

# W2S TECHNOLOGY A CIRCULAR "3 IN 1" ECOSYSTEM.

PRODUCING SYNTHETIC SOIL &  
STONE FROM WASTE.

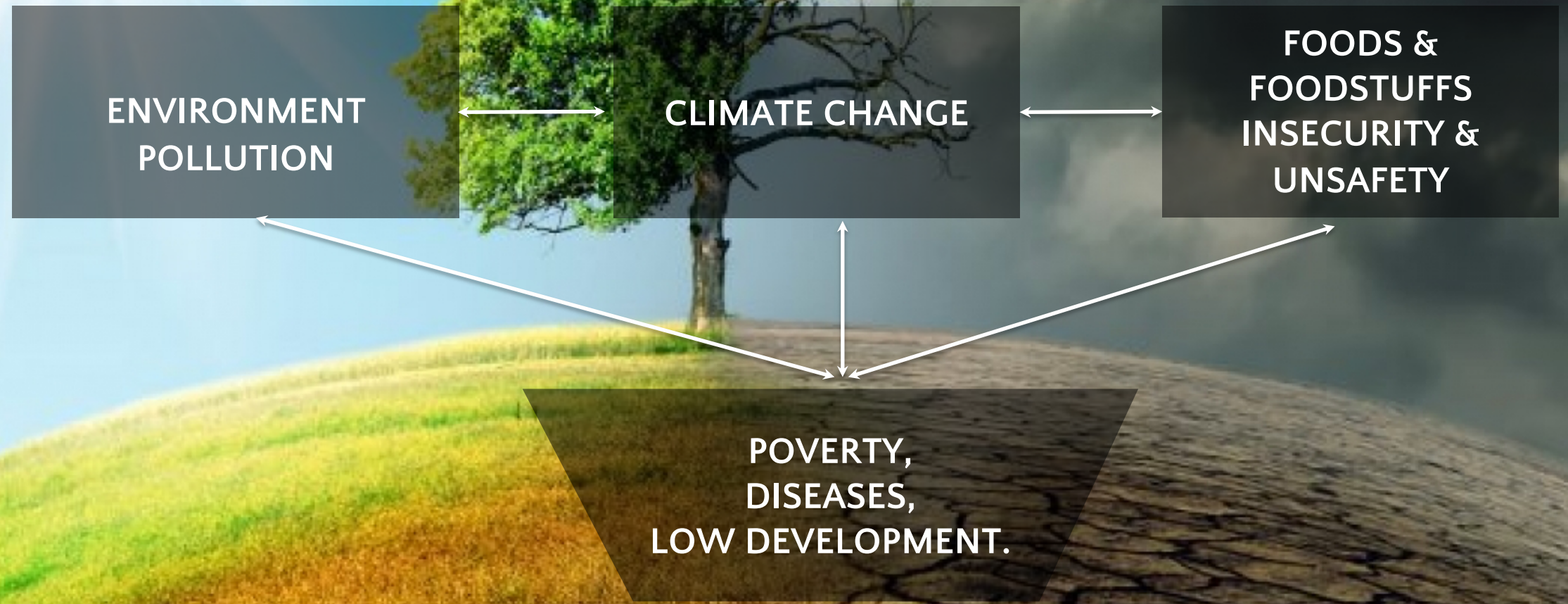


**NO WASTE WASTED !**



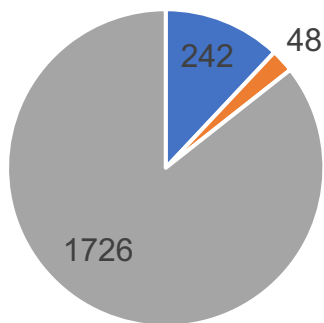
- **TITLE OF INVENTION : "SYNTHETIC SOIL AND METHODS FOR PRODUCING SAME FROM WASTE "**
  - **FIRST INVENTED BY PHAM VAN HUNG**
  - **DEVELOPED BY SPRINGFIELD WASTE REFINING TECHNOLOGIES.**
- **THE UNPROVISIONAL PATENT APPLICATION CERTIFIED BY U.S. PATENT AND TRADE MARK OFFICE NO. USPTO17/119.477 DATED MARCH 11<sup>TH</sup> 2021.**
- **WIPO INTERNATIONAL PCT APPLICATION NUMBER. PCT/IB2020/061786 10.12.2020**
- **LICENSED BY HK BROTHERS AMERICA, LLC.**

# Challenges



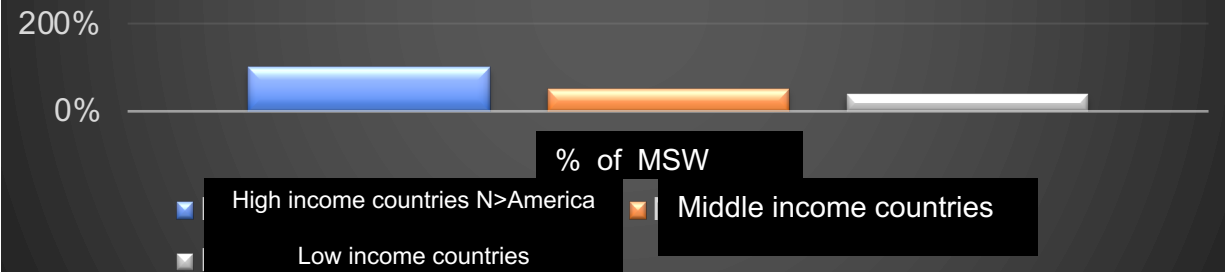
# ➔ Overview of MSW pollution

- In Vietnam, about 25.5 million tons of MSW were generated in 2018 according to statistics of the Ministry of Natural Resources and Environment (2017 statistics). MSW will increase to 54 million tons by 2030 (World Bank forecast, 2019). Chart of total volume of waste.



■ Chất thải nhựa ■ Chất thải điện tử ■ Chất thải khác

## The percentage of MSW generation varied according to the income of the country



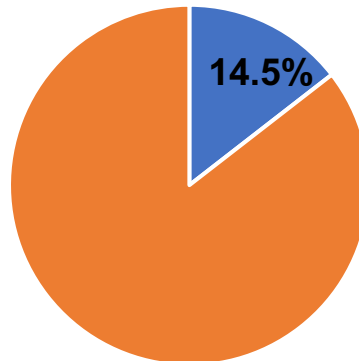
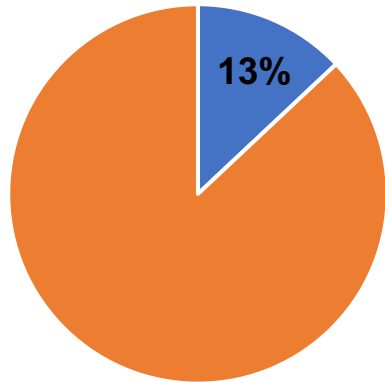
**THE TREND OF MSW GENERATION IS INCREASING IN VIETNAM.**

Vietnam is no. 4 in ocean plastic waste (Jambeck and associates, 2015)

# Wastewater pollution overview

1 MILLION M3 OF INDUSTRIAL WASTEWATER PER DAY

7 MILLION M3 DOMESTIC WASTEWATER/DAY

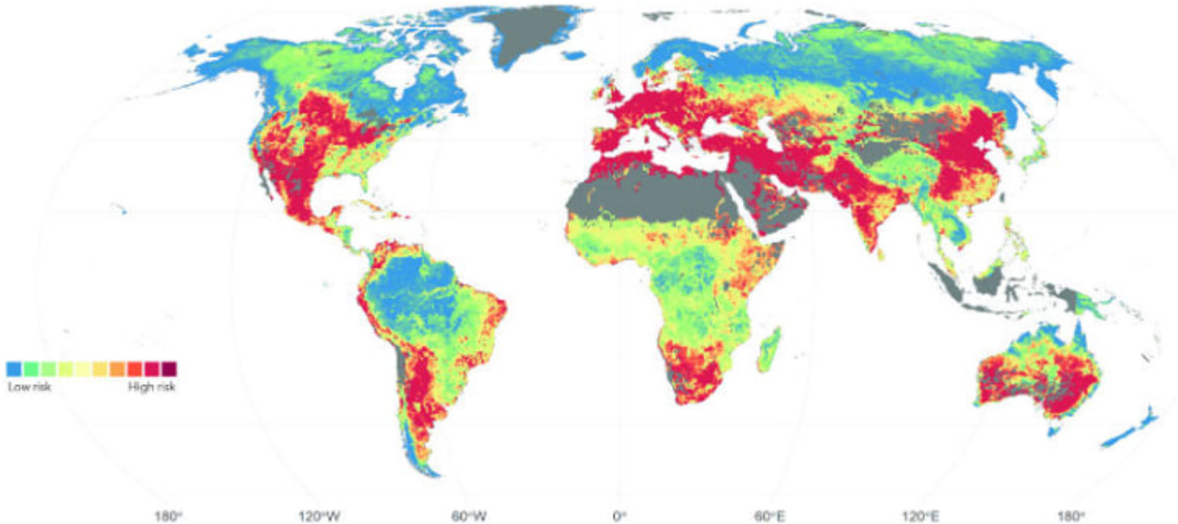


TREATED

UNTREATED

TREATED

UNTREATED



Water pollution creates risks for the economic development of countries

- In addition, there are hundreds of millions of m3 of rivers and ponds water that are severely polluted due to livestock waste, agriculture, fisheries, aquaculture, mining industry and trade villages that need to be treated.

