

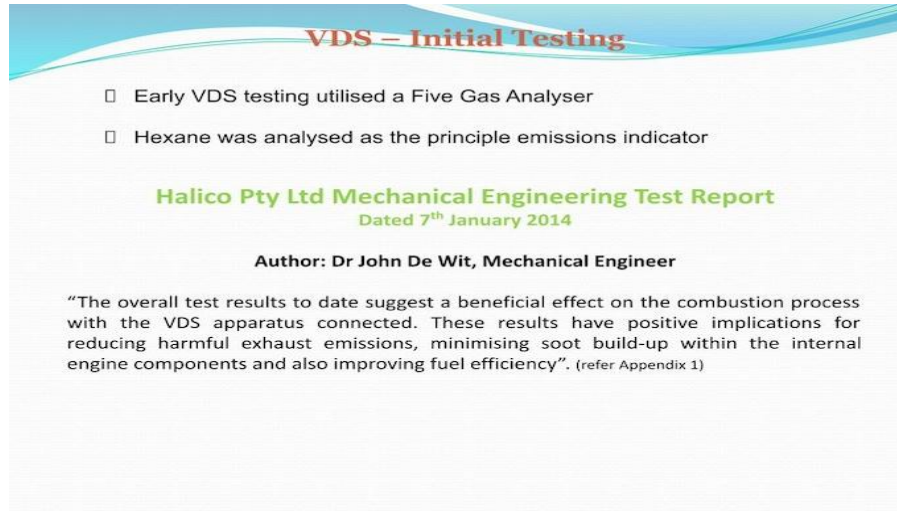


In the “Back to the Future” movie franchise, the DeLorean time machine primarily runs on gasoline, which produces emissions like all engines. The fictional Mr. Fusion device converts waste (garbage) into the power required to activate the flux capacitor and time circuits to time travel. The Mr. Fusion concept of fuel from waste is feasible. Converting waste, including plastic, into fuel is simple. Making it not toxic to use as fuel isn't simple. Furthermore, the breaking down of the waste to make new products is highly toxic as well.

Making plastic fuel is simple. Making it not toxic isn't simple.

**Green Frog Revolution Transforms Waste into Fuel & Products. Toxic Free.
By Improving Combustion**

Vapour Draw Systems (VDS) Patented Technology Improves Combustion



VDS – Initial Testing

- Early VDS testing utilised a Five Gas Analyser
- Hexane was analysed as the principle emissions indicator

Halico Pty Ltd Mechanical Engineering Test Report
Dated 7th January 2014

Author: Dr John De Wit, Mechanical Engineer

“The overall test results to date suggest a beneficial effect on the combustion process with the VDS apparatus connected. These results have positive implications for reducing harmful exhaust emissions, minimising soot build-up within the internal engine components and also improving fuel efficiency”. (refer Appendix 1)

Plastic is highly toxic.

"Forever chemicals" is the common name for per- and polyfluoroalkyl substances (PFAS), a large and diverse family of human-made chemicals. Their resistance to breakdown comes from an extremely strong carbon-fluorine bond, which means they persist in the environment and in living organisms for decades or longer.

The Goal is to completely break down / mineralised chemicals.

What is mineralization

Quote AI

"The mineralization of PFAS chemicals is the complete destruction of the per- and polyfluoroalkyl substance molecules by breaking their extremely strong carbon-fluorine bonds. This process converts the harmful organic compounds into stable, simple inorganic substances, most notably carbon dioxide, water, and fluoride salts.

This is the end goal of most PFAS remediation efforts, which seek to permanently eliminate the risk these "forever chemicals" pose to the environment and human health.
“

Reference

01HAVY6174K32F3950ZKNNXTPK.pdf <https://share.google/hRBG3kxbHmKoV9IaI>

***Every known process to recycle waste is both toxic and inefficient.
That's why the world has a plastic waste issue.***

Burning isn't an option, same goes for pyrolysis and gasification, because the chemicals used in the production of plastic can end up compounding into more toxic chemicals.

Studies have proven temperatures above 1000 degrees celsius can completely break down PFAS, however incomplete combustion can cause more problems. More toxic emissions.

Reference

<https://www.csiro.au/en/news/All/News/2025/March/International-research-team-decode-s-how-to-safely-incinerate-forever-chemicals>

P. J. Linstrom, W. G. Mallard, Eds. NIST Chemistry WebBook: NIST Standard Reference Database Number 69 (NIST, 2000).

Quote AI generated.

