



WIPO GREEN and promotion of Green Technologies

WIPO Conversations, Fifth Session, Panel 5
Geneva, April 6, 2022

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The evolving risk landscape 2007-20

Top 5 Global Risks in Terms of Likelihood

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1st	Infrastructure breakdown	Blow up in asset prices	Asset price collapse	Asset price collapse	Storms and cyclones	Income disparity	Income disparity	Income disparity	Interstate conflict	Involuntary migration	Extreme weather	Extreme weather	Extreme weather	Extreme weather
2nd	Chronic diseases	Middle East instability	China economic slowdown	China economic slowdown	Flooding	Fiscal imbalances	Fiscal imbalances	Extreme weather	Extreme weather	Extreme weather	Involuntary migration	Natural disasters	Climate action failure	Climate action failure
3rd	Oil price shock	Failed and failing states	Chronic diseases	Chronic disease	Corruption	Greenhouse gas emissions	Greenhouse gas emissions	Unemployment	Failure of national governance	Climate action failure	Natural disasters	Cyberattacks	Natural disasters	Natural disasters
4th	China hard landing	Oil price shock	Global governance gaps	Fiscal crises	Biodiversity loss	Cyberattacks	Water crises	Climate action failure	State collapse or crisis	Interstate conflict	Terrorist attacks	Data fraud or theft	Data fraud or theft	Biodiversity loss
5th	Blow up in asset prices	Chronic diseases	Deglobalization (emerging)	Global governance gaps	Climate change	Water crises	Population aging	Cyberattacks	Unemployment	Natural catastrophes	Data fraud or theft	Climate action failure	Cyberattacks	Human-made environmental disaster

Top 5 Global Risks in Terms of Impact

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1st	Blow up in asset prices	Blow up in asset prices	Asset price collapse	Asset price collapse	Fiscal crises	Financial failure	Financial failure	Fiscal crises	Water crises	Climate action failure	Weapons of mass destruction	Weapons of mass destruction	Weapons of mass destruction	Climate action failure
2nd	Deglobalization	Deglobalization (developed)	Deglobalization (developed)	Deglobalization (developed)	Climate change	Water crises	Water crises	Climate action failure	Infectious diseases	Weapons of mass destruction	Extreme weather	Extreme weather	Climate action failure	Weapons of mass destruction
3rd	Interstate and civil wars	China hard landing	Oil and gas price spike	Oil price spikes	Geopolitical conflict	Food crises	Fiscal imbalances	Water crises	Weapons of mass destruction	Water crises	Water crises	Natural disasters	Extreme weather	Biodiversity loss
4th	Pandemics	Oil price shock	Chronic diseases	Chronic disease	Asset price collapse	Fiscal imbalances	Weapons of mass destruction	Unemployment	Interstate conflict	Involuntary migration	Natural disasters	Climate action failure	Water crises	Extreme weather
5th	Oil price shock	Pandemics	Fiscal crises	Fiscal crises	Energy price volatility	Energy price volatility	Climate action failure	Infrastructure breakdown	Climate action failure	Energy price shock	Climate action failure	Water crises	Natural disasters	Water crises