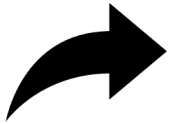
It is forecast that wastewater pollution in Vietnam will become more and more serious, especially: Pollution of surface water sources of Nhuê - Day river basin, Bac Hung Hai, Cau, Vu Gia - Thu Bon, Dong Nai-Saigon;

The amount of urban wastewater in development is increasing;

Many surface water sources have exhausted their ability to receive waste; Many rivers can no longer clean themselves and become sewerage drainage and storage systems.

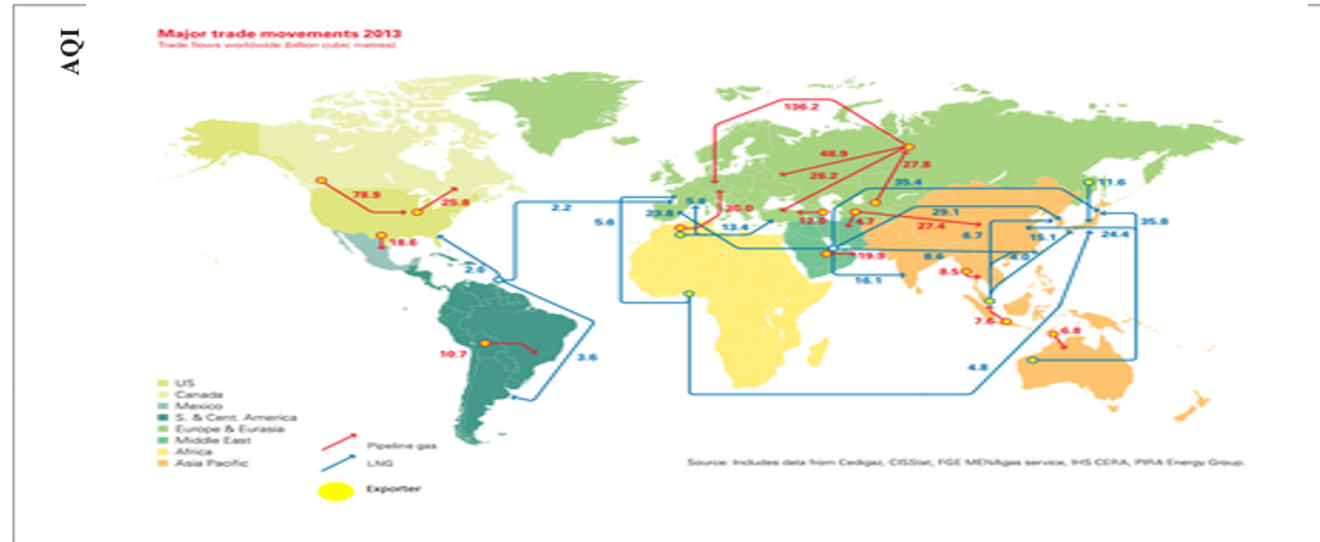
**WASTEWATER SOURCES TEND TO BE INCREASING IN VIETNAM**

# Overview of air pollution & greenhouse gas emissions

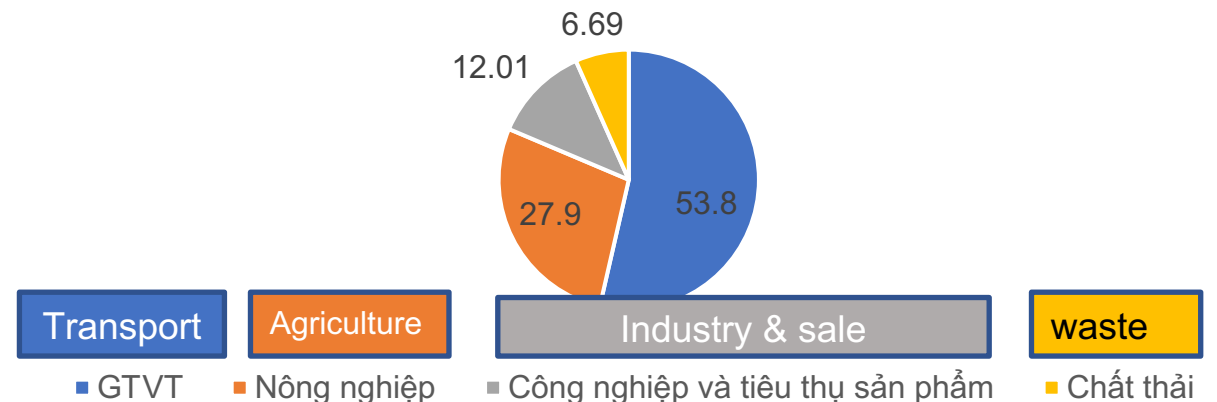


In Vietnam:  
Air pollution, especially dust pollution (PM10, PM2.5) is an alarming issue, directly adversely affecting health, causing psychological insecurity and anxiety for the people.

Total greenhouse gas (GHG) emissions in 2014 were 284 million tonnes of CO2 equivalent to land use, land use and agriculture (LULUCF) and 321.5 million tonnes of CO2 equivalent excluding (LULUCF).



## TECHNICAL REPORT ON NATIONAL INVENTORY OF GHG IN AREAS WITH EMISSIONS





# Scenario to reduce Vietnam's greenhouse gas emissions by 2030

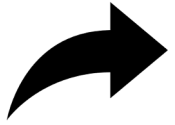
**Goal 1: With domestic resources.**

Reduce total GHG emissions by 8% compared to the normal development scenario,

- 20% reduction in emission intensity per unit of GDP compared to 2010
- Increase coverage by 45%.

**Goal 2: With international assistance**

- The 8% contribution will be increased to 25%
- 30% reduction in emission intensity per unit of GDP compared to 2010.



# HYBRID W2S –W2E SOLUTION – INTEGRATED CO-PROCESSING "3 IN 1" SOLID – LIQUID – GASEOUS WASTE.

This is the latest and unique technology from the current known waste treatment technologies in the world today, in all 3 ways: substance, method and processing time.

Material

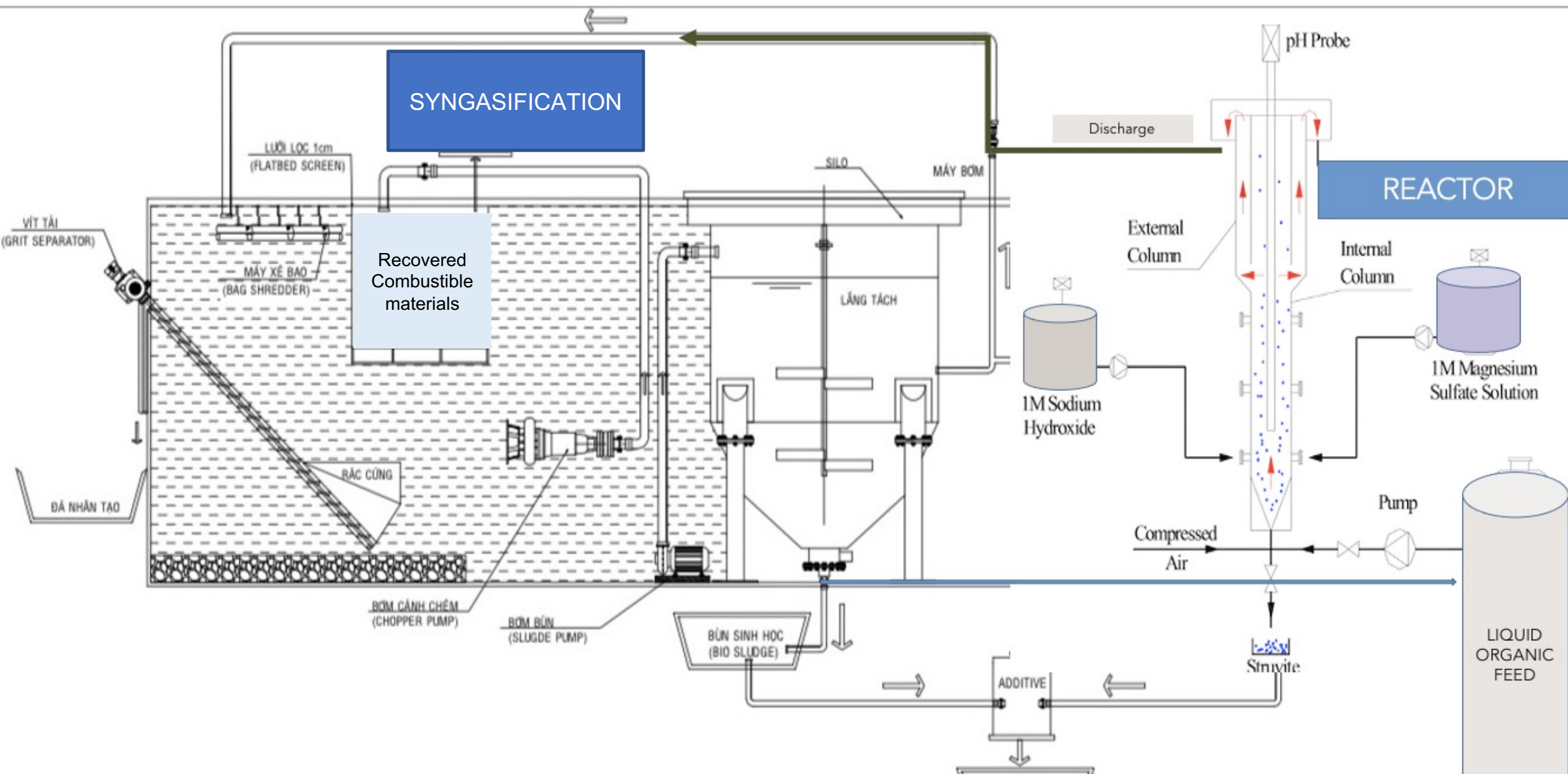
95% - 97% of input materials are of any waste, in a solid – liquid – gaseous states or combined thereof, without pre-sorting at source, without limiting the volume of waste.  
The output product is a green, bio-clean material with outstanding physico-mechanical performances vs similar materials.

