Junk To Diesel: Waste problems = Waste solutions

Creating fuel from waste plastic and waste motor oil

Green Living For Freedom And Sustainability Pty Ltd
www.greenlivingforfreedom.com
nikodemis@greenlivingforfreedom.com
083 274 3297
where does it come from?

Double-click on black box below to watch video or click on this link https://youtu.be/lwdUwffecsM
Do you have plastic waste challenges?

- Waste plastic and waste motor oil are serious challenges in your area, in other areas, in our country, and in the world.
- Waste plastics and waste motor oil pollute the environment, poison the soil and spoil the beauty of our environment.
- Waste plastic and Waste oil does not make compost or food.
- We can’t eat waste plastic or waste motor oil.
- It makes a mess when we dump it wherever ever, it kills animals and fish, and it doesn’t decompose or go away.
- Waste Plastic fills up our landfills and dumpsites non-stop – where will it end?
- Normal Recycling Waste Plastic does help – BUT: it does not pay much money to recyclers and not all waste plastic gets reused. Only about 20-30% of waste plastic can be reused.
NORMAL WASTE RECYCLING:
- Keeps environment clean and healthy
- Creates jobs: waste collection, waste sorting, and selling the waste to recyclers who sell to recycling factories.
- Pays little because many players are in the production line and the recycling factories are far from the places where we collect
- Only 20-30% of all waste plastic gets recycled because of poor quality when a product is made from recycled materials

RECYCLING MAKING DIESEL FROM WASTE:
- Creates many more possibilities and jobs: besides waste collectors and sorters, we also train machine operators, machine mechanics, machine marketers, fuel sellers, entrepreneurs, more businesses (small, medium, big), marketers, administrators, managers and more
- Creates FREE fuel to run the machines, the vehicles and to sell for more money
- Machines are closer to where we do waste collection and sorting which means less money and time wasted so we get paid more
- Benefits many industries like construction, transport, agriculture, domestic and energy (fuel for transportation, generators to make electricity, and more)
- Includes training to process 2 types of plastic not used to make diesel with – skills to make useful products people and business can use
- Creates a product (Biodiesel) that is clean, cheap and useful. This product has the potential to create huge financial gains for small businesses. The fuel industry is busy with legalization to make it mandatory to blend biofuels with normal diesel (see later in presentation for details)
THE WAY FORWARD: WASTE TO ENERGY / DIESEL

Double click on black box below to watch video or click on this link: https://youtu.be/1YUMHAfzuJY
JUNK TO DIESEL PLANT FOR YOU – SOUTH AFRICA’S SOLUTION

Mobile Eco Diesel trailer
120 liters per day

2000 liters per day plant (Bothaville, Western Cape)
AND MORE...

250 liter per day plant (Hoedspruit, Mphumalanga)
Waste Plastic = Black Gold

Free Waste = Clean and Healthy Environment
Free Waste = Free Fuel = Free Diesel = Free Energy
Free Energy = SELL = PROFITS = SALARIES = JOBS FOR ALL
A SUPER BUSINESS: making biodiesel from waste plastic/oil

WHAT DO YOU GET?

- One Waste Plastic To Diesel plant that makes 450 litres of biodiesel per day (approx. 1.5kg waste plastic makes 1L Ecodiesel / Biodiesel). The plant is locally manufactured in SA and it costs R300 000. Similar technology like this sourced from anywhere else in the world costs between 200% and 500% more;
- Two solar panel arrays to provide 12Volts x 2 for the automatic controls to run the plant 24/7 as well as the Mobile Eco Diesel plant referred to in 7.1.2.6 below. Cost is R2 500;
- Two mobile diesel tanks of 1000 litres each, with pumps and gauges, to store and transport product (the eco-diesel made from waste plastic and waste motor oil). Cost is R13 250 each;
- Training: plant/machine operators, machine manufacturers and maintenance personnel, entrepreneurial training, waste collectors and sorters, marketing staff and community facilitators to demo this technology to people and create awareness plus more opportunities for this system to be replicated by small businesses all over. Initial cost is R60 000 and follow up costs are to be sourced via sustainable income generation of each project;
- One plastic shredder and washer per plant, locally manufactured. Cost is R25 000;
- One Mobile Eco Diesel Plant, mounted on a licensed trailer that is trekked all over to show potential clients this technology. The Mobile Eco machine makes up to 120 litres of diesel from waste plastic per day. Cost is R85 000;
- Delivery to site, installation of machine/s, all parts required for 1 year with guarantee. Cost included in price of plant;
- Testing kit to ensure every 24 hour batch adheres to standards set for biofuels by the fuel industry. Cost included in price of plant;
- Non-commercial tax-free license from SARS to produce biofuels. Process not included, approx. cost R1 000.00;
- Blueprints from manufacturer for basing more machines on – applicable when and once skilled and experienced locals have mastered the operations and more business is generated by showing the demo around, thus expanding this project and technology sustainably. Costs included in price of plant;
- TOTAL BUDGET = R500 000 TO START UP

HOW DOES IT WORK?

- The Waste Plastic To Diesel Plant has 2 major applications: 1. Waste plastics (except PVC and PET) is used to make biodiesel, thus making free energy from waste. This diesel can be used to power other sources such as diesel generators, farming equipment, diesel vehicles private and commercial that are older than the year 2007, machines that run off grid including the machine itself (which only needs a 12V solar panel and battery array to power the auto controls), etc.; 2. Used Oil is used to make diesel to power machines and other equipment as in 1.