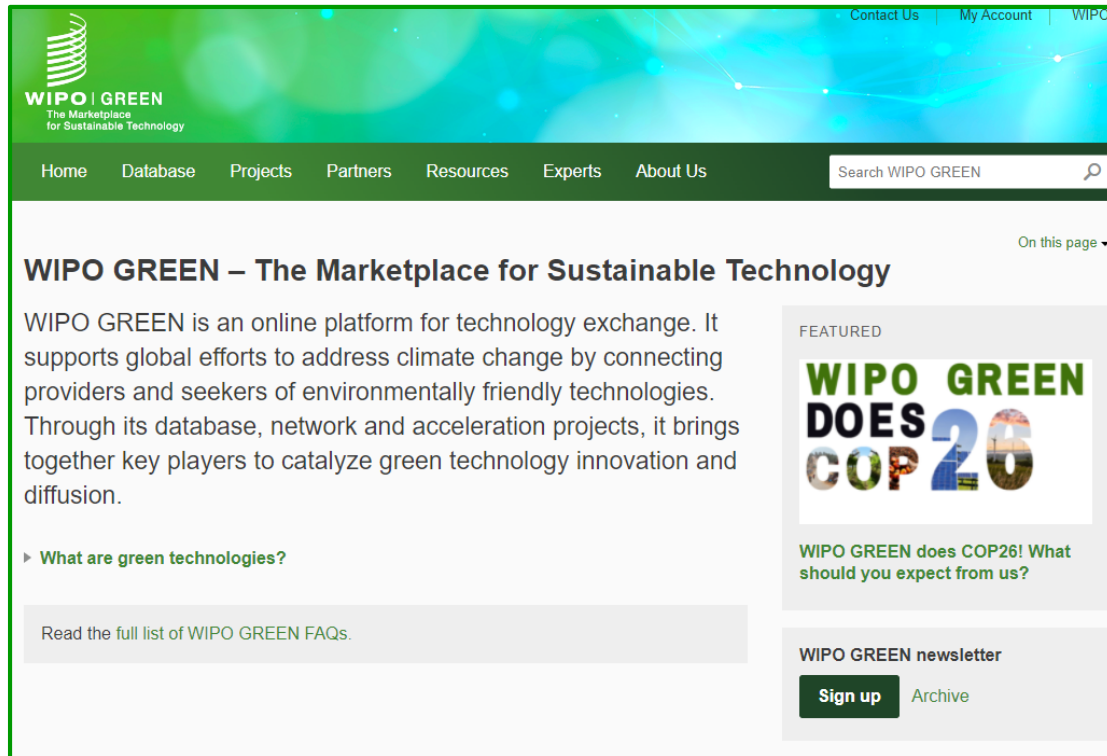
Source: Global Risks Report 2019, World Economic Forum

■ Economic
 ■ Environmental
 ■ Geopolitical
 ■ Societal
 ■ Technological

WIPO GREEN main role

- Reach out to public and private spheres
- Mobilize innovation and green technology for global challenges
- Green technology is very on technological frontier
- Solutions are there, but uptake too slow
- Lack of information part cause
- IP system generates technological knowledge and facilitates innovation and technology transfer
- Part of WIPO's contribution to SDGs
- Part of making IP and innovation better known and used

WIPO GREEN Platform



- WIPO GREEN platform, major visible implementation
- Combines all assets
 - Database
 - Projects
 - Partners
 - Resources / knowledge material

Acceleration projects



Database of Needs & Technologies

- >127.000 entries
- User-uploads, partner imports, Patentscope, knowledge material

The screenshot displays the WIPO GREEN Database interface. At the top, there is a search bar with the text "Search WIPO GREEN Database" and a search button labeled "Search". To the right of the search bar are options for "Simple" search and "Full Text Search". Below the search bar, the page is titled "WIPO GREEN Database of Innovative Technologies and Needs". A descriptive paragraph explains that the database is a free, solutions-oriented, global innovation catalogue connecting needs for solving environmental or climate change problems with sustainable solutions. It lists features such as user uploads, patent imports, and AI-assisted auto-matching. Below the text are six category icons: ENERGY, WATER, FARMING FORESTRY, POLLUTION WASTE, TRANSPORTATION, and PRODUCTS MATERIALS PROCESSES. A "BUILDING CONSTRUCTION" icon is also present. The "Collections" section lists three specific projects: "LAC Climate Smart Agriculture", "Feeding 9bn", and "POME Indonesia". On the right side, a "LATEST ENTRIES" section lists several recent entries with dates and brief descriptions, including "Low-cost energy-efficient small-scale cassava flour and starch", "Potato varieties for mid-altitude, semi-arid agro-ecologies in sub-Saharan Africa", "An Eco-Brick and a method of preparation", and "Electric Power Trading Systems, Method".