Method

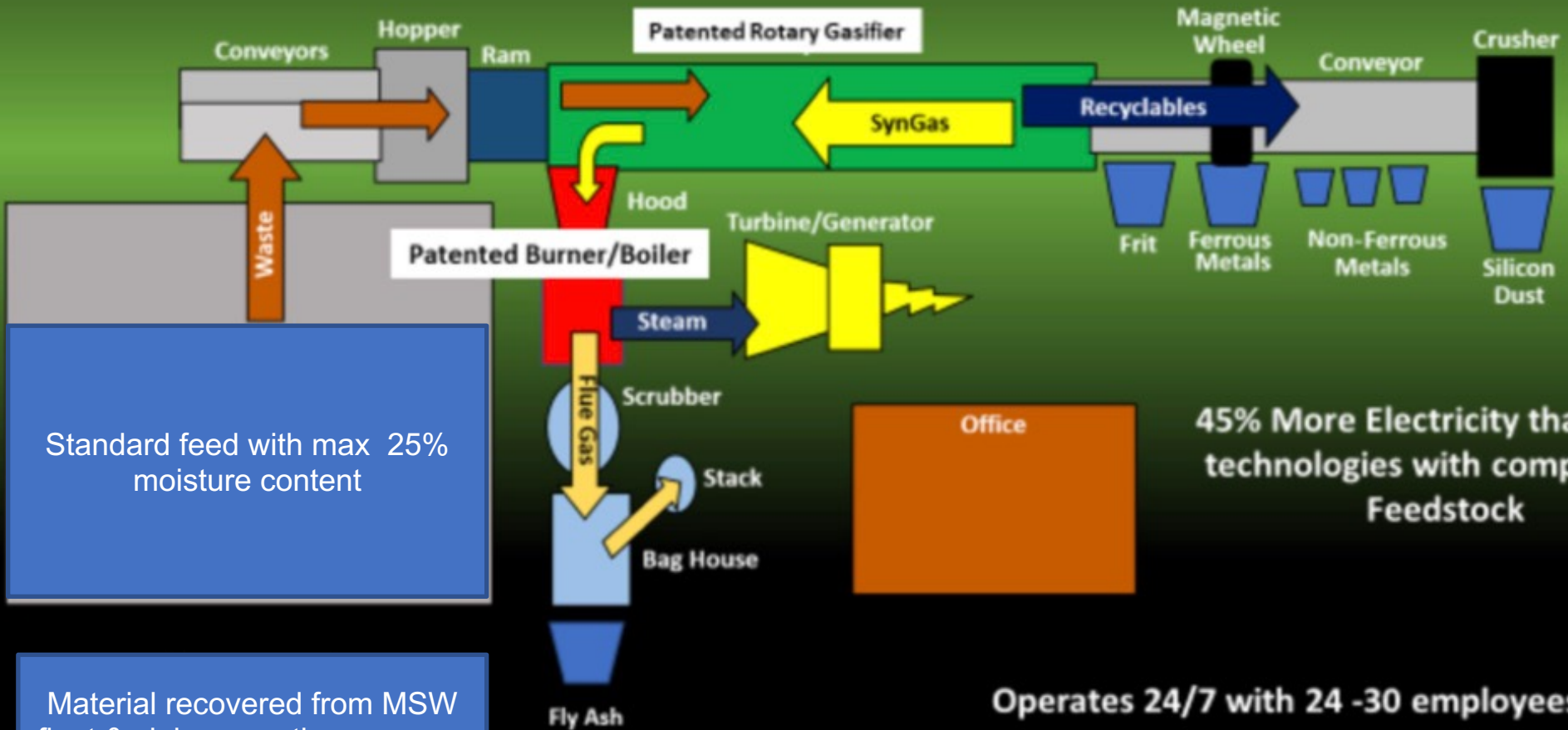
- Conversion (no burning, no burial, no secondary emissions, negative carbon - low heat);

Time length

- Fast & Efficient: create synthetic soil/ stone in just a few hours or days (Natural soil/ rock takes billions of years to transform)
-



Considered syngasification plant for energy recovery from combustible materials such as waste plastics, rubber, fabrics and cellulose.



Standard feed with max 25% moisture content

Material recovered from MSW float & sink separation process.

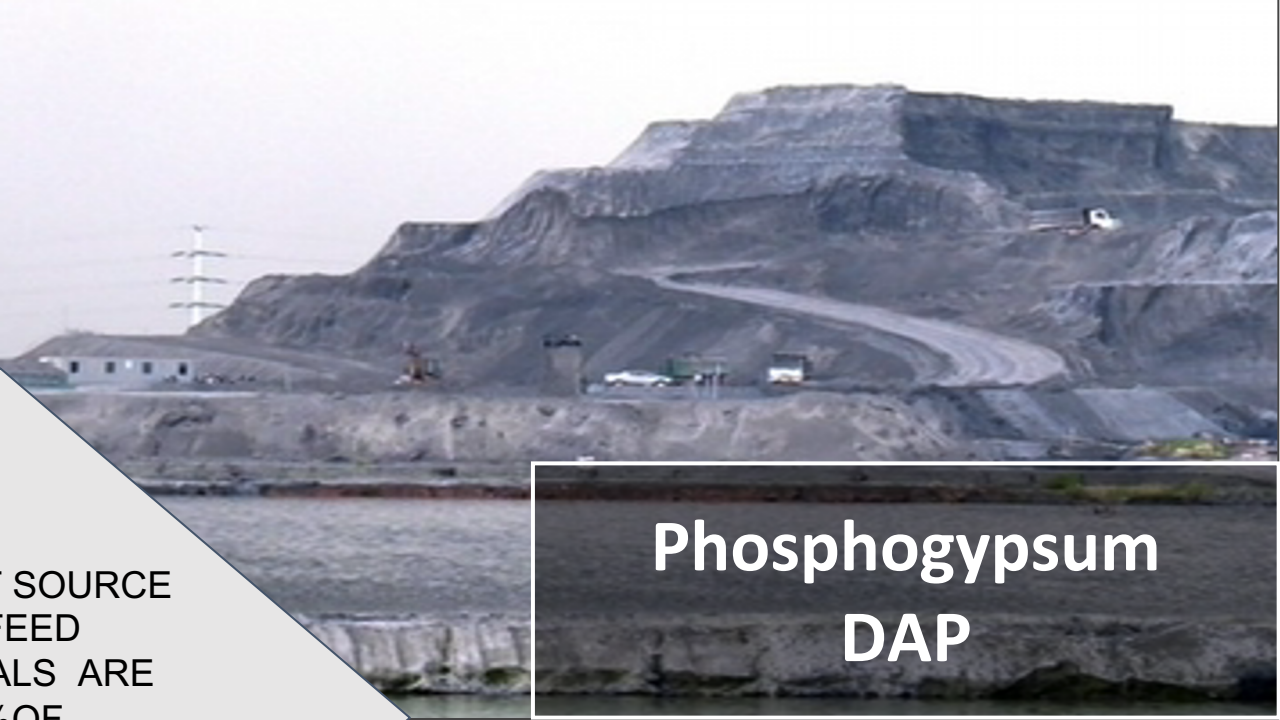
45% More Electricity than other technologies with comparable Feedstock