“Importance of ideal conditions

Complete mineralization and the resulting mineral salts depend on ideal incineration conditions. If temperatures, residence times, and mixing are insufficient, the following can occur:

Incomplete combustion: A portion of the PFAS may not be completely destroyed, resulting in smaller, potentially more mobile PFAS molecules.

Toxic byproducts: Harmful fluorinated products of incomplete combustion (PICs) can form, which could be released into the environment if not properly captured.”

When per- and polyfluoroalkyl substances (PFAS) are combusted above 1000°C, the ideal outcome is mineralization, which converts the compounds into simple inorganic molecules. While no solid minerals are formed from the PFAS themselves, the resulting fluorine and sulfur (if present) are converted into mineral salts through chemical reactions during and after combustion.

The main mineral byproducts are captured from the post-combustion gases, not left as solid minerals directly from the PFAS. “

Reference

<https://www.csiro.au/en/news/All/News/2025/March/International-research-team-decode-s-how-to-safely-incinerate-forever-chemicals>

Other studies have identified the mixing pfas with with water helps the break down via combustion

Quote AI “Mixing water with PFAS has been shown to improve mineralization via combustion through processes like supercritical water oxidation (SCWO) and thermal treatment. In traditional incineration, water is considered a disadvantage due to its high moisture content, which increases energy consumption. However, specialized thermal techniques use water to create more effective and environmentally friendly methods of PFAS destruction. “

Reference

<https://aiche.onlinelibrary.wiley.com/doi/10.1002/aic.10993>

Burning Plastic isn't safe because Combustion is never complete. If it was there would be no need for emission control devices.

This is why burning/ Incinerating pfas isn't a safe solution, same goes for flaring.

Ai quote “Flaring often fails to destroy PFAS because it breaks the chemicals into smaller, still-harmful forms that are released into the air, rather than completely eliminating them”

What if we could improve combustion efficiency to achieve full mineralization

Vapour Draw Systems technology has invented a system and devices to improve combustion efficiency.

The system delivers a moist gaseous vapour mixture of micro droplets of new water vapour mixed with a strong oxidising chemical, which then targets fuel/ air within the engine. This mixture is produced by treating and soaking the chemicals within the collected exhaust with condensate produced from the exhaust gas. In doing so, chemicals like diluted sulfuric acid are formed, which is a strong oxidiser, thus aiding combustion.

The microdroplets of water also aid combustion by transferring heat. The droplets absorb heat from the engine and generate heat by colliding together as they flow through the device to the combustion chamber. Some of the heat is transferred to the fuel within the engine. This process assists the fuel to vaporise faster, which promotes a more thorough mixing of the air/ fuel charge. This is achieved without adding any external substances, including water.

How do we know if Works

Testing, lots of testing on many vehicles in Europe and Australia for many years. Our patent was first lodged and accepted back in 2013. Since then we have improved the system.

A certified exhaust gas emissions test can confirm if the device is working when fitted to a standard vehicle.

Emission Test for road registration compliance (France)

4:34 pm

Documentaire en PDF - Système de gestion de documents

16/12/15 08/12/05

TOYOTA RAV 4

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JTEHH20V106 M1 VP

MJT4653BQ567 ES

Document(s) présent(s)

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(4) KILOMÈTRAGE RELÈVE 122169

RAVATIONS SUR LE CONTRÔLE TECHNIQUE DÉFAVORABLE

Les informations nominatives
Automotive, responsable d
développer et fidéliser sa c
Centre.

MESURES RÉALISÉES ET VALEURS LIMITES CORRESPONDANTES

	AVANT		ARRIÈRE		
	G	D	G	D	
Ripage (+8 à +8 m/km):	+2.0 m/km				
Déviations suspension (± 30%):	7 %		8 %		
Forces verticales:	864 dan		707 dan		
Frein de service					
Forces de freinage (déséquilibre):	290 dan	285 dan	213 dan	206 dan	
Déséquilibre (< 20%):	2 %		4 %		
Forces de freinage (efficacité):	290 dan	285 dan	213 dan	206 dan	
Taux d'efficacité globale (± 50%):	63 %				
Frein de stationnement Taux d'efficacité (± 18%):	24 %				
Émissions à l'échappement					
CO (l/100km) (5.0, 3):	0.00	CO ralenti accéléré (5.0, 2):	0.00	Lambda (0.97 à 1.03):	1.002
CO (l/100km) (5.0, 3):	0.00	CO ralenti accéléré (5.0, 2):	0.00	Lambda (0.97 à 1.03):	1.002
Feux de brouillard avant (± 0.75 à 1.75):	2.0 %		2.0 %		

