

Social business models for empowering the biogas technology

Abu Yousuf ^a, Sharmin Sultana ^b, Minhaj Uddin Monir ^a, Ahasanul Karim^a,
and Syed Radzi Bin Rahmaddulla^c

^aFaculty of Engineering Technology, University Malaysia Pahang, Kuantan, Malaysia; ^bFaculty of Industrial Science and Technology, University Malaysia Pahang, Kuantan, Malaysia; ^cFaculty of Industrial Management, University Malaysia Pahang, Kuantan, Malaysia

ABSTRACT

Biogas is a type of renewable energy which provides clean energy, reduces environmental pollution and greenhouse gas caused by the biological wastes, creates job opportunity for skilled and unskilled persons, and offers new income sources for investors. However, mostly practiced small-scale or family-size biogas plant becomes unsuccessful due to the lack of financial attractiveness. Therefore, it is essential to design a proper financial mode of operation to sustain this technology. The policy makers, investors, and researchers should develop a viable financial mechanism to attract the investors by offering loan with flexible conditions, restructure the subsidies skim, and liberalize the gas grid management and involvement of the end users in biogas project. The engagement of social business concept can stimulate the sustainability of the biogas technology and make it financially gorgeous. This study proposed a number of social business plans and described microeconomic evaluation systems to calculate their commercial viability to improve the survival of biogas technology.

KEYWORDS

Biogas technology;
economic evaluation;
economic viability;
investment in biogas
technology; social business
models