Operates 24/7 with 24 -30 employees





**Fly ash**



**Phosphogypsum  
DAP**

PERFECT SOURCE  
OF FEED  
MATERIALS ARE  
95% OF  
ENVIRONMENTAL  
POLLUTION WASTE



**MSW**



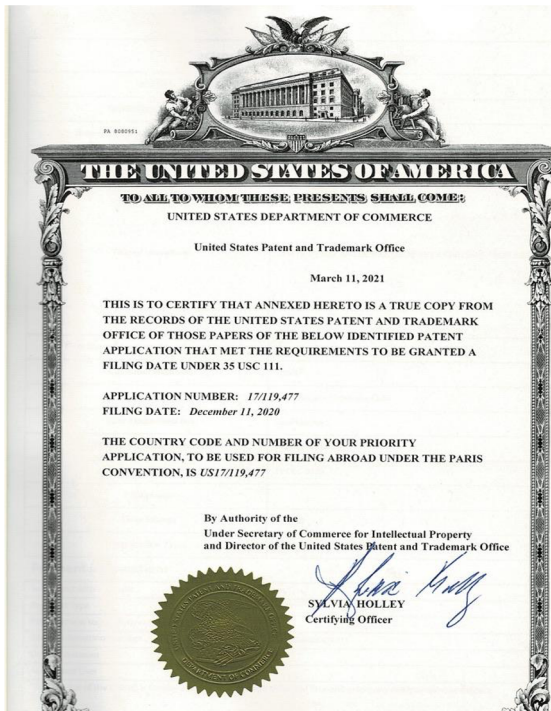
**Red mud**

# ➔ Legal backgrounds

This new W2S (Waste to Soil & Stone) technology for domestic waste treatment originated from the Invention "Synthetic Soil and Methods for Producing Same from Waste"

March 3, 2021: U.S Patent and Trade Mark office (USPTO) granted Nonprovisional patent Application certificate to Mr. Pham Van Hung with the number USPTO17/119.477

December 16, 2020: WIPO (World Intellectual Property Organization) confirms the application under the PCT Agreement to recognize each other in 153 member countries in the confirmation form No. PCT/IB2020/061786.



US 20210178438A1

(19) **United States**  
 (12) **Patent Application Publication** (10) Pub. No.: US 2021/0178438 A1  
 (43) Pub. Date: Jun. 17, 2021

(54) **SYNTHETIC SOIL AND METHODS FOR PRODUCING SAME FROM WASTE**

(71) Applicant: Hung Van PHAM, HO CHI MINH CITY (VN)

(72) Inventor: Hung Van PHAM, HO CHI MINH CITY (VN)

(21) Appl. No.: 17/119,477  
 (22) Filed: Dec. 11, 2020

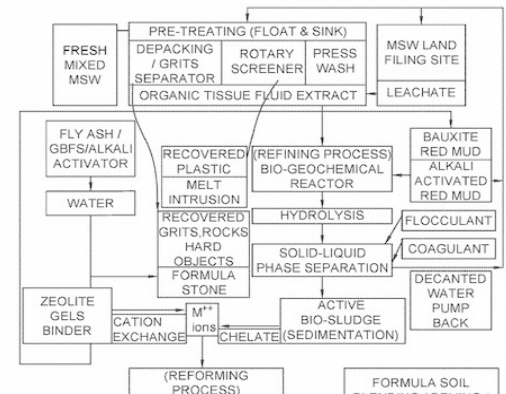
**Publication Classification**

(51) Int. Cl. B09B 5/00 (2006.01); C04B 32/00 (2006.01)  
 (52) U.S. Cl. CPC B09B 5/0041 (2013.01); B09B 2220/05 (2013.01); C04B 32/00 (2013.01)

**ABSTRACT**

(60) Provisional application No. 62/946,665, filed on Dec. 11, 2019.

The present disclosure provides efficient and cost-effective methods for producing synthetic soil and synthetic stone from waste, including inorganic waste and organic waste, through a hydrolysis-polycondensation process.



## CIRCULAR TECHNOLOGY PROCESS

- Integrating technologies in the petrochemical or mineral processing industries, based on the principle of "zero waste and zero carbon".
- Ensuring the principle of development of the circular economy.



# Principle of operation

## PRE-TREATMENT

Float & sink separation (plastics, inorganic solids, soft tissue organic matter) and deodorization. Using active red mud (ARM) made from Red Mud derived from Central Highlands Bauxite as a floating media, hydrolytic catalyst, absorber and binder..

## REFINING

Hydrolysis of organic matter in the alkaline environment (amino acids, fulvic acid, humic acid,...), destruction pathogens, vectors and weed seeds Recovery of ammonium, phosphorus for mineral fertilizers formation.

## REFORMING

I-on exchange to absorb heavy metals, creating organic chelate complexes of cystic metals with zeolite gels and polymerizing, solidifying, drying into soil. Synthetic stone is a by-product.

The test results showed that synthetic soil produced under W2S technology met or exceeded the criteria of the Ministry of Agriculture and Rural Development.

Results of testing of bio sludge samples after the treatment of leachate water at Nam Son landfill according to QCVN 50:2013/B TNMT

PHIẾU KẾT QUẢ THỬ NGHIỆM  
CÔNG TY CỔ PHẦN KỸ THUẬT VÀ PHÂN TÍCH MÔI TRƯỜNG  
ENVIRONMENT ANALYSIS AND TECHNOLOGY, JSC  
TRƯỜNG ĐẠI HỌC BÁCH KHOA, ĐƯỜNG 4 THÁNG 4, QUẬN 5, TP. HỒ CHÍ MINH

Số báo: 2019/0323.HH-SPIN-EATC

TT	Tên chỉ số	Đơn vị	Phương pháp thử	Kết quả	QCVN 50:2013/B TNMT Hạn lượng tối đa được cho phép
1	Ammonia (NH <sub>3</sub> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<0,016	30
2	Ammonium (NH <sub>4</sub> <sup>+</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<4	300
3	Chloride (Cl <sup>-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	0,05	30
4	Chloride (Cl <sup>-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	0,05	30
5	Calcium (Ca <sup>2+</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	13,3	1.000
6	Calcium (Ca <sup>2+</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	13,3	1.000
7	Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<0,01	30
8	Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<0,01	30
9	Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	1,20	300
10	Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<0,016	4
11	Cyanide (CN <sup>-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<1,1	100
12	Thủy ngân (CN <sup>-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	<0,1	500
13	Thủy ngân (CN <sup>-</sup> )	ppm	ASTM D 1582-02 / SWS/W 1118-2017	1,36	1.000
14	Phosphat	ppm	UR EPA Method 8000-TP EPA Method 8000-TP EPA Method 8000-TP	<0,007	20.000
15	Boron	ppm	UR EPA Method 8000-TP EPA Method 8000-TP	<0,007	10

ĐƠN CHẤU: QCVN 50:2013/B TNMT Quy chuẩn kỹ thuật quốc gia về nước ngấm qua bãi chôn lấp chất thải rắn và chất thải lỏng nguy hại. Đơn vị: mg/l.

Ngày gửi mẫu: 26 tháng 12 năm 2019

PHÂN TÍCH THỬ NGHIỆM KIỂM TRA

Người phân tích: Nguyễn Tấn Dũng  
Kiểm tra: Nguyễn Quang Minh

PHIẾU KẾT QUẢ THỬ NGHIỆM ĐỊA CHẤT  
CÔNG TY CỔ PHẦN ĐỊA CHẤT VÀ KỸ THUẬT MÔI TRƯỜNG  
Độc lập - Tự do - Hạnh phúc

Địa chỉ: Km 9, Đường Nguyễn Trãi, Hà Đông - Hà Nội  
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VILAS-032

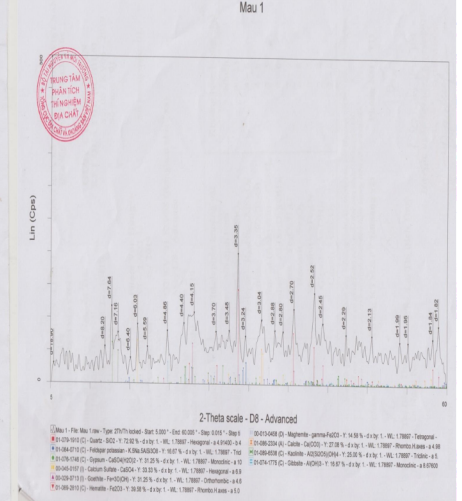
GIẤY CHỨNG NHẬN KẾT QUẢ THỬ NGHIỆM  
Số: 08 / KV06 - 2019  
Ngày 20 tháng 12 năm 2019