Search WIPO GREEN Database

Simple X Search Full Text Search

WIPO GREEN Database of Innovative Technologies and Needs

The WIPO GREEN database is a free, solutions oriented, global innovation catalogue that connects needs for solving environmental or climate change problems with sustainable solutions. The database consists of user uploads of needs and solutions, green technology patents from the WIPO Patentscope database, imports from select partner organizations, and relevant knowledge material. AI-assisted auto-matching, user uploads tracing and alerts, full-text search for solutions based on long need descriptions, and the Patent2Solution search function for finding commercial applications of a patent, are some of the unique features of the database. Free registration is required for detailed record view and uploading.

ENERGY WATER FARMING FORESTRY POLLUTION WASTE TRANSPORTATION PRODUCTS MATERIALS PROCESSES

BUILDING CONSTRUCTION

Collections

Collections group needs and technologies from WIPO GREEN Acceleration Projects and other activities. WIPO GREEN Acceleration Projects actively identify pertinent needs within specific climate change, food security, and environmental issues in a country or region as well as potential innovative green solutions.

- LAC Climate Smart Agriculture**
Our Latin America Project focusing on zero-till in Brazil, sustainable agriculture and forestry in Argentina and Peru, and wine producers in Chile.
- Feeding 9bn**
Ideas for how innovation can help feed the more than 9 billion people forecast to inhabit earth by 2050.
- POME Indonesia**
Acceleration project in Indonesia on technology solutions for treating Palm Oil Mill Effluent (POME).

LATEST ENTRIES

- Nov 15, 2021**
Low-cost energy-efficient small-scale cassava flour and starch
In many tropical and sub-tropical populations and cities drive increased production and demand for long shelf products. Small-scale flash drying is
- Nov 15, 2021**
Potato varieties for mid-altitude, semi-arid agro-ecologies in sub-Saharan Africa drought and virus tolerance.
Bringing potato to non-traditional areas extends to farmers in traditional agriculture enduring erratic weather – namely drought. Potato varieties tolerant to water
- Nov 6, 2021**
An Eco-Brick and a method of preparation
A Waste Management solution to reduce Waste(HDPE; LDPE; PET; PP) 2. Cattle building material mortar composition anaerobic melting and digestion of
- Nov 2, 2021**
Electric Power Trading Systems, Method
PROBLEM TO BE SOLVED: To provide a trading system capable of stable power trading. An electric power trading mediates trading between a first user

Search WIPO GREEN Database

Simple

Search

Full Text Search

Field: Biomass/Bioenergy

Filter User uploads

Search in filters

Reset all

Source

- Patentscope (4052)
- User uploads (135)
- AUTM (76)

Type

- Technology (4248)
- Need (13)
- Knowledge material (2)

Collections

- Transportation (24036)
- Energy (53586)

1/16

1 of 427 10 4263 results

Sort by Published date

ENERGY > BIOMASS/BIOENERGY | ENERGY > WASTE TO ENERGY



Hydrogen Sulfide Bio-scrubber

Organics designs and manufactures vertical and horizontal bio scrubbers that can reduce the hydrogen sulfide down to 100 ppm and counter the threat of corrosion related to the production of H₂S in landfilled waste or anaerobic digestion systems. The main advantage of the system is that, in most circumstances, no additional costs for chemical additions are incurred. The bacteria involved in the process are ubiquitous and, as long as correct environmental conditions are maintained, the bacteria wi ...

Owner	PT Organics Bali
Uploaded by	ade sri rahayu
Type	Technology
Source	User uploads
Published	Sep 6, 2021
Readiness level (TRL)	Scaling up (TRL 9)
Developed in	Indonesia



ID 138648

ENERGY > BIOMASS/BIOENERGY | ENERGY > WASTE TO ENERGY



Biogas Upgrading & Distribution (CBG)

Safe S.p.A. provides turnkey solutions for biogas upgrading & distribution at low, medium, and high pressures for either grid injection, bulk transportation, or NGV filling. Safe S.p.A. is the preferred technology partner for many international customers who seek trouble-free and feasible development of their biogas to biomethane (CBG) projects. Thanks to our global partners' network, we are always near to our customers for the best sales and after-sales support.