Co2 idle, 0 , co2 at 2700rpm 0

4:34 pm

You

But it has no CO at lambda 1 . .thats impressive

No it is a vds on a nice toyota engine



4:35 pm

The guys comment. well. it is going

Incomplete combustion results in higher emissions.
higher Carbon monoxide & Hydrocarbons outputs

Green Frog Revolution devices reduces emissions due to improved combustion
efficiency

Forces verticales :

Frein de service

Forces de freinage (déséquilibre) :

290 daN

Déséquilibre ($< 20\%$) :

Forces de freinage (efficacité) :

290 daN

Taux d'efficacité globale ($\geq 50\%$) : 63 %

Frein de stationnement Taux d'efficacité ($\geq 18\%$) : 24

Émissions à l'échappement

CO Ralenti ($\leq 0,3$) : 0.00 CO ralenti accéléré ($\leq 0,2$) : 0.

-2.0 %

Feux de brouillard avant (-3.5% à -1%) .

to a point there is no carbon monoxide
(more test results further down in this document)

Green Frog Revolution Technology makes back to the future Real

Green Frog Revolution transforms waste into fuel & products. Without emitting toxic emissions

A Real Future System Here Today

- A system which extracts combustible and combustion supporting substances from exhaust gas and waste to use as a fuel supplement to run the system.
- A system that improves combustion efficiency, ensuring pfas chemicals are totally mineralised leaving only carbon dioxide, water, and fluoride salts.
- A system that produces new water, mixes all of the exhaust gas and pfas with water and recirculates the gas mixture. while improving combustion To ensure full mineralization of pfas occurs.
- A system that produces new products from the remaining waste.

Introducing the Green Frog Revolution

Transforming Waste into Fuel & Products Toxic free



Imagine a world where waste plastic is converted into clean energy and useful products, without harming the environment. The Green Frog Revolution makes this possible. Our innovative technology combines vacuum pyrolysis and chemical combustion to turn waste into fuel, electricity, and products like bricks, without emitting toxic emissions.

How we safely Transform waste into Fuel & Products. Toxic Free

Our system uses a standard internal combustion engine (ICE) fitted with our devices. Connected to Green Vapour Draw vacuum pyrolysis oven(s). The vacuum in the pyrolysis oven is generated via the Green Vapour Draw Cell connection between the oven and the engine air intake. This connection draws air / gas out of the oven and into the Green Cell, producing a vacuum in the oven. The oven is designed to heat and compress the waste into a solid model/ product. This is achieved at reasonably low temperatures.
(approximately 300c)

The toxic gases from the oven are continuously diverted into Green Vapour Draw Cell(s) under a vacuum.

The gases are cooled and mixed with the condensate produced from the gas, forming a moist gaseous mixture which is then injected on demand and when demanded by the engine into the engine as a supplement fuel source.

The mixture is subjected to extreme heat exceeding 1000c temperatures and pressures during combustion can range from a few hundred psi to over \1000\ psi.

Both of these aspects improve the overall breakdown and mineralization of forever chemicals during combustion.

Treatment After combustion.

After combustion treatment is critical to ensure complete mineralization has occurred.

Green Vapour Draw Full Flow Exhaust Scrubber After combustion treatment.

Is a System designed to collect the engine's exhaust gas for after treatment of all of the exhaust gas.

The captured gas is mixed with condensate. A large volume of the mixed exhaust gas is recirculated back into the engine to be reused.

The system produces excess condensate due to mineralization of gases and combustion of fuel.

The excess condensate is collected, where it can be tested for toxicity before being used to water indoor plants.

COMBUSTION EFFICIENCY IMPROVEMENT

Green Vapour Draw Cell

Is a device to improve combustion efficiency. It is employed to safely burn waste/ plastic fuel as well as to improve combustion efficiency.

The flow rate of waste / plastic fuel injected mixture can be described as on a molecular level/ volume. It is mechanically restricted to prevent over injection if an engine malfunction occurs.

In the case of a 4 stroke ICE the injection of our mixture starts as the ICE air inlet valve starts to open and continues until it closes.

Overall the engine runs on a combination of gasoline and waste-derived fuel, reducing reliance on fossil fuels.