Đơn vị gửi mẫu: Phạm Văn Hùng  
Số lượng mẫu: 01  
Phân tích: Phân tích địa chất  
Ngày phân tích: 09/2019  
Loại mẫu theo khai báo: QT KV, 01 RG/08 (Roughen nhiều x)Phương pháp phân tích: Máy DM - Advance  
Sai số phương pháp: ± 3%  
Số lần kết quả phân tích: 2019

Nº	Ký hiệu mẫu	Thành phần khoáng vật	Khoảng hàm lượng (%)
1	Mẫu 01	Vô định hình	Nhiều
		Thạch anh - SiO <sub>2</sub>	9 - 11
		Foalpat - K <sub>2</sub> N <sub>2</sub> O <sub>8</sub> AlSi <sub>2</sub> O <sub>7</sub>	4 - 6
		Thạch cao - CaSO <sub>4</sub> (H <sub>2</sub> O) <sub>2</sub>	4 - 6
		Canxit Sunfat (Anhydrit) - CaSO <sub>4</sub>	3 - 5
		Kaolinit - Al <sub>2</sub> (Si <sub>2</sub> O <sub>5</sub> ) <sub>2</sub> (OH) <sub>4</sub>	4 - 6
		Gorit - Fe <sub>2</sub> O <sub>3</sub> .H <sub>2</sub> O	7 - 9
		Hematit - Fe <sub>2</sub> O <sub>3</sub>	6 - 8
		Magnetit - Fe <sub>3</sub> O <sub>4</sub>	3 - 5
		Gipxit - Al(OH) <sub>3</sub>	2 - 4
		Canxit - CaCO <sub>3</sub>	2 - 4

Ghi chú: Xem các ghi chú về phương pháp, và công thức để trong chú thích và trong phần ghi chú về phương pháp phân tích địa chất và địa chất môi trường.

Người phân tích: Phạm Văn Hùng  
Kiểm tra: Nguyễn Tấn Dũng



PHIẾU KẾT QUẢ PHÂN TÍCH  
CÔNG TY CỔ PHẦN KỸ THUẬT VÀ PHÂN TÍCH MÔI TRƯỜNG  
TRƯỜNG ĐẠI HỌC BÁCH KHOA, ĐƯỜNG 4 THÁNG 4, QUẬN 5, TP. HỒ CHÍ MINH

Số báo: 2019/0323.HH-SPIN-EATC

Người gửi: Công ty TNHH MTV Dịch vụ Công nghệ Học hóa Dầu Đàng Xuân  
Địa chỉ: 42 đường 12, phường Bình An, quận 2, TP. Hồ Chí Minh  
Loại mẫu: Đất

KẾT QUẢ PHÂN TÍCH

STT	Ngày gửi mẫu	Đơn vị	Phương pháp thử nghiệm
1	10/06/2019		
1	pH	8,51	TCVN 5979 - 2007
2	Chỉ số cơ (OM)	20,17	TCVN 6644 - 2009
3	Hạt Carbon (C)	11,70	TCVN 6644 - 2009
4	Sunfat (S <sup>2-</sup> )	10,50	TCVN 6636 - 2009
5	Calci trao đổi (CEC)	18,47	TCVN 8568 - 2010
6	Kali dễ rửa (K <sub>e</sub> O)	306,13	TCVN 8662-2011
7	Nitơ dễ rửa (N <sub>e</sub> )	18,32	TCVN 5255-2009
8	P dễ rửa (P <sub>o</sub> )	25,90	TCVN 8661-2011
9	Canxi (Ca <sup>2+</sup> )	1896,90	TCVN 8727-2012
10	Magie (Mg <sup>2+</sup> )	120,00	TCVN 8727-2012
11	Tổng sắt (Fe)	5670,00	TCVN 4618 - 1988
12	Selen (Se)	KPH	TCVN 8447-2010
13	Arsen (As)	0,98	TCVN 8447-2010
14	Cadmium (Cd)	KPH	TCVN 6496 - 2009
15	Chì (Pb)	KPH	TCVN 8246 - 2009
16	Đồng (Cu)	12,23	TCVN 6496 - 2009
17	Crom (Cr)	31,08	TCVN 6496 - 2009
18	Niken (Ni)	KPH	TCVN 6496 - 2009
19	Kẽm (Zn)	22,13	TCVN 6496 - 2009
20	Mangan (Mn)	137,60	TCVN 6496 - 2009

Người phân tích: Nguyễn Tấn Dũng  
Kiểm tra: Nguyễn Quang Minh

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Người phân tích: Nguyễn Tấn Dũng  
Kiểm tra: Nguyễn Quang Minh

# Output product #1: Formula Soil – A "5 in 1" new generation of organic synthetic soil.

- 1 • Clean and disinfected growth media (no more heavy metals, pathogens, parasitics , insect eggs and weed seeds).
- 2 • Versatile soil conditioner (acidic, alum, salty, heavy metal poisoning).
- 3 • Smart fertilizer – not decomposable by bacteria that causes greenhouse gas emissions (chemical fertilizer, natural manure substitute).
- 4 • Passive agropharmaceutical (resistant to pests)
- 5 • Moisturizers (drought resistant)

Especially associating 20% organic matter (SOM), multi-quantity, medium quantity micronutrients and super micro quantity such as B, Mo elements and rare earths (Lanthaneum, Cesium) served as healthy growth stimulants.

**TOTAL INVESTMENT:  
1,500,000,000 VND/  
1000 TONS OF  
SYNTHETIC SOIL.**



A hand holding dark soil next to a young green plant in a field, with a green banner overlaying the text.

# OVERVIEW OF SYNTHETIC SOIL MARKET

## NEW TRENDS "ORGANIC - TRUE ORGANIC".

1. In order to stabilize output, Vietnam's agriculture is turning to export to the World. In particular, sets high requirements for the quality of organic agricultural products.

2. The trend of switching to organic fertilizers instead of inorganic is increasing, aiming to reach export targets.

3. The market of pesticides continues to grow, showing that there is still no effective solution to replace the role of pesticides..

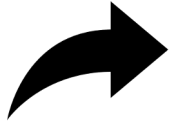
4. In the soil market, the presence of "Organic Soil" products replacing organic fertilizers and pesticides, is trending to grow well today. However, "Organic soil" is originated from natural manure or compost with the addition of mineral fertilizers, there are still many limitations in quality and quantity.

NEW  
SOLUTIONS

SYNTHETIC  
SOIL



# WHY SYNTHETIC SOIL DEVELOPMENT IS CRUCIAL?



## WHAT IS SYNTHETIC SOIL?

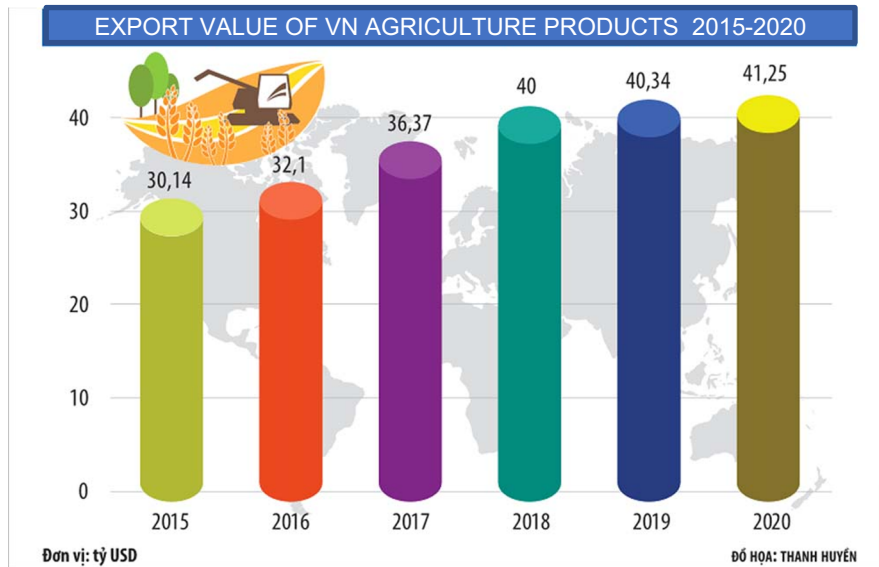
SYNTHETIC soil is a cultivated soil synthesized by man from refined wastes, it is the association of minerals with organometallic complexes formed by a biogeochemical mineralization process, it supports the development of plants and useful microorganisms.

## SYNTHETIC SOIL DELIVERS A SUSTAINABLE ECONOMY

Selective nutritional compensation for inert, arid soils affected by carbon escape (SOC) takes place due to increased atmospheric temperature. Shorten the time to recondition arid soil, instead of having to wait millions of years of weathering of the Earth's crust to get 5cm thick layer of cultivable soil. Fight poverty and disease with rich foods containing natural phytochemical ingredients brought from the soil.