Owner	SAFE S.p.A.
Uploaded by	ade sri rahayu
Type	Technology
Source	User uploads
Published	Sep 6, 2021
Readiness level (TRL)	Scaling up (TRL 9)
Developed in	Italy



ID 138647

Full text



1

Introduction

2

Select query source

3

Query text

4

Keywords

Input type User input

Needs full-text search:

anaerobic digester palm oil effluent separation technology

This is a biogas power plant with an installed capacity of 2 MW. The POME is supplied from a mill with a capacity of 35 tons per hour. There is an issue with anaerobic digester effluent that flows to the mill's existing wastewater treatment ponds. The sediment accumulation in the ponds was quicker than the of use conventional POME treatment when fresh POME from the mill is flowing directly to the open ponds. Nevertheless, the final effluent quality has no issue with the regulatory discharge limit. The final effluent is used for land application. The mill is interested in separating sludge/cake from effluent water. Digester effluent cake will be used for fertilizer, while the effluent will be used for land application or to be treated further by water purification so that it can be recycled back to the palm oil processing plant, whenever required. The cake quality should be analyzed further whether the mineral contents are equivalent to fertilizer so it can be used on the plantation. In the dry season, the mill is short of water. If the final effluent can be processed and recycled back to the mill then it can support palm oil production during the dry season.

Enter the full text to process

Previous

Clear

Next

Full Text Search



Sort by Relevance

Method,	Owner	Kanazawa Ins Technology
by the	Uploaded by	SUWA YORIM
tion	Type	Technology
hat	Source	User uploads
gen ...	Published	Mar 22, 2021
	Readiness level (TRL)	Proof of conc 3-4)
	Developed in	Japan
	Owner	SUNCULTURE INC.
ically	Uploaded by	WIPO GREEN
anel	Type	Technology
state.	Source	Patentscope
	Published	Sep 18, 2014

ENERGY > SOLAR

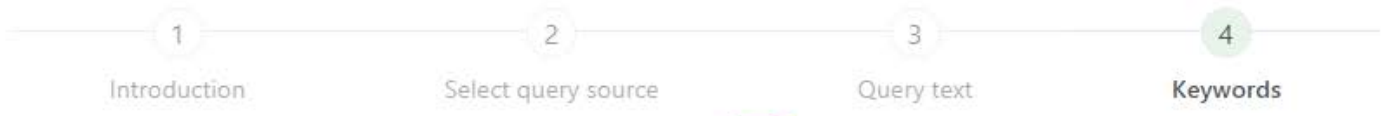


ENERGY > SOLAR



FIG. 4

Full text



As phrases

Select the keywords that will be used for the query:

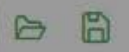
- water
- plantation
- effluent
- capacity
- mill
- ponds
- installed capacity
- POME
- cake
- final effluent
- effluent water

[< Previous](#)

[X Clear](#)

[Apply](#)

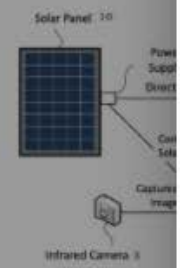
Full Text Search



Sort by Relevance

Method,	Owner	Kanazawa In Technology/
by the	Uploaded by	SUWA YORII
tion	Type	Technology
hat	Source	User upload
gen...	Published	Mar 22, 202
	Readiness level (TRL)	Proof of con 3-4)
	Developed in	Japan
	Owner	SUNCULTUR INC.
ically	Uploaded by	WIPO GREEN
anel	Type	Technology
state.	Source	Patentscope
	Published	Sep 18, 2014

