I have been involved in and founded some of the leading design, consulting, blockchain, construction and management companies in hemp.

FOCUS

My projects are focused on energy efficiency, Pharmaceutical Track and Trace product assurance, isolation of plant extracts of all kinds, Plastics, Pyrolysis for Green Energy, Ethanol Production, as well as post production meta-materials for energy storage and transfer.

Clayton Turner SearchandRescueDrone.com

Title	SYSTEM AND METHOD FOR DISTRIBUTING SATELLITE-BASED INTERNET SERVICES AND CONDUCTING REMOTE OPERATIONS USING THE SAME
Art Unit	
Examiner Name	
Attorney Docket Number	85048

SIGNATURE of Applicant or Patent Practitioner

Signature	/Clayton Turner/	Date (Optional)	
Name	Clayton Turner	Registration Number	
Title (if Applicant is a juristic entity)	Co-inventor		

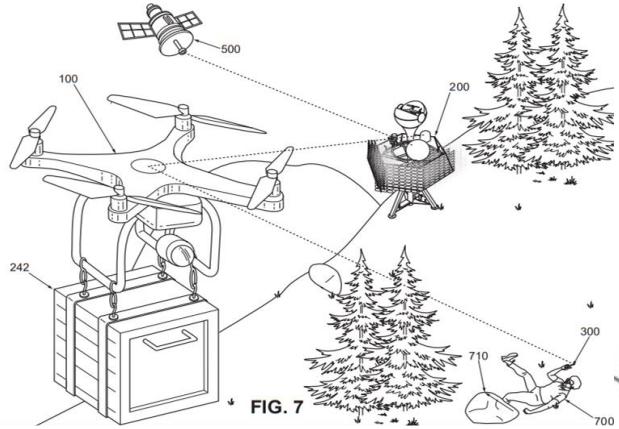


FIG. 7

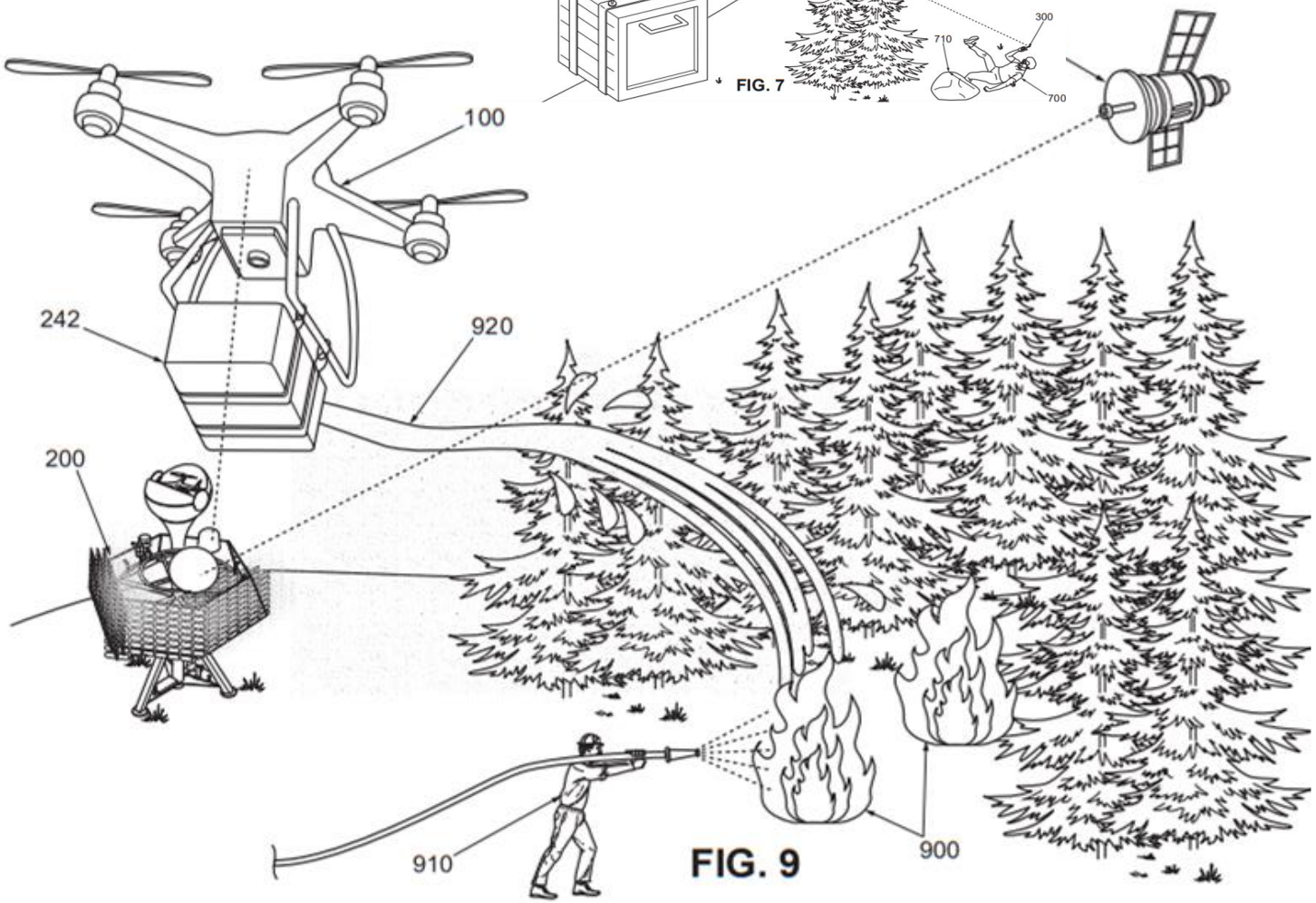


FIG. 9

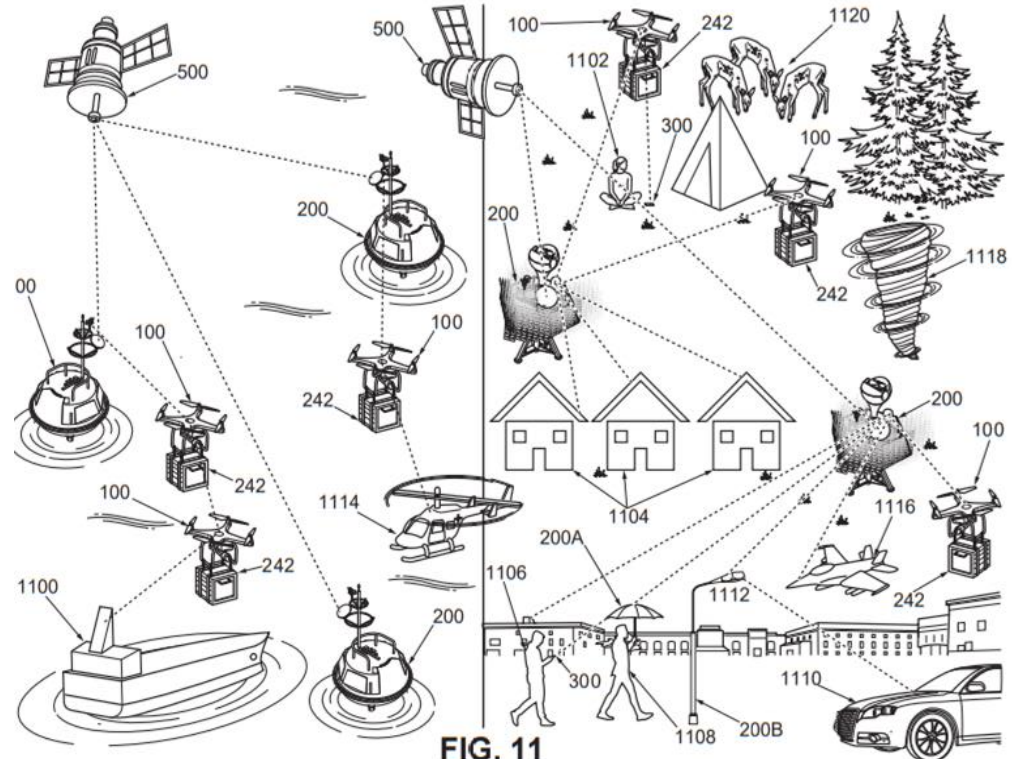


FIG. 11


Silvio Micali Algorand MIT
Meeting for Blockchain
Negative Carbon Venture

MEET THE TEAMS

BACK

THE CARBON PROTOCOL TEAM

Salt Lake City, Utah, United States

PROJECT SOLUTION

Land Solution

TOP ACHIEVEMENT

QUALIFIED COMPETITOR

ABOUT THE TEAM

Our primary goal is to accelerate the adoption of natural carbon sequestration through the growth and processing of Industrial Hemp into long term carbon sink products. Starting with hemp, The Hemp Blockchain will create new natural based carbon credit digital assets and rejuvenate the hemp industry in the process, to increase the supply of industrial hemp for the quicker substitution of hemp for petroleum based products. By stimulating the industrial hemp industry and applying blockchain technology in the creation of hemp carbon credits, The Hemp Blockchain will revolutionize the fragmented hemp industry, creating Supply Chain as a Service (SCaaS) for introducing efficiencies and eliminating emissions throughout the industry from seed to final-use, all the while creating modern high-quality carbon offsets derived from the cultivation of hemp.