## EXPORT:



	GIÁ TRỊ (tỷ USD)	Tăng/giảm so với cùng kỳ 2019 (%)
Rau quả	3,26	▼ -13
Hạt điều	3,19	▼ -3
Gạo	3,07	▲ 9,3
Cà phê	2,66	▼ -7,2
Cao su	2,38	▲ 3,5
Sắn (*)	0,99	▲ 2,4
Hạt tiêu	0,67	▼ -6,8
Chè	0,22	▼ -6,9

Nguồn: Tổng cục Thống kê (\*) và các sản phẩm từ sắn  
TTXVN  
<https://infographics.vn/>

# AGRICULTURE MARKET OVERVIEW

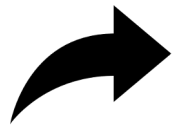
The total area of agricultural land is 27,289,454 ha

- The potential of synthetic soil market is still huge

### Domestic market:

As of 2016, rice consumption per capita in the country reached 8.5kg / person / month.

Domestic fruits alone now account for 85-90% of the total production and cultivation, exports only reach 10-15%.



# OVERVIEW OF THE SOIL INDUSTRY.

Strong brands of SOIL in Vietnam:

**VINATAP:**

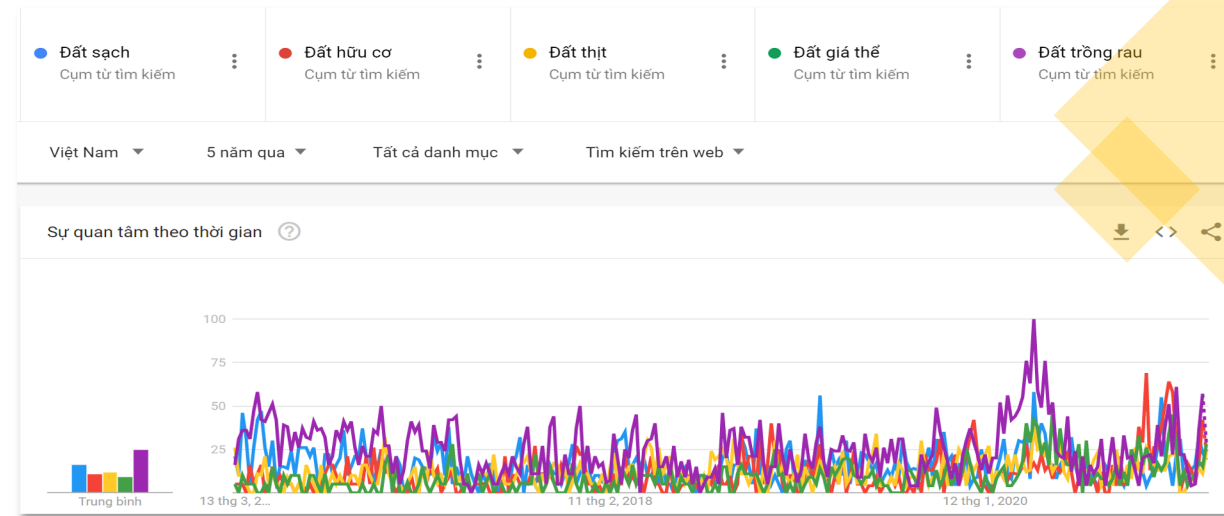
Each month supplying to the market from 420 – 1000 tons / month

Reuse of scrap sources in industries for clean soil

**TRIBAT:**

Specializes in treating sludge from wastewater treatment plants, water supply ... as input materials for production of soil.

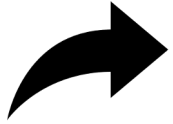
Tribat can supply to the market about 150,000 m<sup>3</sup> / year, ~ 218 tons / month of soil per month.



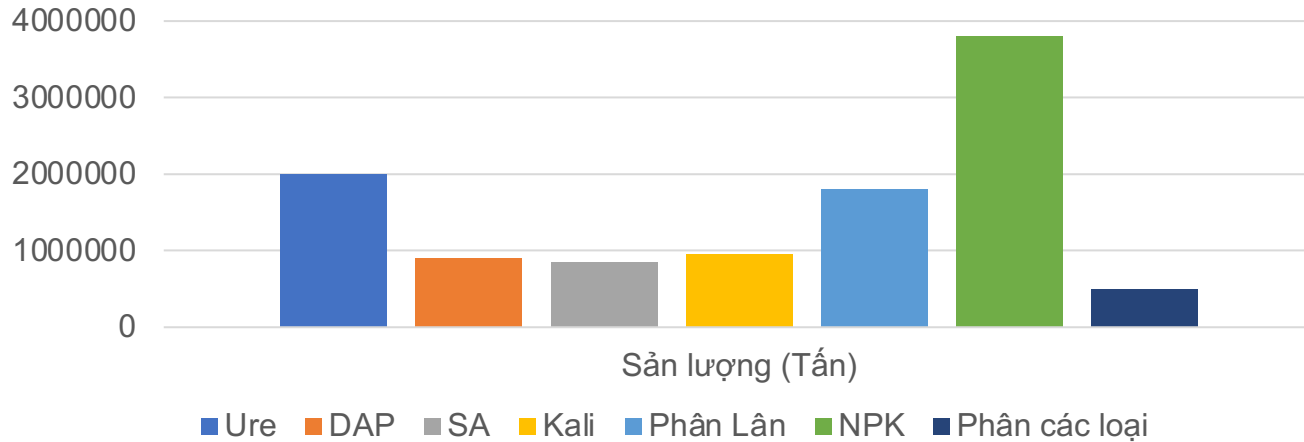
- The "Soil for Planting" market has grown in the past year
- In particular, "Vegetable garden soil" and "Clean soil" tend to look for the most.

**"DANGER" FROM CLEAN SOIL IN THE MARKET:**  
Undegradable organic matter creates an environment for bacteria, viruses to grow, causing emissions of odors and greenhouse gases  
Contains many heavy metals and pathogens, insect eggs and harmful grass seeds  
Affects human health as well as the ecological environment.

# OVERVIEW OF FERTILIZER INDUSTRY

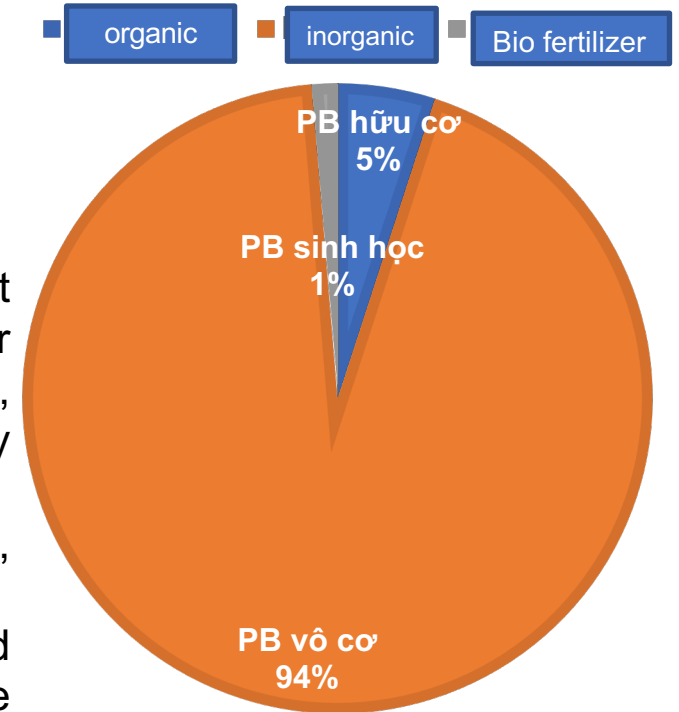


Fertilizer Demand in Vietnam



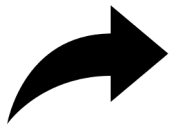
The demand for fertilizer in Vietnam is currently about over 10 million tons of all kinds. In particular, more than 90% of the market share belongs to inorganic fertilizers

## FERTILIZER PROPORTION

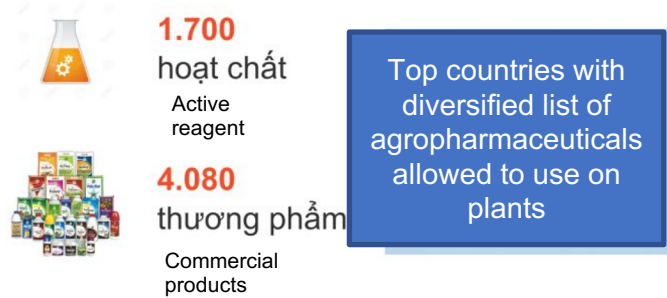
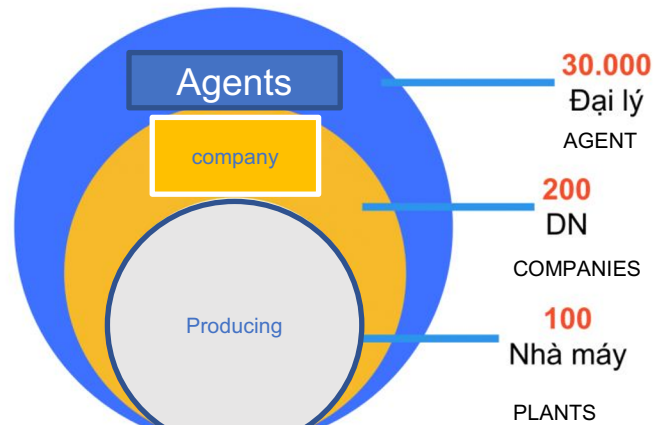


- The results of a 2004-2007 investigation of The Soils and Fertilizers Institute showed that among heavy metals such as mercury, lead, chromium, arsenic, cadmium, nickel, copper ... in the free form are toxic and the harmful microorganisms such as Coliform, pathogens, parasitic eggs, germs, weed seeds are factors that often exceed the level allowed in many samples of organic fertilizer examined in the above group.
- Most farmers nowadays have too much Urea, causing the phenomenon of tire rice, increasing the process of infection with pests and diseases, prone to falling.
- Chemical fertilizer and natural manure when contact with microbes would be decomposed freeing Nitrogen oxide – a 289 times more powerful GHG than CO2 that causes climate change. As a result only 15% of the nutrients taken up by plant while 85% get lost to atmosphere and surface & underground water.

