Adaptation of residential fireplace in the production of electric and enrichment of CO₂ in greenhouse

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Abstract

There are many types of renewable energy such as solar power, wind turbines, and hydroelectric system, however they need favorable weather conditions to produce energy, for example in case of hydroelectric power, a prolonged drought season may compromise the energy production. Today the biomass resources can be studied at ease, which are found in a range of different sources- the rural location (crop and animal residues) or in the city (urban solid waste). Biomass is also a renewable and constant choice of bioenergy as it does not depend on local environmental conditions. The wood has played an immensely important role in human evolution, and proved to be an indispensable part of our life starting from creation of wheel and then it's use in daily life, like in construction, manufacturing processes and generation of energy (heat or electric). In countries where the average temperature is lower, the wood has fundamental importance in the heating of residences, where wood or briquettes can be used to serve this purpose. The present research proposed to adapt a residential fireplace in a small thermoelectric station for power generation and the smoke produced in the combustion, which will be filtered and use for enrichment of CO_2 in greenhouse in order to promote higher growth rate of C3 plants.

Keywords: fireplace, wood, greenhouse and energy generate.