EVERY YEAR, wildfires cause a massive global economic burden, destroy homes and habitats, and result in devastating injuries and loss of life.

$350B
In annual economic losses in the U.S. alone

340K
People die every year from exposure to wildfires

20
Of the biggest Mega Fires occured since 2000, fifteen of which were in California

5X
The size of Texas is burned annually — that's 2x more land than 40 years ago

20%
Of global CO2 emissions are estimated to come from wildfires

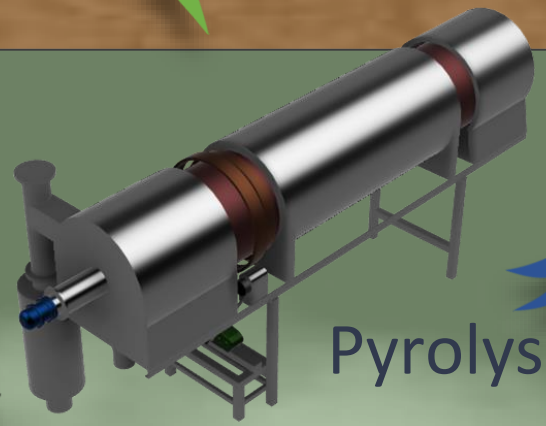
PYROLYSIS

Post Burn Forests

Biomass

Products of Pyrolysis

- Biochar
- Pete Energy
- Electrical Energy
- Syngas
- Biodiesel



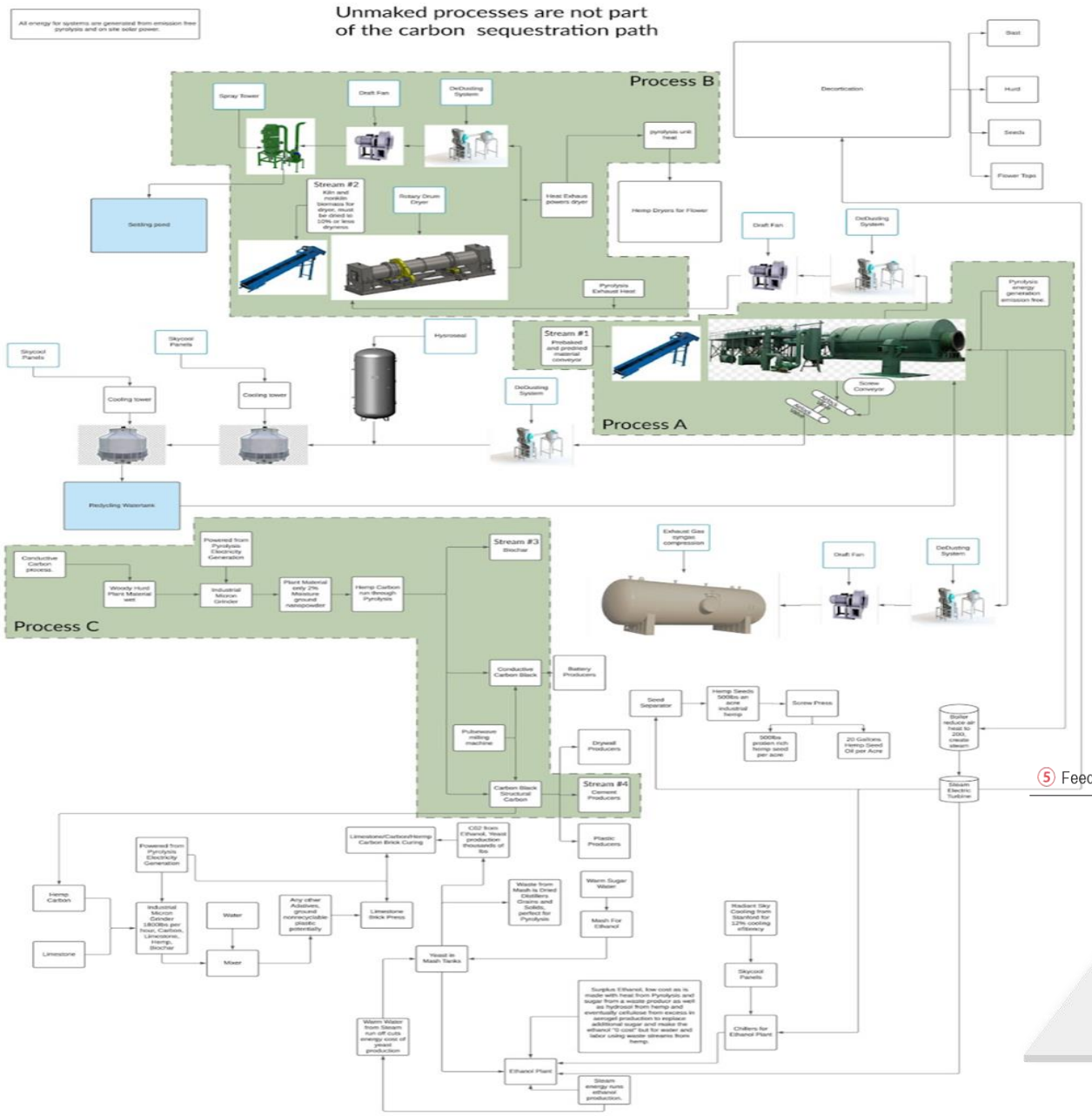
Pyrolysis

Biochar

Benefits of Biochar

Biochar offers a number of soil health benefits and is effective at retaining both water and water-soluble nutrients

SYNGAS & BIOFUEL



Horizontal Charcoal Furnace

Input: 300kg per 4 hour Batch
5 batches per day x 330 x 2.2= 3630lbs
Output: 1,100lbs per day

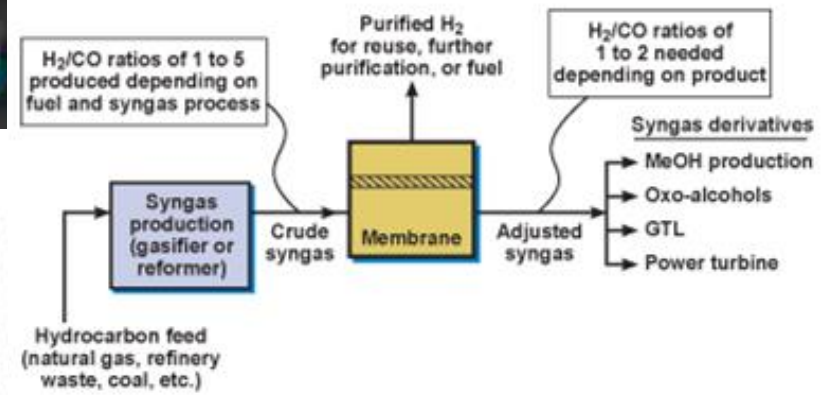
Btu: 8500btu per lb x 3360 =
1,428,000btu per hour Potential Heat

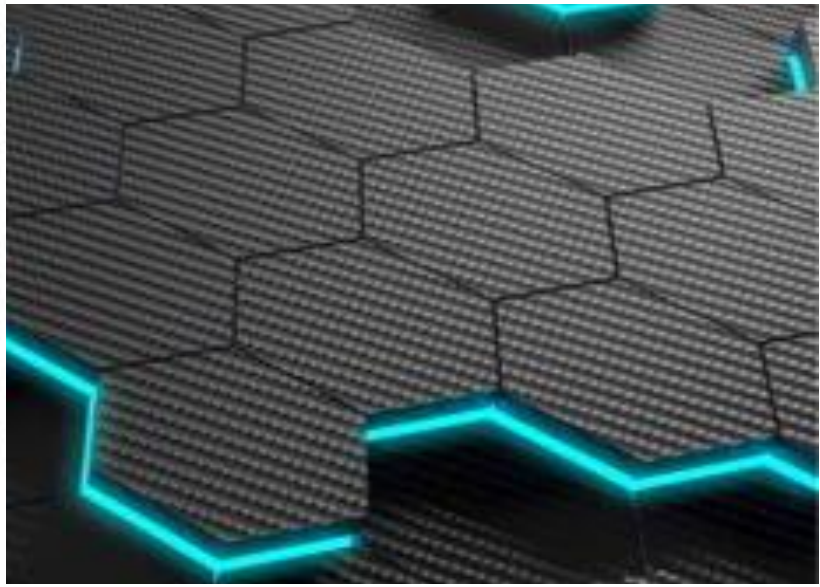
Clayton Turner: 971-232-0895

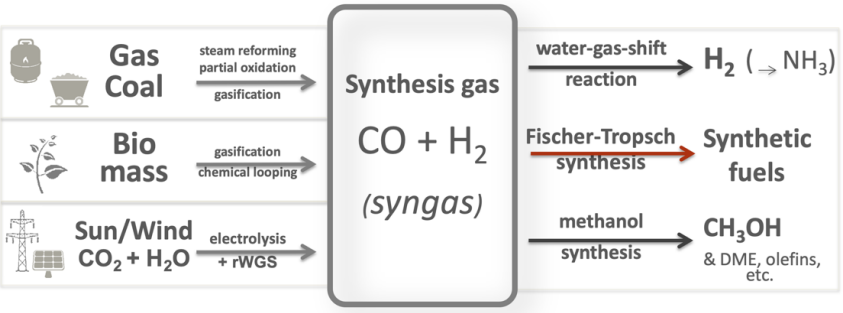
Hydrogen Production & Isolation of C02 For Steam Cracked Renewable Plastic Pellets