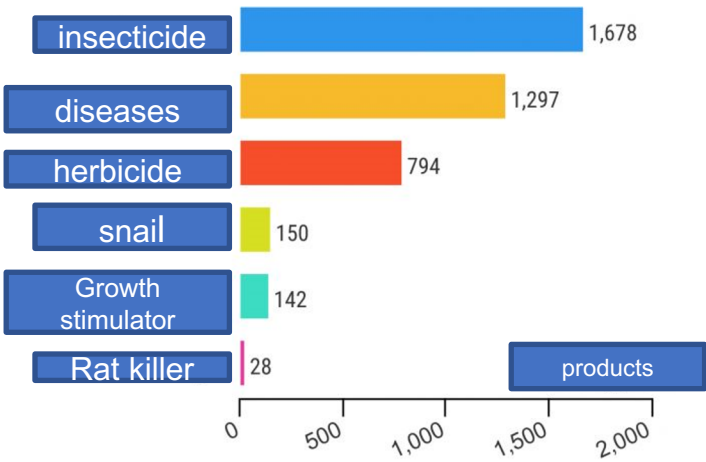
# OVERVIEW OF PLANT PROTECTION INDUSTRY.



## FACTSHEET FOR PLANT PROTECTION PHARMACEUTICAL PRODUCTION



### Retail Market shares of plant protection pharmaceuticals in Vietnam.



50% The products used domestically  
Approx. 30.000 - 40.000 Ton/year

**0 %** Import tax for raw material

**70.000-100.00 tấn** Still a big room for plant protection chemicals

Companies compete to expand market share and sale

The trend of limiting the use of pesticides because:  
 Environmental pollution issues  
 Sterilized soil, impaired biodiversity, poisoning pesticides in humans  
 Pest outbreaks caused by the destruction of ecosystems originating from excessive use of chemicals.

Vietnam does not export pesticides while importing up to 100,000-120,000 tons of pesticides per year. Statistics show that up to 70-80% of chemicals and pesticides used in the country are imported goods, of which mainly from China.

*According to the Institute for Strategic and Competitive Research in collaboration with Vibiz.vn*



## SYNTHETIC SOIL – ORIENTATION FOR SUSTAINABLE AGRICULTURAL DEVELOPMENT

More than 10 million tons of fertilizer of all kinds ~ 4 billion USD/year.

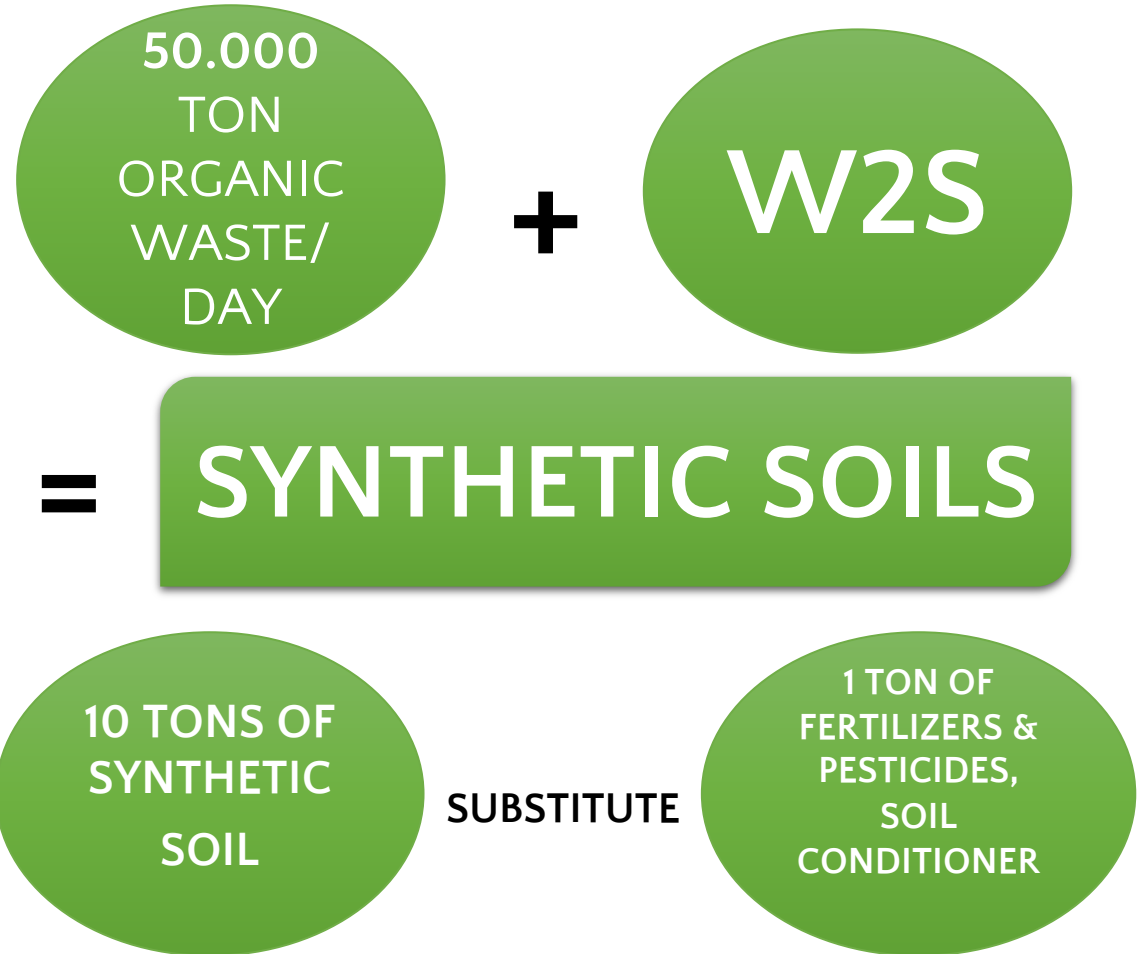
The area of agricultural land is 27,289,454 ha

30,000 – 40,000 thousand tons of pesticides consumed 400 million USD/year.