Our Technology Key points

- Brakes down highly toxic PFAS (“forever”) Chemicals into simple inorganic substances, most notably carbon dioxide, water, and fluoride salts. (simple inorganic substances, which are compounds that lack a carbon-hydrogen bond and are essential for human functioning, including water, carbon dioxide, and various salts like fluoride salts. These substances play critical roles, such as water acting as a solvent and heat sink, carbon dioxide being a waste product of metabolism, and fluoride salts helping prevent tooth decay.)
- Extracts combustible and combustion supporting substances i.e fuel to supplement power generation to run our factory.
- We use standard generators, which are fitted with our proprietary methodology and devices to improve the combustion efficiency of Internal combustion engines and Pyrolysis and Incineration.
- Our system ensures full mineralization of forever chemicals found in most everyday products.
- Our generators are fuelled by a combination of gasoline/diesel and our proprietary plastic gas.

- Our Generators recirculate and recycle exhaust gas ensuring no toxic emissions are left untreated.
- Our Factory operates totally off grid.
- Extracts combustible and combustion supporting substances i.e fuel to supplement power generation to run our factory.
- Using a standard generator to break down man-made toxic chemicals and to generate power to produce our products, while reducing exhaust gas emissions..
- The Generators are fitted with our proprietary methodology and devices to improve the combustion efficiency of Internal combustion engines and Pyrolysis and Incineration
- Our generators are fuelled by a combination of gasoline/diesel and our proprietary plastic gas.
- Our Generators recirculate and recycle exhaust gas ensuring no toxic emissions are left untreated.
- Our Vacuum pyrolysis ovens, range in sizes and manufactured using heavy plate steel (8 to 12 mm) Basically they are indestructible.
- Our system is fully modular. Can be run indoors or outdoors.
- Waste plastic is collected in bails and kept in the bails until contents are loaded directly into the ovens.
- No shredding of waste plastic. Which reduces the spread of micro plastics.

SETUP & CERTIFIED TESTING

Green Frog Revolution Mini Machine.

3kw gasoline generator version.

Waste to fuel & Products pyrolysis oven consumes only 300 watts.



The Green Frog Revolution devices extracts combustible and combustion supporting substances (fuel) from the waste, while improving thermal efficiency performance of the engine. Overall fuel consumption is dramatically improved when running combined (plastic and gasoline) fuel.

By using a mixture of fuels, the system totally destroys pfas chemicals while reducing combustion emissions from a standard engine without affecting the engine's reliability.

It's worth noting that injection of plastic fuel is controlled by the demands of the engine and the device physically restricted over fuelling.

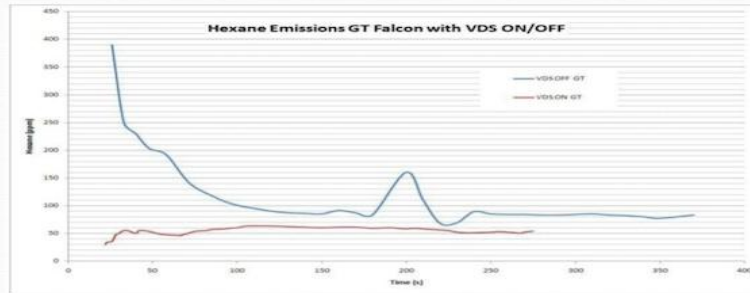
Very Early Vapour Draw Systems (VDS)

Halico Pty Ltd Mechanical Engineering Test Report

Author: Dr John De Wit, Mechanical Engineer

2.3 REDUCING EMISSIONS

Previous exhaust gas emissions testing on the Ford GTP with a five gas exhaust gas analyser has been reviewed and shows very promising results with respect to reducing Hexane emissions at idle. It was decided that these tests should be reproduced on both the GT and the (lawn) mower to verify the data. The results are very convincing. Figure 7 shows the exhaust gas analyser connected to the GTP vehicle.



Independent certified testing to confirm
Dr. John De wit report.