Species (kind of wood[a,b,c,d,e])	C%	H%	Species (kind of wood[a,b,c,d,e])	C%	H%
Acer macrophyllum Pursh (jc)	49.64 ± 0.27	8.52 ± 0.21	*Abies amabilis* (Dougl.) Forbes (jc)	48.55 ± 0.99	8.10 ± 0.22
Acer negundo L. (mn)	49.34 ± 0.53	8.13 ± 0.42	*Abies balsamea* (L.) Mill. (jc)	50.08 ± 0.45	7.69 ± 0.35
Acer rubrum L. (jc)	48.64 ± 0.52	8.38 ± 0.36	*Chamaecyparis nootkatensis* (D. Don) Spach (mn)	52.84 ± 0.55	8.30 ± 0.15
Acer saccharum Marsh. (cw)	49.32 ± 0.19	7.89 ± 0.20	*Juniperus virginiana* L. (cw)	52.14 ± 0.88	8.23 ± 0.30
Alnus rubra Bong. (cw)	47.70 ± 0.12	7.99 ± 0.19	*Larix laricina* (Du Roi) K. Koch (jc)	47.21 ± 0.35	7.90 ± 0.18
Betula alleghaniensis Britton (cw)	46.27 ± 0.33	5.56 ± 2.10	*Larix occidentalis* Nutt. (jc)	47.60 ± 0.21	7.90 ± 0.20
Betula papyrifera Marsh. (jc)	48.37 ± 0.21	7.87 ± 0.26	*Picea glauca* (Moench) Voss (jc)	50.39 ± 0.45	7.95 ± 0.26
Carya Nutt. (cw)	48.47 ± 0.41	8.02 ± 0.35	*Picea sitchensis* (Bong.) Carr. (cw)	49.95 ± 0.02	8.24 ± 0.09
Fagus grandifolia Ehrh. (jc)	46.60 ± 0.39	6.09 ± 0.87	*Pinus banksiana* Lamb. (cw)	50.40 ± 0.43	7.63 ± 0.33
Fraxinus americana L. (jc)	48.28 ± 0.36	7.90 ± 0.26	*Pinus contorta* Dougl. (jc)	50.32 ± 0.43	8.05 ± 0.46
Fraxinus nigra Marsh. (mw)	47.80 ± 0.48	8.02 ± 0.13	*Pinus ponderosa* Laws. (jc)	52.47 ± 0.38	8.34 ± 0.34
Juglans cinerea L. (cw)	48.53 ± 0.36	7.69 ± 0.68	*Pinus resinosa* Ait. (cw)	53.28 ± 0.33	8.74 ± 0.07
Juglans nigra L. (cw)	49.17 ± 0.12	7.70 ± 0.03	*Pinus strobus* L. (jc)	49.74 ± 0.16	8.25 ± 0.25
Platanus occidentalis L. (jc)	49.97 ± 0.82	8.32 ± 0.16	*Pseudotsuga menziesii* (Mirb.) Franco (cw)	50.50 ± 0.36	8.25 ± 0.10
Populus tremuloides Michx. (jc)	47.09 ± 0.75	6.28 ± 1.14	*Thuja occidentalis* L. (jc)	51.72 ± 0.17	8.09 ± 0.18
Populus trichocarpa Torr. & Gray (jc)	49.25 ± 0.25	8.29 ± 0.18	*Thuja plicata* Donn (mn)	51.54 ± 0.38	8.16 ± 0.27
Prunus serotina Ehrh. (jc)	49.53 ± 0.18	8.00 ± 0.34	*Tsuga canadensis* (L.) Carr. (jc)	50.33 ± 0.32	7.63 ± 0.47
Quercus alba L. (mw)	49.57 ± 0.22	7.64 ± 0.25	*Tsuga heterophylla* (Raf.) Sarg. (mw)	50.60 ± 0.45	7.85 ± 0.33
Quercus rubra L. (jc)	49.63 ± 0.32	8.14 ± 0.29	*Sequoiadendron giganteum* (Lindl.) Bucholz (hw[e], mn)	55.16 ± 0.52	8.12 ± 0.07
Salix L. (cw)	49.05 ± 0.58	8.26 ± 0.28	*Sequoiadendron giganteum* (sw[d], mn)	54.66 ± 0.27	8.50 ± 0.08
Tilia americana L. (cw)	46.43 ± 0.17	6.48 ± 0.61	*Sequoiadendron giganteum* (tz[e], mn)	52.52 ± 0.27	7.77 ± 0.09
Ulmus L. (jc)	46.32 ± 0.27	5.67 ± 0.26			

Carbon and hydrogen contents of hardwood and softwood North American species ±SD Hardwoods Softwoods







https://www.researchgate.net/publication/242094365_A_reassessment_of_carbon_content_in_wood_variation_within_and_between_41_North_American_species

A boiler can generate Steam from Pyrolysis to Create Steam Cracking C02 Plastic. Renewable traditional plastic from C02 capture becomes a 450 year carbon sink.

Producing High-Quality Graphene Cheaply Using Carbon Monoxide

TOPICS: 2D Materials Carbon Monoxide Catalysts Crystals Graphene Nanotechnology Skoltech

"The beauty of carbon monoxide is in its exclusively catalytic decomposition, which allowed us to implement self-limiting synthesis of large crystals of single-layer graphene even at ambient pressure,"

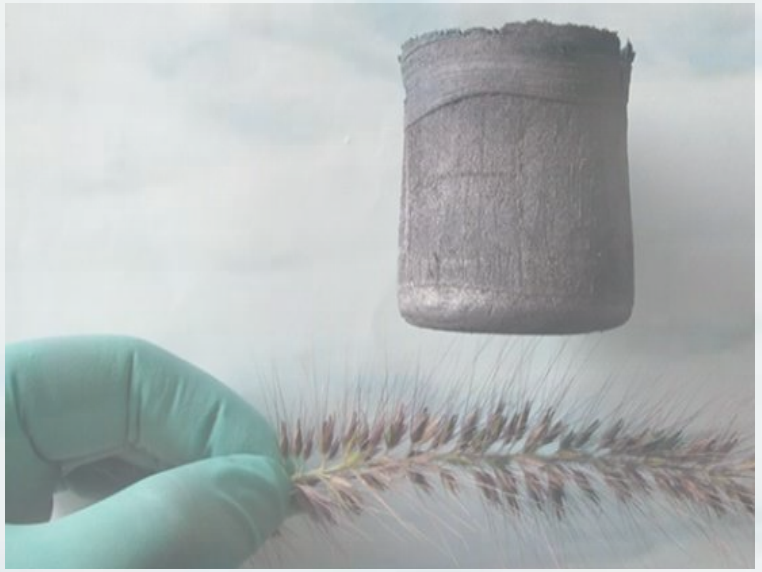
- Skoltech Professor Albert Nasibulin

Plastic from CO2

"Instead of using fossil fuel as the feedstock [raw material], you can turn the industry on its head by using waste carbon dioxide by using chemical tricks – this will revolutionise the petrochemical sector," says Prof Styring, who is also the Director of the UK Centre for Carbon Dioxide Utilization, has been working on this solution for over a dozen years. Currently most of the carbon dioxide is from hydrogen production, but researchers are working towards capturing industrial emissions as well.

https://scitechdaily.com/producing-high-quality-graphene-cheaply-using-carbon-monoxide/#:~:text=Researchers%20have%20proposed%20the%20first,sensors%2C%20optics%2C%20and%20beyond.

Graphene aerogel is one of the lightest materials with extraordinarily low density. It is porous and environment-friendly material with remarkable electrical conductivity, chemical inert, and high surface area.