ENERGY > SOLAR



ENERGY > SOLAR

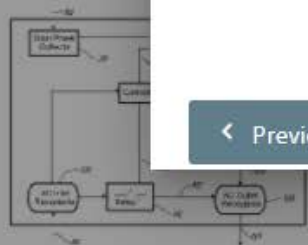


FIG. 4

ENERGY > SOLAR

ZERO DISCHARGE TREATMENT SYSTEM OF PALM OIL MILL EFFLUENT (POME)

POLLUTION & WASTE > RECYCLING & REUSE | FARMING & FORESTRY > IMPROVED FARM INPUTS





Description Details Other Information Attachments

The present invention relates to establishment of a zero discharge treatment technology of POME mainly routed in (1) pre-treatment, (2) biological treatment and (3) membrane separation. The ultimate goals of the developed zero discharge POME treatment technology are: (1) produce biogas as a source of renewable energy, (2) zero emissions of POME into the atmosphere, (3) final discharge of BOD 20 ppm or below; (4) clean water for use as boiler feed water and (5) recover potash rich fertilizer, which are of great values to the palm oil milling process.

Patent2Solution

ID	60274
Applicant	RONSER BIO-TECH SDN BHD
Uploaded by	WIPO GREEN Import
Type	Technology
Source	Patentscope
Published	Nov 14, 2013
Updated	Jul 12, 2021

 EMAIL OWNER
  VISIT WEBSITE
RONSER BIO-TECH SDN BHD

Disclaimer

Data has been uploaded by WIPO from the PATENTSCOPE Database. The data has been submitted by the applicant in

Patent2Solution

Patent2Solution is a unique search function providing links to commercial sites which may be related to the patent chosen. It applies artificial intelligence functions and an elaborate Google search algorithm, but due to the variety and complexity of patents, it may not always produce useful results. The emphasis is on providing a commercial link to a patent. If no patent owner company is indicated in the patent, the likelihood of finding an exact match decreases.

Patent2Solution is developed by WIPO GREEN and is provided for assistance only. Feedback on how you use this function and whether you find it useful are highly appreciated. You can write to info@wipogreen.int.

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Results related to [ZERO DISCHARGE TREATMENT SYSTEM OF PALM OIL MILL EFFLUENT \(POME\)](#)

Editable keywords used:

ZERO DISCHARGE TREATMENT PALM OIL environmental policies water

Search

(54) Total results

Page 1 of 6 << < 1 2 3 4 5 > >>

www.linkedin.com > [company](#) > [ronser-bio-tech-berhad](#)

[Ronser Bio-Tech Berhad | LinkedIn](#)

Ronser Bio-Tech Berhad | 42 followers on LinkedIn. **Ronser Bio-Tech** Bhd, a BioNexus status company, is an INTEGRATED WASTEWATER TREATMENT SOLUTIONS ...

Source: GOOGLE

www.crunchbase.com > [organization](#) > [ronser-bio-tech-sdn-bhd](#)

[RONSER Bio-Tech Sdn Bhd - Crunchbase Company Profile ...](#)

RONSER Bio-Tech Sdn Bhd provides environmental facilities and engages in the treatment of industrial high organic wastewater.

Source: GOOGLE

www.facebook.com > [ronserbiotech](#) >

[Ronser Bio-Tech Berhad - Home | Facebook](#)

Ronser Bio-Tech Bhd, a BioNexus status company, is an INTEGRATED WASTEWATER TREATMENT SOLUTIONS specialist offering multi-disciplinary environmental services in ...

www.alfalaval.com > industries > food-dairy-beverage > food-processing > fat-and-oil-processing > palm-oil-processing > pome-treatment >

Palm oil mill effluent POME treatment - Alfa Laval

Traditional **treatment** methods place demands on millers, particularly in the face of strict **environmental** regulations. Drawing from our knowledge of evaporation ...

Source: GOOGLE

onlinelibrary.wiley.com > doi > abs > 10.1002 > 9781119478911.ch20

Water Recycling from Palm Oil Mill Effluent - Handbook of Water ...