One of our test vehicles
Ford GTP. Running on E10 Unleaded fuel for 50.000 km

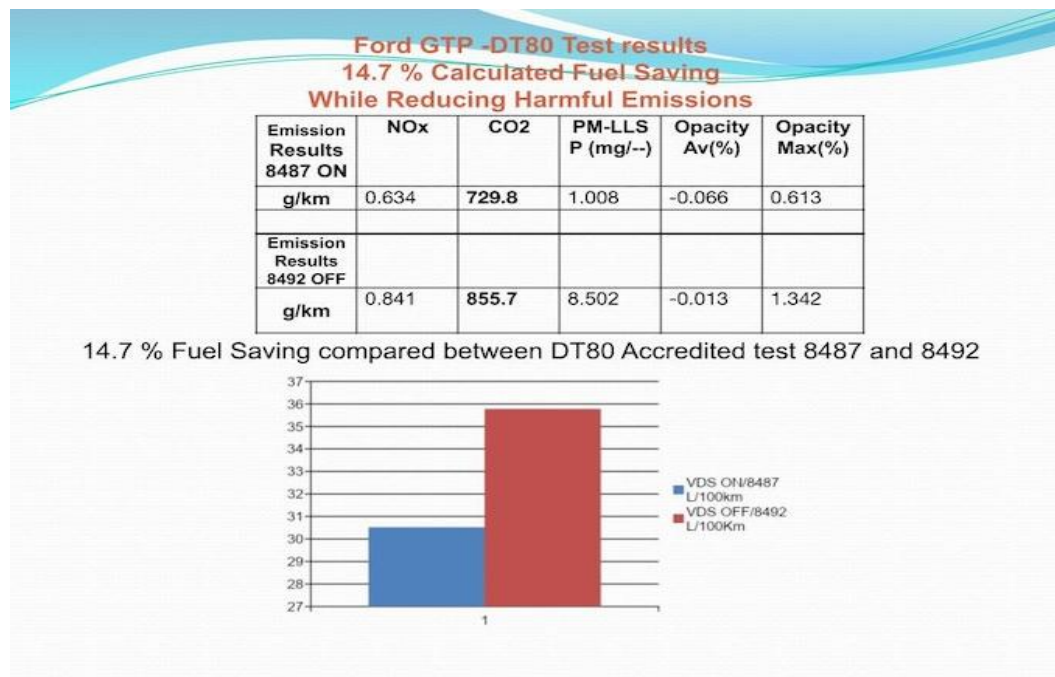
Appendix 2 Brisbane City Council EMISSIONS TEST REPORT



Date: Wednesday, 19 February 2014 Test number: 8487
Test Location: Eagle Farm Bus Depot YOM: 2004
Vehicle Registration No: BM-48-BE Make & Model: Ford BA FPV GTP V8 290 BOSS
Vehicle Test Mass (kg): 2800 Vehicle GVM (kg): 3800
Vehicle Odometer: 143999 Fuel Type: Petrol
Other Vehicle & Test Details: DT80 Testing for Vapour Draw Systems. Baseline Testing VDS ON.
Comments: OK

Note: The DT80 test is designed for heavy vehicles (Trucks & Buses). The gross vehicle mass (GVM) is used to set up the test equipment to simulate normal operational conditions. Average DT80 test time is 300 seconds. This includes time taken to reach 80km/h at full throttle acceleration.

In order to obtain close to average test time, our passenger vehicle was loaded at 3800kg GVM. This represents 2000kg of extra vehicle weight whereas the actual vehicle test mass (Tare) is 1800kg. The loaded DT80 tests conducted can be considered an extreme test for a light passenger vehicle.



One of our test vehicles

Ford GTP. Running on E10 Unleaded fuel for 50.000 km

VDS promotes the use of Ethanol Fuels without damaging engines and reducing performance



A Police **FORD FPV GT** required significant engine repairs after an officer apparently filled it with **E10 fuel** that the NSW government mandated as part of a push for cleaner emissions.

Our test vehicle- FORD FPV GTP – Runs only E10 fuel (and still running)



Ford FPV GTP



Testing GTP at Brisbane City Council emission testing centre

VDS promotes the use of Ethanol Fuels without damaging engines and reducing performance



A Police **FORD FPV GT** required significant engine repairs after an officer apparently filled it with **E10 fuel** that the NSW government mandated as part of a push for cleaner emissions.

Our test vehicle- FORD FPV GTP – Runs only E10 fuel (and still running)



Ford FPV GTP



Testing GTP at Brisbane City Council emission testing centre

Green Frog Revolution System

Is safe and simple to use. As simple as putting rubbish into a bin and starting a gasoline lawnmower. No explosions. No safety risks.

The engine/ generator can be as small as a 50cc two-stroke or as large as the largest engine available. It's all about the chemistry, not the mechanical workings of an engine.

Green Vapour Draw Vacuum Pyrolysis Oven

The oven can be of any size and as simple as in the picture (below).