RETURN TO ISSUE | < PREV | **RESEARCH ARTICLE** | NEXT >

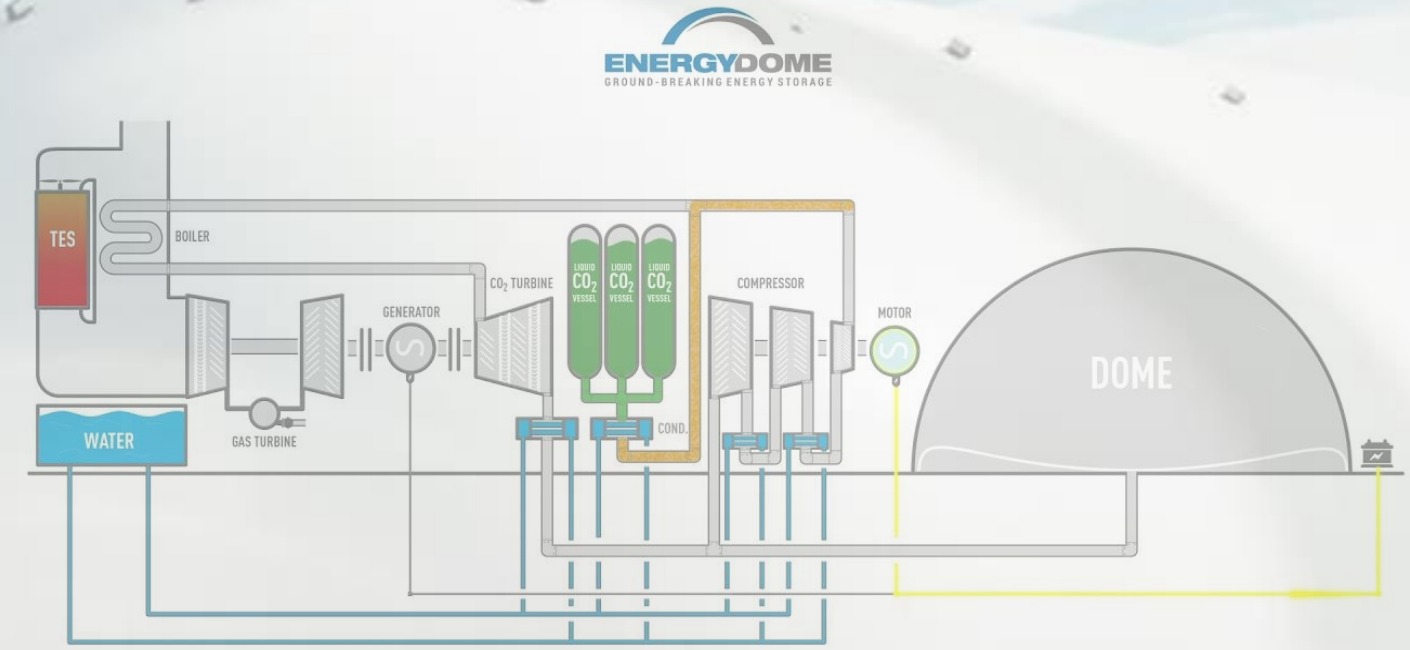
Green and Solvent-Free Supercritical CO_2-Assisted Production of Superparamagnetic Graphene Oxide Aerogels: Application as a Superior Contrast Agent in MRI

Alejandro Borrás, Julio Fraile, Albert Rosado, Gregorio Marbán, Gerard Tobias, Ana M. López-Periago, and Concepcion Domingo*

Cite this: *ACS Sustainable Chem. Eng.* 2020, 8, 12, 4877–4888
Publication Date: March 9, 2020
https://doi.org/10.1021/acssuschemeng.0c00149

Article Views 544 | Altmetric - | Citations 9
LEARN ABOUT THESE METRICS

Share | Add to



ETHANOL

Why it works for cellulose/hemp and not corn

Ethanol Increases demand for corn

Food prices go up

Corn exports shrink

Animal feed prices go up

Farmland prices go up

Corn prices go up

Ethanol profits shrink

Fewer other crops are planted

More petroleum is needed

More corn is planted

Ethanol Increases demand for hemp

Mutliuse hemp processing facilities

Hemp is extracted for CBD, no additional farmland is used.