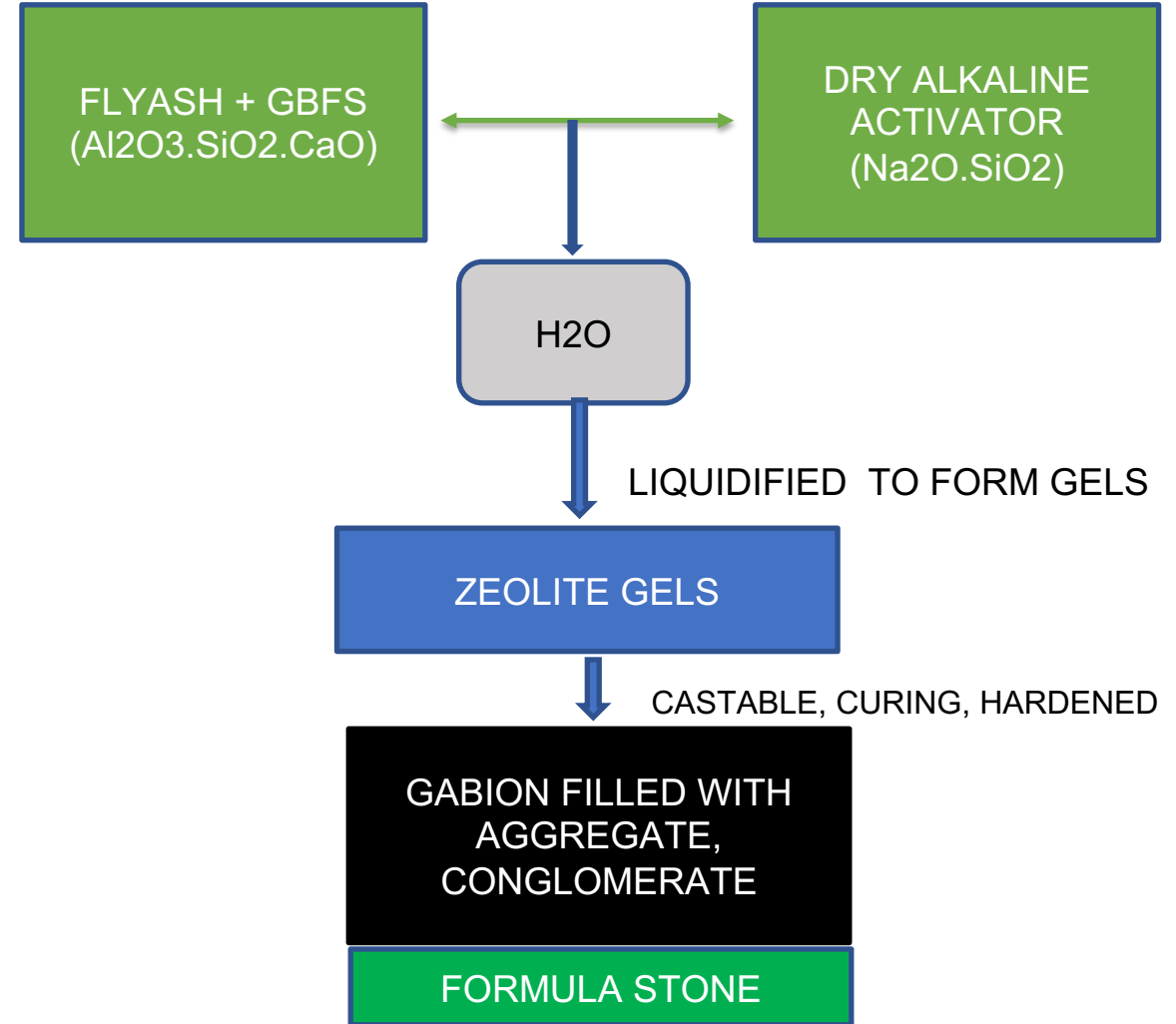
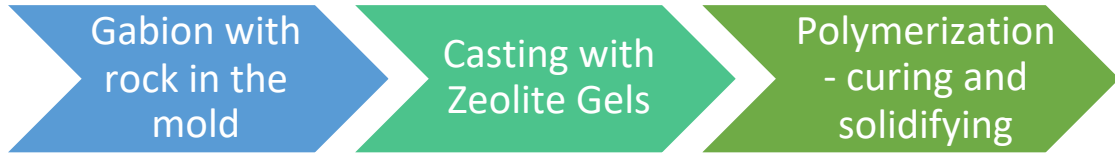


Synthetic soil market:  
Estimated 5 billion USD /year

# SYNTHETIC SOIL – ORIENTATION FOR SUSTAINABLE AGRICULTURAL DEVELOPMENT



# Output products #2: Formula Stone – Multi purposed synthetic stone, new generation materials.



**TOTAL INVESTMENT:  
1,500,000,000 VND/  
1000 TONS OF  
STONE**

FORMULA STONE IS THE SYNTHETIC SEDIMENTARY CONGLOMERATE STONE WHICH WERE CEMENTED TOGETHER BY POLYMERIZED ZEOLITE GELS (FELSPAR).

# SYNTHETIC STONE APPLICATION

High temperature refractory, fire retardant, molten metal precision molding material.

Construction of sea embankments, island works, roads, bridges, dams against sea level rise and earthquake resistance.

Accurately cast artifact structures, eternal stone monuments.

Permanently burying Currently untreatable toxic substances to avoid leak to the environment.



50,000 tons  
Inorganic  
waste/day

+

W2S

**Synthetic stone**



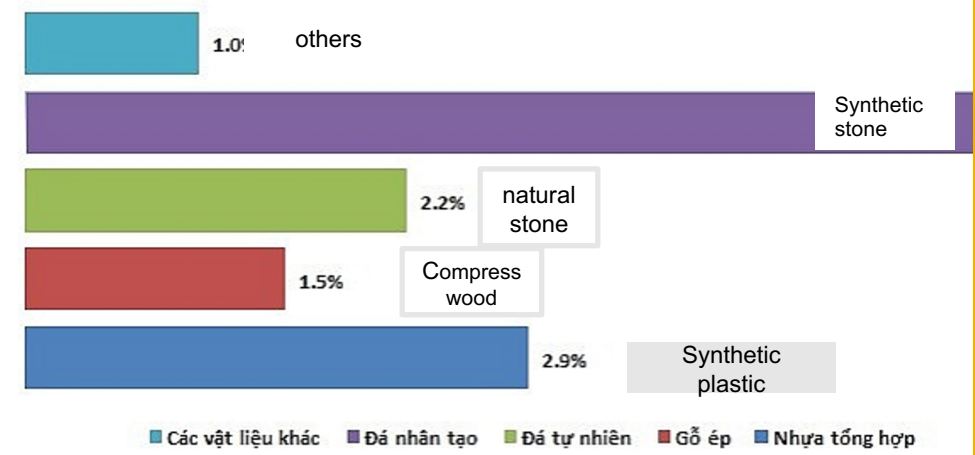
# OVERVIEW OF SYNTHETIC STONE MARKET

# OVERVIEW OF CONSTRUCTION STONE INDUSTRY

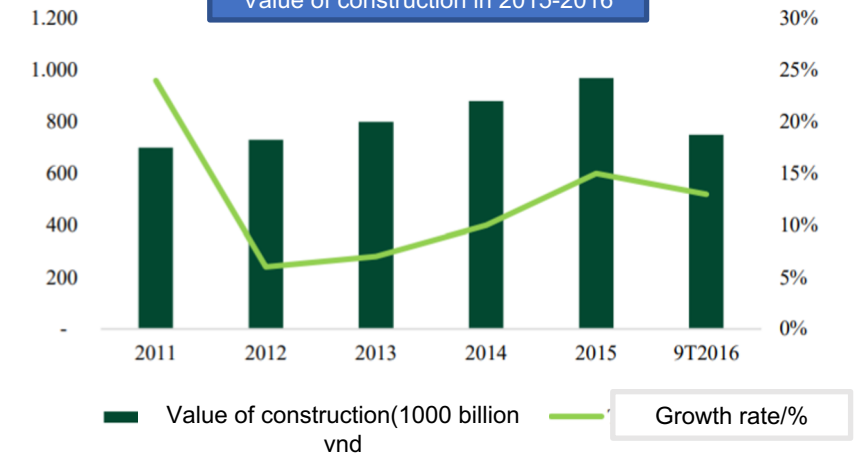
According to Decision No. 1469/QĐ-TTĐ issued by the Prime Minister on the master plan for development of the construction materials industry by 2020, the total demand for construction stone is estimated to increase to 181 million m<sup>3</sup> by 2020.

Oriented to 2030, the total expected investment value for highways is USD 20 billion. With those factors, enterprises in the construction stone industry are still highly evaluated with many development potentials.

(CAGR)annual forecast for double growth period 2018-2021 021



Value of construction in 2015-2016



Source: General Dept. of Statistics



**W2S - A LEAP FORWARD  
FOR THE  
ENVIRONMENTAL  
INDUSTRY**

Reforming synthetic soil, stone from available waste sources by returning to nature anything that belongs to it naturally in order to:

- Reduce environmental pollution
- Repell climate change
- Enhance security and safety of foods & foodstuffs.
- .Save resources for the country
- .Create millions of jobs.

# CLIMATE IMPACT SIGNIFICANTLY REDUCES GREENHOUSE GASES

**1 TON  
OF  
WASTE**

**W2S  
Tech-  
nology**

**2.58 TONS  
of CO2  
emission  
reduction**

*U.S. Environmental Protection Agency EPA says each ton of waste gives up an additional 2.85 greenhouse gases*





Protecting  
Environm-  
ent

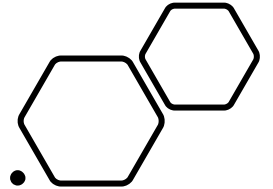


Ensuring  
food  
security  
and food  
safety



Combating  
climate  
change

# W2S TECHNOLOGY - NO WASTE WASTED.



*The way to creating synthetic soil is the of future sustainable development*

# CONCLUSIONS



"3-in-1" integrated waste treatment technology – Build a perfect circular ecosystem: Combating environmental pollution – climate change – poverty and disease.



Waste



WASTEWATER –  
WASTE GAS  
TREATMENT -



DEVELOPMENT OF  
CIRCULAR  
ECONOMY.



SYNTHETIC  
SOILS



SYNTHETIC  
STONE





**THANK YOU!**

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