Our ovens use a contained fluid heat exchange system as well as our own innovative technology to ensure the waste is evenly heated.

The oven compresses waste into products like building blocks/ pavers without the need of hydraulics.



Basically by changing the moulding plates, products like Lego blocks can be produced at any size required. Imagine a future with no more plastic waste floating in our oceans or filling up landfills. The Green Frog Revolution can turn our waste into fuel into new products, at any scale.

The Real Future is Here!

Our Story.

The technology which started Transforming Waste into Fuel and products

The Green Frog Revolution all started many years ago with a patent to improve engine thermal efficiency combustion.

PATENT & DEVICES

System and method for improving combustion efficiency

WO2015081388A1

WIPO (PCT)



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Find Prior Art



Similar

Other languages: [English](#), [French](#)

Inventor: [Brett Jason HEAD](#)

Worldwide applications

2014 • [WO](#)

Application PCT/AU2014/050397 events ⓘ

2013-12-06 • Priority claimed from AU2013904745A

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2015-06-11 • Publication of WO2015081388A1

Info: [Patent citations \(5\)](#), [Cited by \(2\)](#), [Legal events](#), [Similar documents](#), [Priority and Related Applications](#)

External links: [Espacenet](#), [Global Dossier](#), [PatentScope](#), [Discuss](#)

Back in the early 2000, the device was complex. To confirm the system worked, we simplified it.

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KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,
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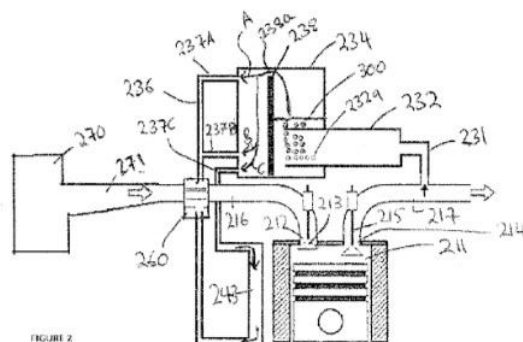


FIGURE 2

(57) Abstract: A method and system for improving efficiency of a combustion machine by recirculating and treating exhaust gases generated by the machine and directing the gases back into the inlet of a combustion chamber of the machine. The system and method redirect exhaust gas flowing through the exhaust gas outlet into one or more condensers for condensing vapour in the exhaust gas into liquid, direct non-condensable gases of the exhaust gas through the liquid to generate a treated exhaust gases fluid comprising saturated gases, vaporise the liquid component of the saturated gases in the treated exhaust gases fluid to generate steam, and introduce the steam into the combustion chamber. The system and method reduce the temperature and pressure of the recirculated exhaust gases fluid to a level sufficient to cause condensation of condensable components in the fluid and to allow the system to operate in a self-sufficient manner in combination with the combustion machine, preferably without the need for external input or control.

WO 2015/081388 A1

This is what the combustion improvement device looks like today. The kit now only requires the green cell and connecting tubes and a few fittings. One tube connects to the engine exhaust and the other to the engine's air intake..



Vapour Draw Systems has two further new inventions. Both based on the original. It's these inventions that turns waste into fuel and products whilst destroying toxic forever chemicals and lowering exhaust gas emissions

The Green Vapour Draw E Cell combines the original invention and a hydrogen generator powered by static electricity generated within the device. DC voltage is used to run the device's electronics and to initiate an electrical field.



Vapour Draw Systems Full Flow Exhaust Scrubber. This scrubber is self-cleaning and self-replenishing. **Meaning it never requires maintenance.**



The Real Future - today

Turning Waste/ Plastic into Fuel is a Toxic process.

“Pfas” collectively known as Forever Chemicals are produced and released during the process of recycling plastics.

Leaving plastics gathering in oceans and waterways will also release these toxic man made chemicals. Turning Plastic Waste into a full alternative fuel source isn't safe or viable.

Internal Combustion Engines, Pyrolysis and Incinerators all emit Toxic Emissions. Using alternative fuels will most likely compound the problem. There's no one solution. Until now. We have combined our technology to destroy Toxic Pfas Chemicals to make waste/ plastic recycling safe, while extracting combustible and combustion supporting substances (fuel) to reduce reliance on fossil fuels.

No-one has produced a system which has effectively solved the Pfas and forever chemicals produced by plastic waste - Until now.

Welcome to the Real Future.

The Green Frog Revolution is here today.