Ethanol is made at site from hemp

Hemp Prices not negatively impacted

Hemp efficiencies of production increases

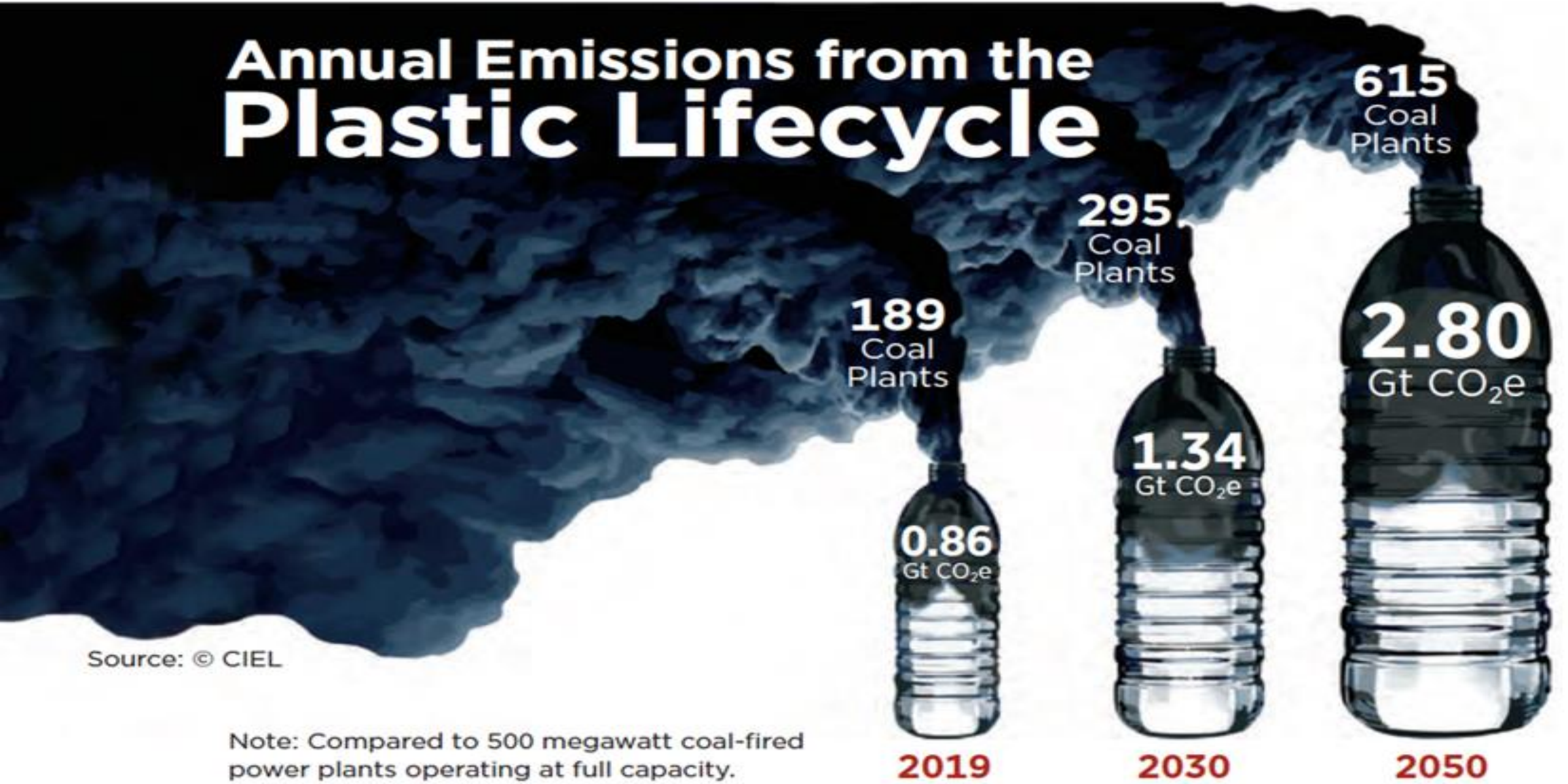
Facility profits rise, costs shrink

More profit centers are created

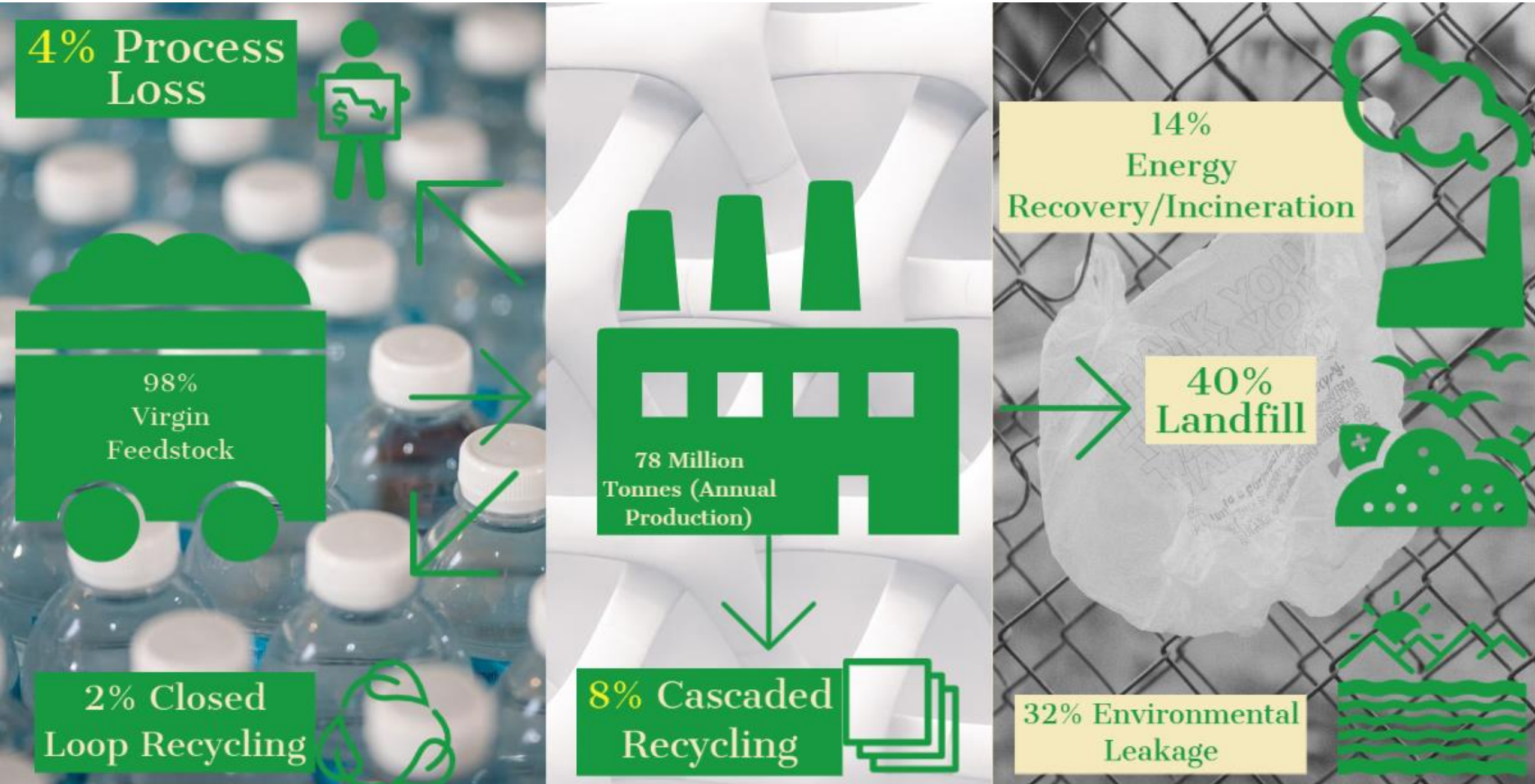
Facility is independent of market fluctuations in ethanol

What problems can our waste products from biomass solve other than Hydrogen, Ethanol, Heat, Biofuel?

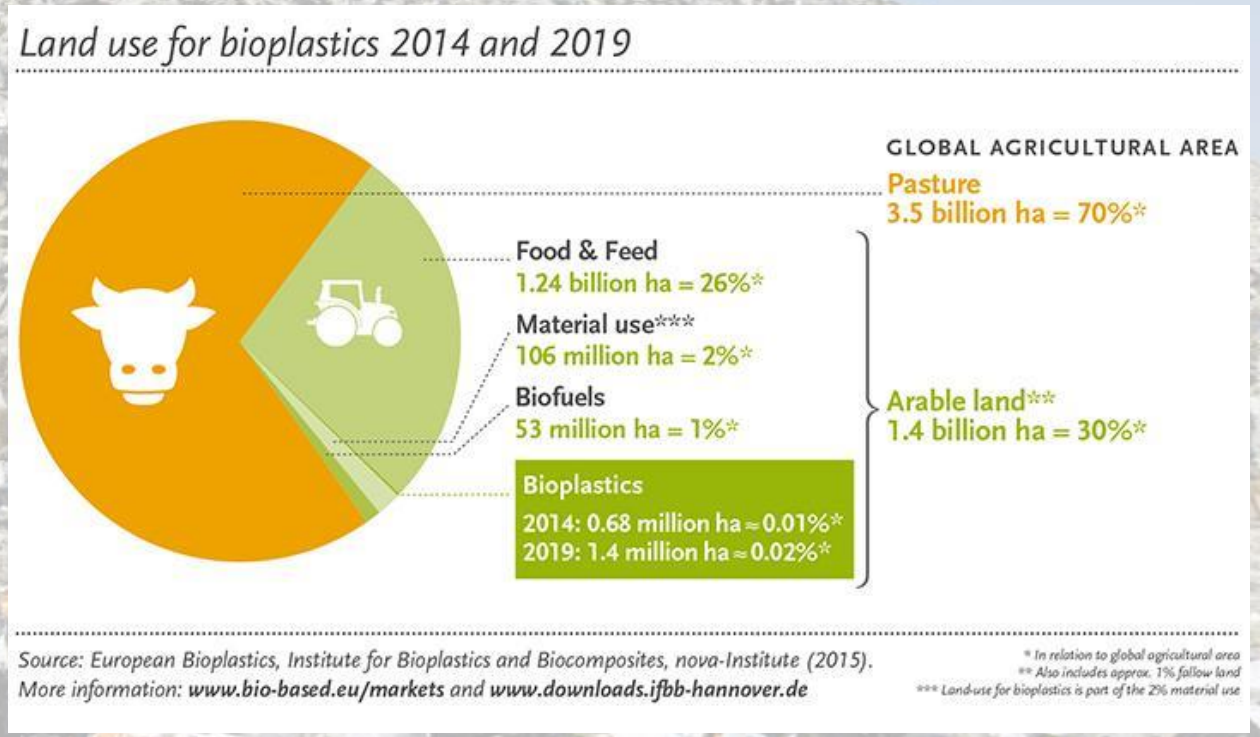
Emissions from the Plastic Lifecycle



LINEAR PLASTIC PACKAGING FLOW



BIOPLASTIC A MAGIC BULLET?



OCTOBER 24, 2022

Plastic recycling remains a 'myth': Greenpeace study

by Issam AHMED

A Greenpeace USA study found that of 51 million tons of plastic waste generated by US households in ...

John Oliver reveals why recycling plastic doesn't work the way you think

"A huge amount of the plastic [...] is not really recyclable. And that means that it ends up in landfills, or burned, or in the ocean, where it breaks down into micro-plastics, gets eaten by fish, and can end up inside us."

John Oliver. *HBO*

Biomass Carbon Plastic Replacement

Report No: 132715v1
Date Issued: May 17, 2021

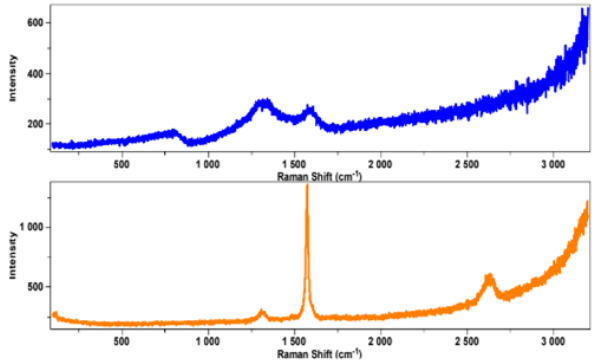


Figure 8. Reference Raman spectra of carbon black (top) and graphite (bottom) obtained with 785 nm excitation.

End of Report

Report No: 132715v1
Date Issued: May 17, 2021

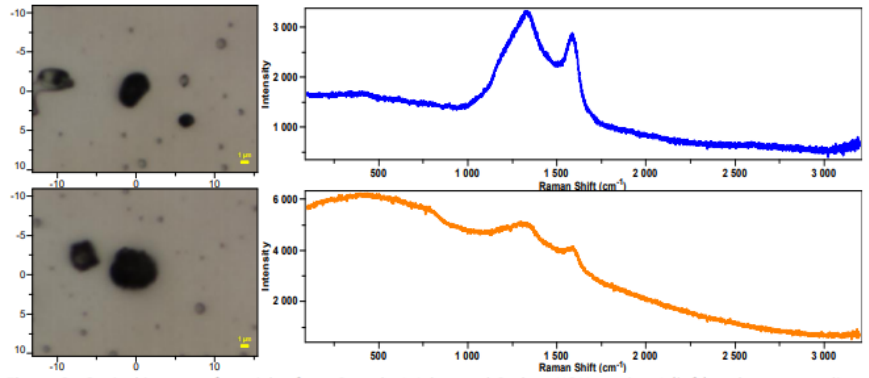
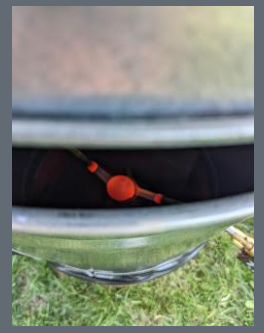
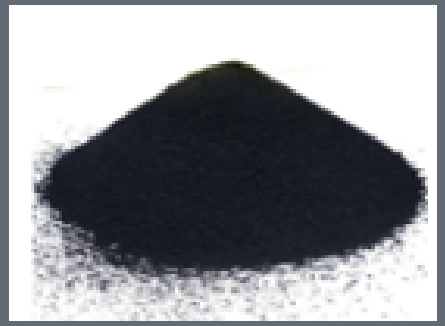


Figure 2. Optical images of particles from Sample 1 Advanced Carbon KOH version 1 (left) and corresponding Raman spectra obtained with 785 nm excitation (right).

