

Title (en)  
UNDERGROUND REACTOR SYSTEM

Title (de)  
UNTERIRDISCHES REAKTORSYSTEM

Title (fr)  
SYSTÈME RÉACTEUR SOUTERRAIN

Publication  
**EP 2705131 A4 20150114 (EN)**

Application  
**EP 12779787 A 20120503**

Priority  
• US 201161481918 P 20110503  
• US 201261602841 P 20120224  
• US 2012036400 W 20120503

Abstract (en)  
[origin: WO2012151447A2] An underground reactor for creating hydrocarbons and chemicals from organic material preferably includes a heat recovery device. Some embodiments of the present invention include at least one tube that injects biomass underground and at least one second tube that collects reacted biomass on the surface. Further tubes are also disclosed for the ability to control temperature and pressure and collect minerals and carbon dioxide. Methods for utilizing the reactor are additionally provided. Further embodiments include methods of using the reactor such as, for example, methods of creating fuel from algae and methods of using the minerals and carbon dioxide as food for an algae farm that will be used as biomass for the reactor.

IPC 8 full level  
**C12M 1/00** (2006.01); **B01J 3/02** (2006.01); **B09B 1/00** (2006.01); **B09B 3/00** (2006.01); **C02F 11/04** (2006.01); **C12M 1/34** (2006.01); **C12P 5/00** (2006.01); **F24J 3/08** (2006.01)

CPC (source: CN EP RU US)  
**B09B 3/40** (2022.01 - EP US); **C10G 1/00** (2013.01 - CN); **C10G 1/008** (2013.01 - US); **C10G 1/02** (2013.01 - EP RU US); **C12M 21/12** (2013.01 - CN EP US); **C12M 23/06** (2013.01 - CN); **C12M 23/18** (2013.01 - CN); **C12M 29/00** (2013.01 - CN); **C12M 41/18** (2013.01 - CN); **C12M 43/02** (2013.01 - EP RU US); **C12M 47/06** (2013.01 - EP RU US); **F01K 25/08** (2013.01 - CN); **F24T 10/00** (2018.04 - RU); **F24T 10/10** (2018.04 - EP US); **F24T 10/30** (2018.04 - EP US); **F24T 50/00** (2018.04 - EP US); **C10G 2300/1011** (2013.01 - CN); **C12M 41/40** (2013.01 - EP US); **Y02E 10/10** (2013.01 - EP US); **Y02P 20/129** (2015.11 - EP US); **Y02P 20/59** (2015.11 - EP US); **Y02W 10/37** (2015.05 - EP US); **Y02W 30/20** (2015.05 - EP US)

Citation (search report)  
• [XY] US 5484231 A 19960116 - CANNAN WILLIAM L [US], et al  
• [Y] US 5072783 A 19911217 - AYALA MARTINEZ GUILLERMO [ES], et al  
• [A] WO 2008134486 A1 20081106 - ENERTECH ENVIRONMENTAL INC [US], et al  
• See references of WO 2012151447A2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2012151447 A2 20121108; WO 2012151447 A3 20121227**; AU 2012250684 A1 20131121; AU 2012250684 B2 20170223; BR 112013028426 A2 20190924; CA 2834858 A1 20121108; CN 103608449 A 20140226; CN 103608449 B 20160622; CN 106010615 A 20161012; CN 106010615 B 20200724; EP 2705131 A2 20140312; EP 2705131 A4 20150114; MX 2013012789 A 20140922; RU 2013153484 A 20150610; RU 2627594 C2 20170809; US 2014206912 A1 20140724

DOCDB simple family (application)  
**US 2012036400 W 20120503**; AU 2012250684 A 20120503; BR 112013028426 A 20120503; CA 2834858 A 20120503; CN 201280028299 A 20120503; CN 201610344283 A 20120503; EP 12779787 A 20120503; MX 2013012789 A 20120503; RU 2013153484 A 20120503; US 201214115278 A 20120503