(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :23/11/2023

(21) Application No.202341079578 A
(43) Publication Date : 22/12/2023

(54) Title of the invention : MACHINE LEARNING BASED APPARATUS FOR CARBON CAPTURE AND STORAGE (CCS) OF FLUE GAS DISCHARGED FROM MARINE FACILITIES

(51) International classification :G06N0020000000, B01D0053140000, B01D0053620000, B01D0053180000, C01B0003340000
(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

(71)**Name of Applicant :**
1)RVR & JC COLLEGE OF ENGINEERING
Address of Applicant :RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)DR. M. MURALI
Address of Applicant :Dept. of Chemistry RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ---------- ----------
2)DR. K. KALYANI
Address of Applicant :Dept. of Chemistry RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ---------- ----------
3)DR. P. VENKATESWARA RAO
Address of Applicant :Dept. of Chemistry RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ---------- ----------
4)DR. N. SRINIVASA RAO
Address of Applicant :Dept. of Chemistry RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ---------- ----------

(57) Abstract :
MACHINE LEARNING BASED APPARATUS FOR CARBON CAPTURE AND STORAGE (CCS) OF FLUE GAS DISCHARGED FROM MARINE FACILITIES ABSTRACT The present invention discloses an innovative apparatus 100 leveraging machine learning (ML) technology for efficient and adaptive carbon capture and storage (CCS) of flue gas emissions emanating from marine facilities. The apparatus 100 integrates a sophisticated sensor system 102 to monitor the composition of flue gas in real-time. A machine learning module 104, trained on comprehensive datasets, analyzes and predicts carbon capture requirements based on the monitored emissions, allowing for dynamic adjustments to capture parameters. The apparatus 100 includes a capture unit 106, employing various carbon capture technologies, to selectively extract carbon dioxide from the flue gas. The captured carbon dioxide is then securely stored in a designated storage system 108. This ML-based approach ensures optimal and adaptive CCS performance, contributing to the mitigation of greenhouse gas emissions from marine operations.

No. of Pages : 19 No. of Claims : 9