, usage and costs of e-bikes; incomes of poor disabled persons in Hanoi; and on knowledge of RE and EE implementation in transport sector at government ministries
- Conduct a feasibility study testing e-bike acceptance, technology, costs
- Develop a business model with poor and disabled people as operators of solar recharge shelters (SRSs) and handling repairs and maintenance
- Quantify the potential CO₂ reduction
- Test the technical feasibility and commercial potential of the SRSs
- Implement a pilot project to produce first-hand data and results on e-bike and SRS technology, as well as the social business model
- Communicate and disseminate lessons learnt among policy-makers and relevant CSOs/NGOs

Expected impacts

- First-hand data on innovative, feasible technology solutions to reduce CO₂ available for decision-makers
- Proven commercial potential for e-bikes and solar recharging; e-bikes winning 20-40% of future motorcycle market
- Improved livelihoods for poor and disabled people; an example of social entrepreneurship best practice
- Reduced fuel expenses for students and poor for daily transportation
- Increased awareness of innovative e-bikes and solar energy technologies among the public and decision-makers for replication in other cities – and for adjustment of e-bikes-friendly policies

Project Information

Location:	Vietnam
Duration:	2013–2014
Sector:	Renewable Energy
Thematic focus:	Business
Total project budget:	€ 309,870
REEEP grant:	€ 149,600
REEEP donor:	Switzerland
Co-funding:	€ 160,270 from Caritas Switzerland
Implementing partner:	Caritas Switzerland