SAMPLE INNOVATION ENTRY

CONCEPT IDENTIFICATION

Concept title:	BIOGAS BACKPACK
Participant Names:	SAMPLE INNOVATION
Company/School/University	University of Hohenheim - Germany
County	Germany
Contact email:	SAMPLE INNOVATION
Contact phone number:	SAMPLE INNOVATION
Category of the idea.	Science & Technology

INTRODUCTION

Rural areas of many developing countries are very dependent on biomass fuels such as firewood for their energy consumption. However the use of such energy is often coupled with many problems such as deforestation, land degrade, various health and social problems as well as emissions of greenhouse gases. In many rural areas biogas can be used as a replacement for these fuels and can help solve many of the problems that are associated with biomass fuels. Currently constructing a small biogas plant in many developing rural areas is costly and unaffordable for many households. We propose a new cost effective way of harnessing biogas energy using a "biogas backpack".

DESCRIPTION

The Biogas Backpack is a pillow shaped balloon from flexible, gas tight material, plastic sheet and fabric. The two inner layers are made of gas tight PE-sheet, welded at the two open ends and equipped with a welded, threaded flange, holding a mini ball valve. The backpack is filled with biogas from the biogas plant by simple pressure equalization instead of by pump or compressor. Therefore, it does not need to be equipped with a security valve to release gas in the case of over pressure. To use the Biogas Backpack efficiently, it would make sense to produce the biogas in one central, technically advanced biogas plant. This way, farmers in the surrounding areas could contribute to the biogas production by selling substrate to the plant owner in exchange for biogas and fertilizer.

Because of the limited amount of biogas, the high content (30-60%) of non-flammable CO^2 in biogas and the non-pressurized status of the gas, there is no risk of an explosion. Even if in contact with open fire, the backpack does not explode, but rather burns down in a controlled

manner. To avoid accidents with leaking gas, the backpack is designed to be stored outside the house.

OUTCOMES & OUTPUTS (IMPACT)

The Biogas Backpack aims to provide poor rural households with an affordable source of energy for lighting or cooking, thereby improving living conditions. Helping to avoid the time consuming task of collecting fuel wood, the biogas backpack helps to ease the daily work of women in developing countries. In addition, health risks can be minimized as burning biogas is nearly smokeless.

FEASIBILITY

This solution is cost effective and can easily be rolled out to masses especially to facilitate the sale of biogas in developing countries and therefore makes it possible to start a business.

ORIGINALITY

This is a perfect example of an original and creative idea. Though Biogas is commonplace, no one had thought of such idea.

EFFECTIVENESS

The concept is highly effective in meeting clean energy needs especially for the people in rural areas and beyond.

DECLARATION:

I hereby declare that this innovation idea/business idea is my own work and has, to the best of my knowledge, not been submitted to any other local or international competition.

Candidate(s) Name(s): Courtesy of University of Hohenheim - Germany

Signature: sample