

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202131017278 A

(19) INDIA

(22) Date of filing of Application :13/04/2021

(43) Publication Date : 14/10/2022

(54) Title of the invention : MICROWAVE BASED TORREFACTION SYSTEM AND METHOD FOR BIOMASS.

(51) International classification	:C10L0009080000, C10L0005440000, C10B0053020000, C10L0005400000, C10B0049020000	(71) Name of Applicant : 1)INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR Address of Applicant :Indian Institute of Technology Bhubaneswar Samantapuri Bhubaneswar Orissa India 751013 Orissa India
(31) Priority Document No	:NA	(72) Name of Inventor :
(32) Priority Date	:NA	1)Shardul Ravindra Narde
(33) Name of priority country	:NA	2)Dr. Remya Neelancherry
(86) International Application No	:NA	
Filing Date	:NA	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

ABSTRACT Title: MICROWAVE BASED TORREFACTION SYSTEM AND METHOD FOR BIOMASS. The present invention discloses a method and system to carry out continuous mode microwave torrefaction process including microwave and convection based heating of the biomass for torrefaction. In the proposed microwave torrefier, the shredded biomass is provided inside a long column through a top entry port along with microwave absorbers. These microwave absorbers helps in additional convective heating of the biomass. The column has tapering end at bottom from where the draft i.e. the mixture microwave absorbers and torrefied biomass, falls on mesh to filter torrefied biomass and microwave absorbers. The microwave absorbers slide down into a chamber from where they are conveyed back to the top of reactor to enter into the column again.

No. of Pages : 23 No. of Claims : 12