

## 2<sup>nd</sup> International Conference & Expo on **Green Energy, Recycling & Environmental Microbiology**

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### Renewable energy technologies, sustainable development and environment

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The move towards a decarbonized world, driven partly by climate science and partly by the business opportunities it offers, will need the promotion of environmentally friendly alternatives, if an acceptable stabilization level of atmospheric carbon dioxide is to be achieved. This requires the harnessing and use of natural resources that produce no air pollution or greenhouse gases and provides comfortable coexistence of human, livestock, and plants. This article presents a comprehensive review of energy sources, and the development of sustainable technologies to explore these energy sources. It also includes potential renewable energy technologies, efficient energy systems, energy savings techniques and other mitigation measures necessary to reduce climate changes. The article concludes with the technical status of the ground source heat pumps (GSHP) technologies.

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### Low density wood cement panel

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The inhibition phenomenon is known by the researches of wood cement composites and led this prospective study to get a low density composite with a good physical and mechanical parameters and minimum consumption of cement. The challenge in civil construction is the life circle project, which is recognized with high levels of carbon emission. The forest is the natural carbon captor during tree growing stage. The aim of this work was to study low cost composite assembled by a mechanical vibration methodology which were employed the pretreatment of the particles and also were used two types of mineral bond, such as Portland cement and quicklime suspension, well known in the civil construction. The geometrical forms of specimens were molded and the composite was obtained by compression with cheaper vibrant mechanics action. The high wood content, as carbon sequestration during the harvested forest grows back instrument collaborating in mitigating emissions of greenhouse gases. The assessment and evolution of the results allowed for the creation of low density wood composite with important concrete's attributes for civil construction, such as ease of workability in the fresh state and speed of early picks of the cement matrix and also showed the internal resistance and manual effort torsion resistance. So, the wood cement composite can help storage inside of the parts of civil construction, in medium, until 4.5 kgCO<sub>2</sub> /m<sup>2</sup>, when considered a panel thick with 2.5 cm. Finally, the cement composite wood development in this study showed carbon storage capacity bigger than their emissions, when compared with similar wood fiber cement composites, which ones causes more carbon emissions in their production process than stores.

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