Conductive Carbon Generated from Biomass by Clayton Turner and Validated at Intertek



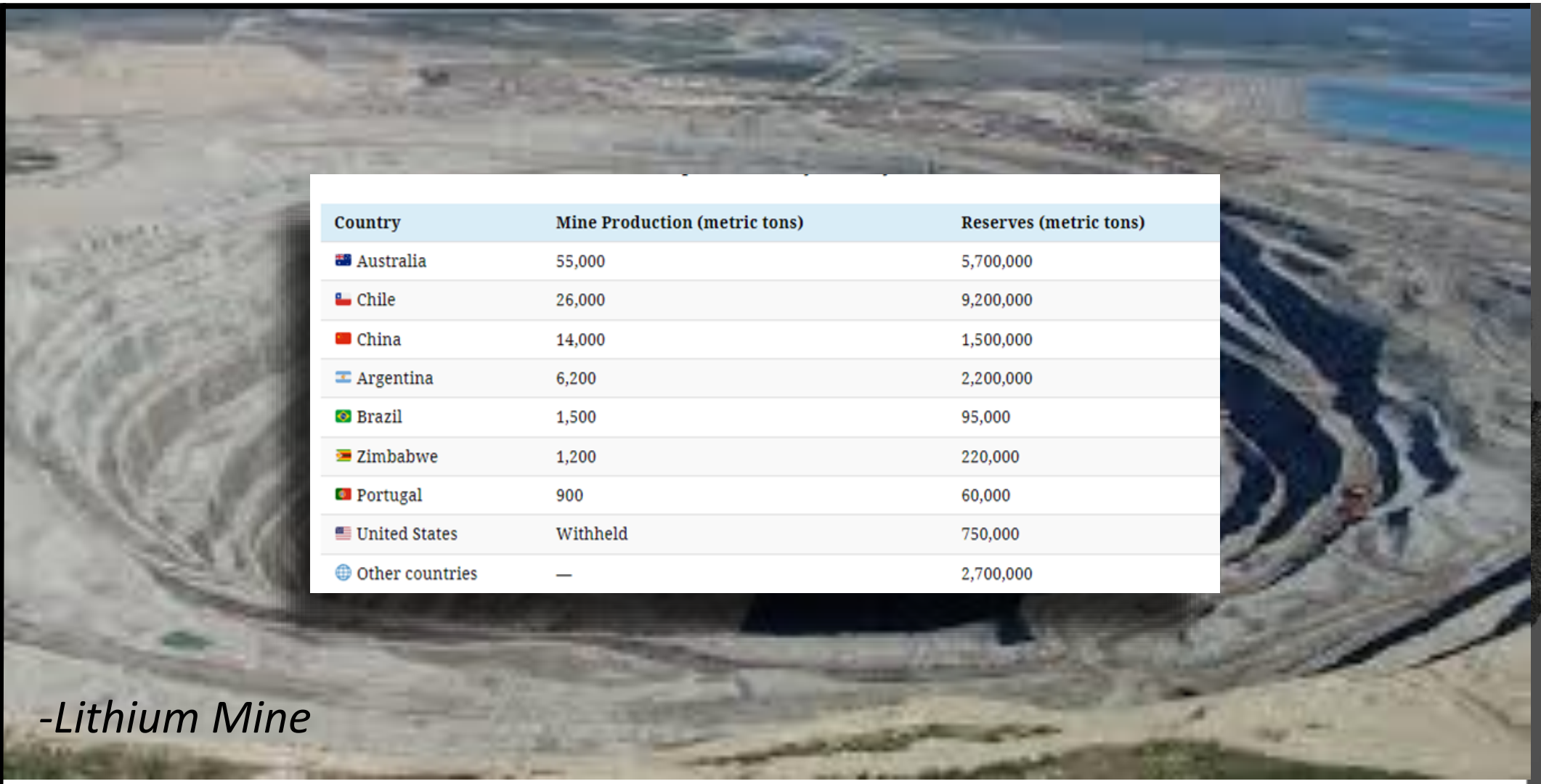


Carbon from Pyrolysis

30% Reduced Plastic


MALL
In addition to a prodigious amount of sulfur dioxide emissions, an Li Battery takes 6 to 10 times the energy to recycle, as it does to make a new battery.
-Source US Department of Energy

Rare Earth Metals



Country	Mine Production (metric tons)	Reserves (metric tons)
Australia	55,000	5,700,000
Chile	26,000	9,200,000
China	14,000	1,500,000
Argentina	6,200	2,200,000
Brazil	1,500	95,000
Zimbabwe	1,200	220,000
Portugal	900	60,000
United States	Withheld	750,000
Other countries	—	2,700,000

-Lithium Mine

Rare earth elements: Where are they commonly used?

- **Scandium** – Aerospace components
- **Yttrium** – Spark plugs, cancer treatments
- **Lanthanum** – Camera lenses, battery electrodes
- **Cerium** – Oxidising agent, glass/ceramic colouring
- **Praseodymium** – Magnets, lasers, goggles
- **Neodymium** – Magnets, lasers, electric motors
- **Promethium** – Nuclear batteries, luminous paint
- **Samarium** – Magnets, lasers, control rods for nuclear reactors
- **Europium** – Phosphors, fluorescent lamps
- **Gadolinium** – X-ray tubes, computer memory
- **Terbium** – Fluorescent lamps, stabiliser of fuel cells
- **Dysprosium** – Magnetostrictive alloys, hard disk drives
- **Holmium** – Lasers, wavelength calibration standards
- **Erbium** – Infrared lasers, fibre-optic tecnology
- **Thulium** – X-ray machines, metal-halide lamps
- **Ytterbium** – Stainless steel, nuclear medicine, earthquake monitoring
- **Lutetium** – PET scan detectors, LED light bulbs

Top 10 rare earth producers

Total 170K MT

China	Australia	US	Myanmar	Russia	India	Brazil	Thailand	Burundi	Vietnam
120K MT 70.6%	20K MT 11.8%	15K MT 8.8%	5K MT 2.9%	2.6K MT 1.5%	1K MT 0.6%	1K MT 0.6%	1K MT 0.6%	1K MT 0.6%	0.4K MT 0.2%

Battery Components from Biomass Carbon Black and Graphene

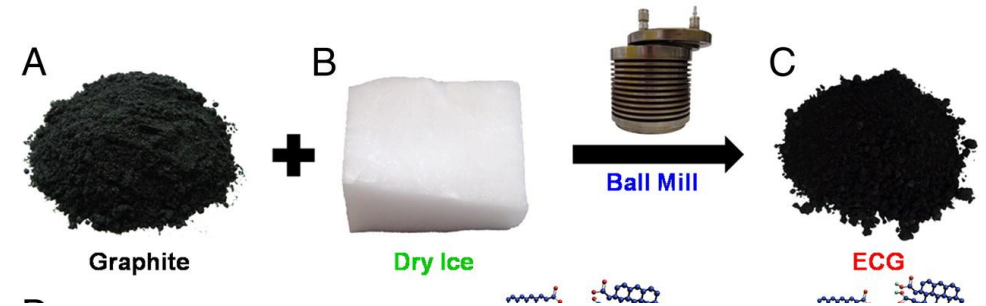
Journal of Environmental Management
Volume 244, 15 August 2019, Pages 83-91

