

Climate change Mitigation from WIPO Green Technologies, By producing Wood/ Timber substitutes from Solid Waste

Abstract

Based upon UN-REDD report on Carbon emissions, IPCC report on Climate change mitigation & numerous Scientific Research findings about OLD Trees being excellent stores of CARBON, Two (2) nos Environmentally Sound Technologies/EST (International Search, Patentability & Examination reports favorable) have been developed. Both ESTs produce economical & resilient substitutes of Wood/ Timber & Bricks from Solid Waste (Plastics, e-Waste, MSW etc), thus reducing demand for 'Natural & Real Wood' from Trees. This results in lowering the rate of Deforestation, causing decrease in Carbon emissions & enables Climate change mitigation.

Introduction

This proposal for Climate Change mitigation is based on UN-REDD program for Forests report on Carbon emissions, IPCC report on Climate change mitigation & numerous Scientific Research findings by various Research Universities, NGOs & also a Collaboration study.

Description

Details of the reports are as follows:

1. Mechanisms such as United Nations collaborative initiative on *Reducing Emissions from Deforestation and forest Degradation* (UN-REDD+), have the potential to bring about both Carbon Emissions reduction & benefit Livelihoods (http://ipcc-wg2.go0v/AR5/images/uploads/WGIIAR5-Chap20_FGDall.pdf).



Fig.1: Process of Climate Change mitigation with Wood Substitute

2. Reduction of Deforestation & saving Soil/Forest cover results in an Emissions cut & has a positive influence on Climate Change mitigation (refer to the *5th/ Fifth Assessment Report*, **WGIII AR5, IPCC** - activities to reduce emissions from Anthropogenic *Deforestation & Forest degradation* are cost-effective policy options for mitigating Climate Change., http://ipcc.wg2.gov/AR5/images/uploads/WG2AR5_SPM_FINAL.pdf).
3. Some of the numerous *Scientific Research* findings, are as follows:
 - a) *Rate of tree carbon accumulation increases continuously with tree size* - **Nature**, 14th Jan, 2014,
 - b) *Old trees store carbon faster* - **Science Alert**, Australia & New Zealand 20th Jan, 2014.
 - c) *Oldest trees are growing faster, storing/sequestering more carbon as they age and 97 percent of 403 tropical & temperate species on Six/6 continents grow more quickly the older they get* - **Journal Nature**, USA, 17th Jan, 2014 (involved repeated measurements of 673,046 individual trees, some going back more than 80 years).

The study published in *Journal Nature*, was a collaboration of an International Research Group led by Nate L. Stephenson of the U.S. Geological Survey **Western Ecological Research Center**, comprising of 38 scientists from research Universities, NGOs & Government agencies of 16 countries comprising of United States of America/USA, Spain, Panama, Colombia, Argentina, Thailand, Cameroon, Australia, France, United Kingdom/UK, China, Taiwan, Malaysia, Congo, New Zealand and Germany.

The demand for *Natural & Real Wood/ Timber* (which results in Deforestation) will reduce if *Wood/ Timber* substitutes of equal/better quality at same or lesser costs are available in the Market. Substitutes (27% Wood & 73% Solid Waste content) costs about 75% of Real Wood. can be prepared from Solid Wastes (e-Waste/ WEEE, Plastics, Municipal Solid Waste/MSW etc) in 24 –to- 26 hours in COLD Processes using two/2 Newly developed Environmentally Sound Technologies/ EST (*International Patentability, Search & Examination reports favorable*).

These are as follows:

1. RE- UTILIZION OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (ISA: EP), **National Phase entered in numerous key countries.**
2. RE- UTILIZION OF ASSORTED WASTES AND POLYMERS (ISA: EP), **National Phase entered in numerous key countries.**

Both ESTs/WIPO Green Technologies are enabled for Patent protection in 148 countries (under PCT) & National Phase entry is completed for many countries on several continents .Six/6 Prototypes have been successfully prepared & undergone essential material tests.

The ready availability of *Wood substitutes* in form of *Boards, Panels, Support legs & Beam* at an economical rate with improved properties/qualities (*strength, resilience, pest & wear proof* etc) will translate into decrease in demand for *Natural & Real Wood* for benefit to the following:

1. Environment
2. Emissions
3. Economy
4. Employment
5. Forestry

Thousands of Tons of accumulated Solid wastes all over India & the World can be utilized to produce wooden boards/panels /beams substitutes & so reduce GHG Emissions with the resultant reduction in Deforestation in India & the World.

Exclusivity of both ESTs is confirmed by a considered opinion from International Bureau (IB), WIPO, Geneva for **International PCT/IN2013/000244 & International PCT/IN2013/000245:**

1. *Novelty,*
2. *Inventive step &*
3. *Industrial applicability*

The European Patent Office/EPO has issued a favorable *Written Opinion (WO)* on:

- I. *International Search Report/ISR* (with EPO as *International Searching Authority/ISA*)
- II. *International Preliminary Examination Report (IPER)* &
- III. *International Preliminary Report on Patentability (IPRP)- Form PCT/ISA/237*

Implementation/Prosecution (*Technology transfer* in Patent sale or Lease) of both inventions in multiple countries is possible with the effort of a single official action response – (IPRP,WIPO).

Project under **Special Climate Change Fund (SCCF)** Adaptation Program (SCCF-A) or under the SCCF Program for Technology Transfer (SCCF-B), can be initiated on a Global scale in the countries where National/ Regional Phase entry of both Patent Techs have been completed.

Innovation/ Invention of *Wood/Timber substitutes* can be considered as a Proactive & Scientific contribution towards reduction of Emissions from Deforestation and forest Degradation (similar to UN-REDD)–The *substitutes* will Combat Desertification & lead to Climate change Mitigation.

Thanks & BRGDS,

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