Jan 8, 2021 ... Summary Nowadays, **oil palm** production in Malaysia has reached 20 000 000 tons. The conventional **treatment** method for **palm oil** mill effluent ...

Source: GOOGLE

iwaponline.com > wst > article > 73 > 11 > 2704 > 19121 > Polishing-of-treated-palm-oil-mill-effluent-POME

Polishing of treated palm oil mill effluent (POME) from ponding ...

Mar 7, 2016 ... As the ponding system used to **treat palm oil** mill effluent (POME) frequently fails to satisfy the **discharge** standard in Malaysia, ...

Source: GOOGLE

us.pg.com > environmental-sustainability >

Environmental Sustainability | Procter & Gamble

NET **ZERO** AMBITION BY 2040. In September 2021, P&G set a new ambition to achieve net **zero** greenhouse gas (GHG) emissions across its operations and supply chain ...

Source: GOOGLE

www.musimmas.com > sustainability > environmental-protection >

Environmental Protection - Musim Mas

As a major player in the **palm oil** sector, we have a significant role in promoting sustainable forest management in our industry. We also play a part in ...

Source: GOOGLE

Automatching

Caulys-Farm: smart indoor vertical farm

FARMING & FORESTRY > FARMING TECHNOLOGIES | FARMING & FORESTRY > GREENHOUSE & INDOOR

		Description	Benefits	Other Information	Matching needs	Similar technologies	Statistics
ID	10790						
Owner	Caulys SA	Administrative tools that link the digital with the economic					
Uploaded by	WIPO GREEN admin	Environmental friendly greenhouse farming					
Type	Technology	Sustainable Production Management					
Source	User uploads	Digital Agriculture Satellite monitoring of agricultural machines.					
Published	Aug 11, 2020	Hydroponics System for barley fodder					
Updated	Nov 15, 2021	ADJUSTMENT OF THE BIODIVERSITY AND INTENSITY OF AGRICULTURAL					



VISIT WEBSITE

Caulys SA

More

Your Country has made Commitments

- NDC (iNDC) - Nationally Determined Contributions – Paris accord 2015
- NAP - National Adaptation Plans (developing countries)
- Methane pledge – brand new
- SDGs – 2030 Agenda for Sustainable Development (replaced Millennium Dev. Goals)
- CBD - Convention on Biological Diversity
- FAO International Code of Conduct on the Distribution and Use of Pesticides
- International Treaty on Plant Genetic Resources for Food and Agriculture
- International Tropical Timber Agreement (ITTA)
- Minamata Convention on Mercury,
- Montreal Protocol on Substances that Deplete the Ozone Layer
- Stockholm Convention on Persistent Organic Pollutants
- United Nations Convention to Combat Desertification
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes
- + many regional agreements

+ many more....

IPO Green Project

- Launching webinars done
- A place where IPOs can find inspiration
- A place where IPOs can share experience – good & bad
- Located on the WIPO GREEN Platform – specialized in green innovation
- Continuous activities
- ... which activities is decided by IPOs
- A permanent feature of WIPO GREEN
- We facilitate so that IPOs can do
- Already 13 initiatives identified

Work financed by  JPO
JAPAN PATENT OFFICE

Policy Initiatives Identified

- Accelerated patent prosecution
- Provision of green data and analysis
- Matchmaking and «business rounds»
- Regional cooperation on green IP matters
- Collaboration with WIPO GREEN
- IP awareness-raising for green innovators
- Green training programs
- Green PPH arrangements
- Upcycling programs for counterfeits
- Awards for green innovation
- IP services for green entrepreneurs
- Green classification systems
- Financial support for green patent applications

Thank you !

WIPO.GREEN@WIPO.INT
IPOGreen@wipo.int



wipo.int/green



SEARCH

We invite you to search for technologies on our database.



UPLOAD

Register to be a WIPO GREEN user and upload your technology needs and solutions.



CONNECT

The automated matchmaking function on our database makes it easy to connect with technology seekers and providers.