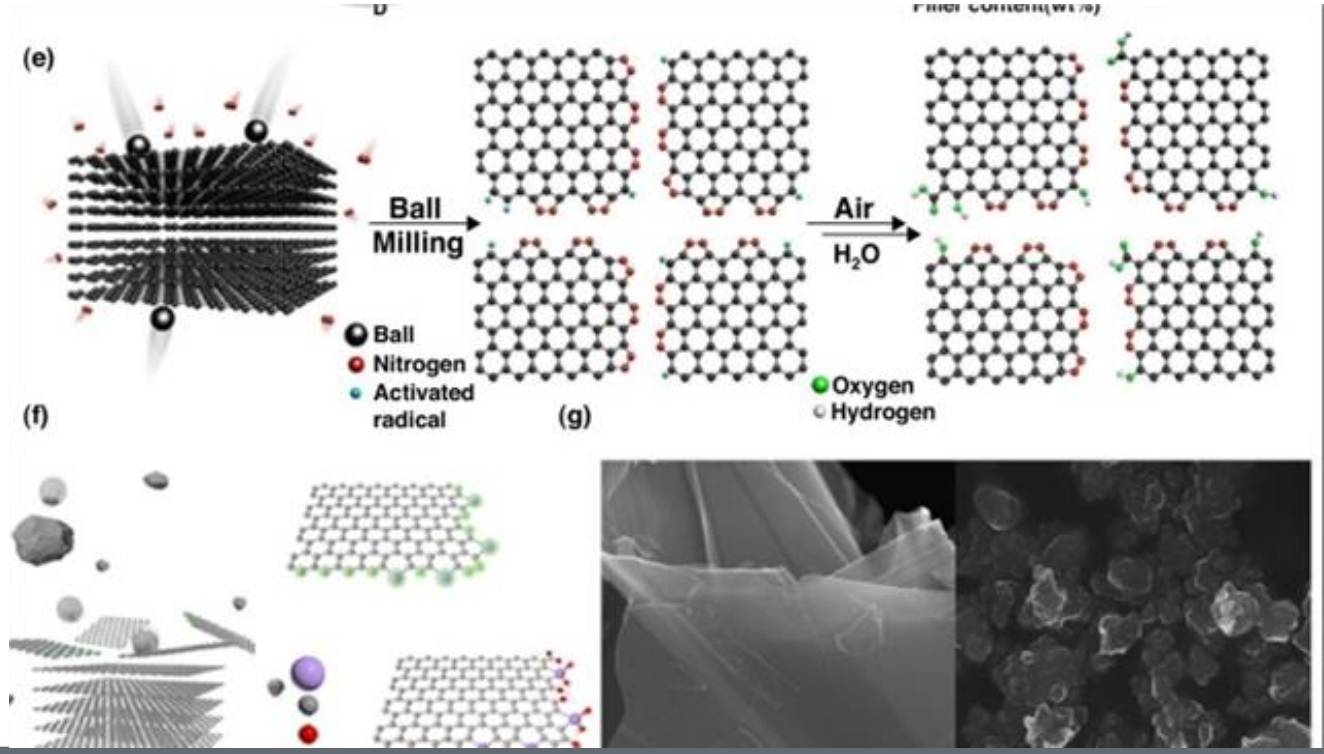
Research article

Synthesis of carbon nanotubes using biochar as precursor material under microwave irradiation

Chemical Engineering Journal
Volume 390, 15 June 2020, 124611

Conversion of biological solid waste to graphene-containing biochar for water remediation: A critical review





100% Hemp Battery

Hemp Carbon Cathode - Biomass Conductive Insulative Mix

Hemp Carbon Anode - Biomass Conductive Carbon

Separator - Hemp Paper

Electrolyte- Baking Soda - Ph of 8 - Wood Vinegar can be used ph of 2 to improve Voltage.

50g Super P Conductive Carbon Black For Lithium Ion Battery

$ 89.50

Package Size

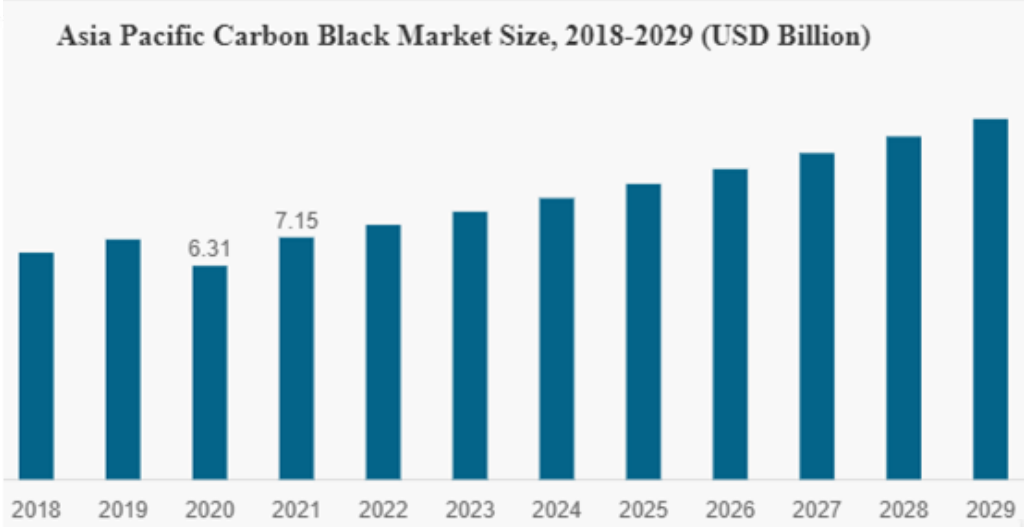
50g

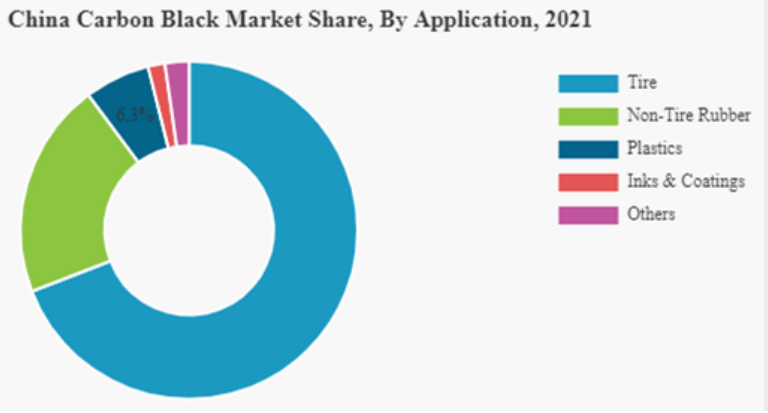
Qty (Each)	Price (Each)
1 - 4	$ 89.50
5 - 9	$ 76.08
10 - 19	$ 67.13
20 - 99	$ 58.18
100 - 100+	$ 44.75

Quantity

1

Add to Cart

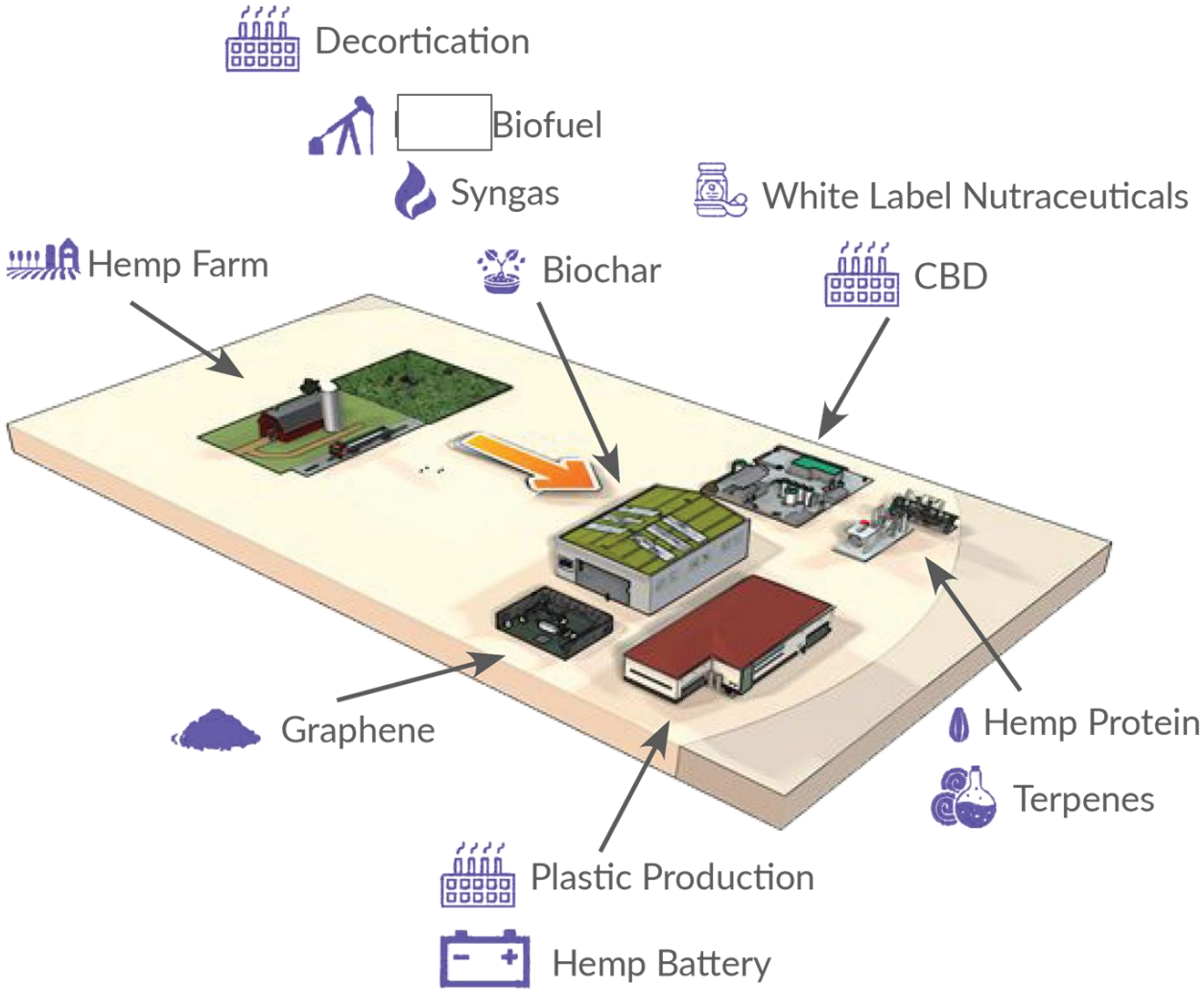


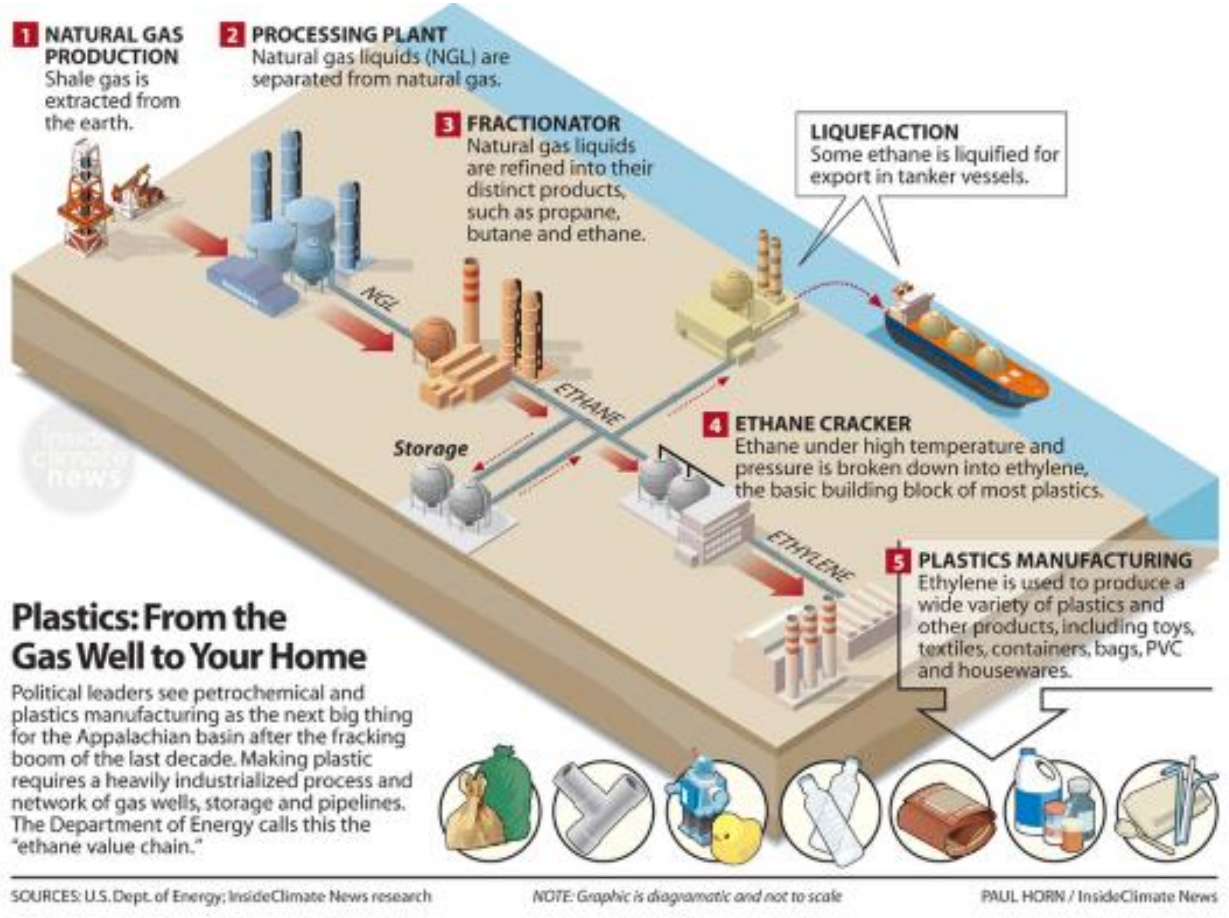


Rising Product Demand for Manufacturing of Plastic Goods to Drive Market Growth

The product is mainly used in plastics as a conductive filler material, pigment, and particulate reinforcing agent. As a filler, it is used in manufacturing a variety of plastic products such as pipes, films, stretch wrap, photographic containers, and industrial bags. The demand is attributed to its high strength, thermal conductivity, and antistatic properties. Furthermore, they act as a UV light absorber that aids in protecting plastic from discoloration, chalking, fading, and cracking.

Integrated Bio-Refinery Vs Traditional Refinery





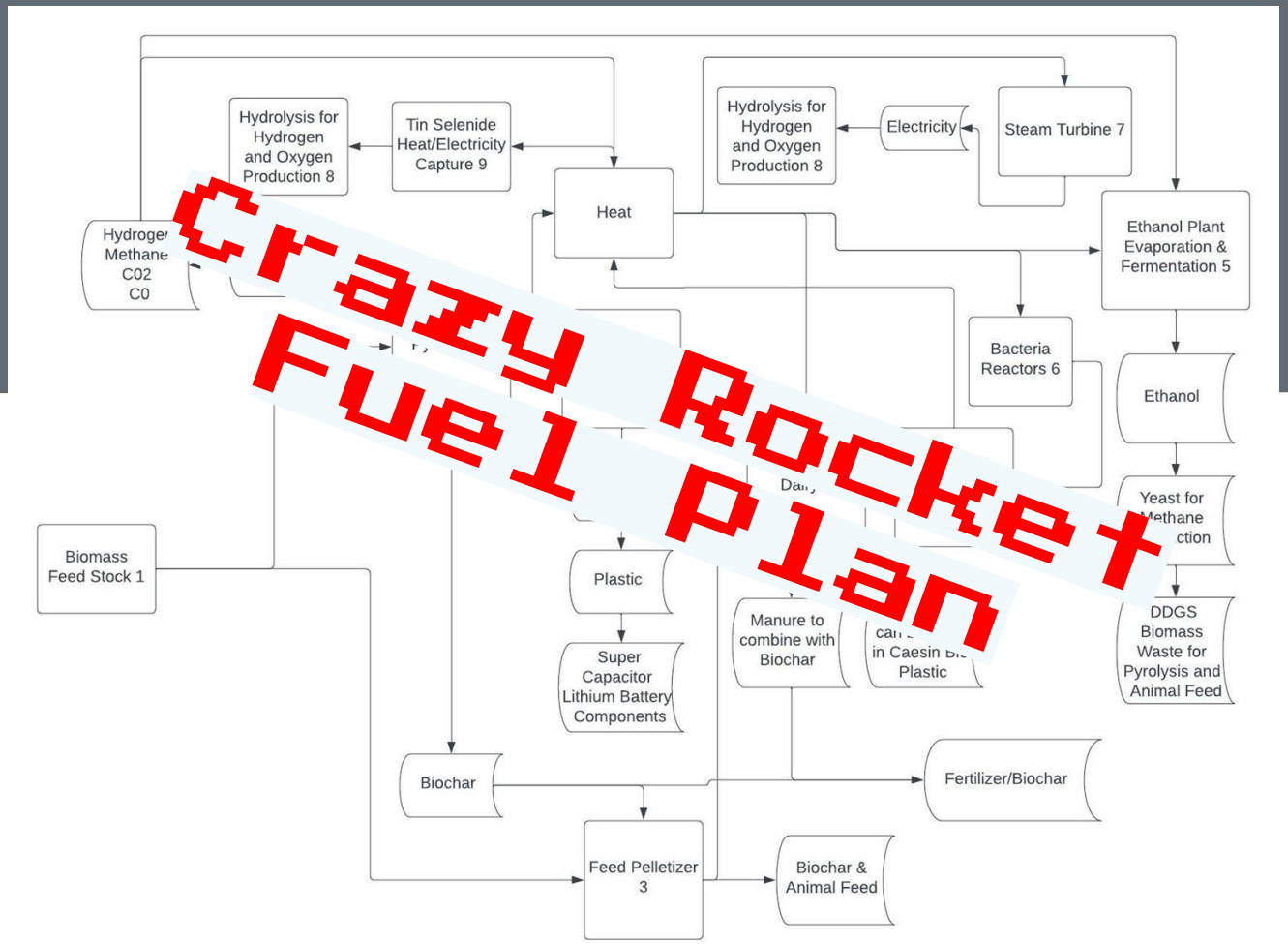
One Processing Facility

NASA SPACEFLIGHT.COM

FORUMS L2 SIGN UP ARTEMIS SPACEX COMMERCIAL

Methalox race likely to be won in 2022, but winner not yet clear

written by Adrian Beil & Thomas Burghardt | March 13, 2022



Crazy Rocket Fuel Plan

The Renewable Future of Biomass Rocket Fuel

By Clayton Turner
971-232-0895

Space X rockets use methane oxygen based Methalox rocket fuel. This is a potentially renewable fuel, and could solve issues eventually on Mars regarding how to make domestic fuel on the surface of a dead planet capable of escaping the atmosphere. Also this creates the potential to make renewable fuel, and prevent cattle emissions.

One SpaceX Rocket Launch Produces the Equivalent of 395 Transatlantic Flights worth of CO2 Emissions

Thank You

Clayton Turner

Claytoneturner@gmail.com

searchandrescuedrone.com

971 232 0895