IMPLEMENTATION

- Identify site + capacity/volume (approx 1.5kg waste = 1L fuel)
- Buy machine and concept
- Train staff:
  - plant operators: machine control, maintenance, feeding, manufacture, installation;
  - sales people and marketing: accounts, retail (selling product to small businesses like spazas, agricultural and construction plants) to use for their power generation and machinery, individuals, municipal and government, the fuel industry (see next page);
  - entrepreneurs: to create more business opportunities for this plant + sell this concept to others as complete business for big or small start-ups or add-ons;
  - office staff: management, accounting, reception, administration
  - waste collectors and sorters: which plastics can be used, which not; best practice and equipment to use;
  - product creators: all waste plastics except PVC and PET is used to make biodiesel. What is left over and not used is made into products (see next page) and sold to tourism, agriculture, hardwares; homes
- Retail/swop shop: Re-use shop where people bring their second hand clothes, toys, music, hardware, tools, home appliances etc to stock in shop OR to donate – these are bought by people bringing in waste, they get coupons which they use to “buy” items in this shop
Specifications and related info:

- Biodiesel is a product made via the process of pyrolysis.
- Waste plastics as well as used motor oil can be used as raw material.
- All waste plastics can be used, except number 1 (PET) and 3 (PVC).
- Diesel quality is specified as between .8 and .88 density.
- Diesel is filtered to 1 micron by plant/machine.
- Diesel can be used by any diesel engine older than 2008 model, mainly as mix in vehicles though acceptable, as is, in most engines as specified.
- All equipment carries a 12 month warranty, stock items carry manufacturer’s warranty.
- Product can be sold to any person provided all legal and quality requirements are adhered to re quality of diesel (testing kit included, training will elaborate).
- Regular weekly maintenance and cleaning is usually required – bigger machines have automated cleaning systems built in so once a month will suffice.
- Some washing and sorting of raw materials are required prior to feeding machine – approx. 70-80% clean. Can take around 30% dirt due to high heat burning dirt off.
- Bigger machines don’t require materials to be shredded; smaller machines may require some shredding.
- Machines can work entirely off-grid using own product to run operations. Automated controls need electricity (12V solar array will also suffice).
- Production time is 4-8 weeks from date of deposit.
- Deposit is 80% and balance is settled after delivery, installation, testing and training is complete.
- Machines can be made any size required.

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**PET**
- Polyethylene Terephthalate.
- Usually clear or green, sinks in water, rigid. Barrier to gas and moisture.

**HDPE**
- High Density Polyethylene.
- Semi rigid, sinks in water. Resistance to moisture, permeability to gas.

**PVC**
- Polyvinyl Chloride.
- Semi rigid, glossy, sinks in water.

**LDPE**
- Low Density Polyethylene.
- Flexible, not crinkly. Ease of processing, ease of sealing, barrier to moisture.

**PP**
- Polypropylene.
- Semi rigid, low gloss, resistance to heat, chemicals, grease and oil, versatile, barrier to moisture.

**PS**
- Polystyrene.
- Often brittle, glossy, easily formed.

**OTHER**
- Often Polycarbonate, acrylic, ABS, mixed/multi layer plastic.
The diesel made by these machines is eco/bio-diesel and can in time be licensed as an approved biodiesel supply for the fuel industry. The fuel industry are to be mandated soon by government to blend their normal fossil fuels with a set percentage of biofuel at the set price of R4.50 per liter. This near future prospect promises to be extremely lucrative.

- The diesel can be sold to small businesses to resell for cheaper than diesel on the market;
- Smaller machines, even mobile units, can be issued and sponsored to go to smaller start ups in the rural and urban areas.
- Other by-products like LPG gas, paraffin and char produced by the machine can at a later stage be developed into commercial products as well. At this stage these products are used by the machine to make diesel.

Plastics not used by machine (PET and PVC) can be made into crafts and other utilitarian items such as plastic rope (more durable than normal rope and all weather proof) and light shades, plant containers etc. The market is huge. See below and next page.
MORE PLASTIC PRODUCTS:
AND MORE...
**WHY?**

- CHANGE FOR THE BETTER: Job creation for many – now, later and in future
- Clean environment, clean fuel
- Free and always available waste plastic and waste oil
- Recycling and Environmental sustainability is the way of the future and costs less money that other businesses, adds value to the Earth and to people
- Other business use resources that become more and more expensive and harder to get vs this business uses resources that can be found everywhere, for free
- Selling cheap and clean fuel – cheaper than normal fossil fuels, cleaner emissions and environmental impact is huge
- Other products made are unique and market related as well as useful
- Machines can run entirely off-grid from its own fuel source

**WHO?**

- You, the communities and the people, will learn to run, manage and grow this as a business that will benefit you, your village, your town and your city.
- You will own the business, sell more businesses like it, train others to do it and be able to develop it as you wish (you will have the blue prints to make more machines of any size)
- Trainers from outside will train local people for up to 12 months until local people know how to do each and every part of this business as owners, managers, trainers and staff
WHY BUY FROM US?

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PRODUCT

- Local (South African) manufacturer, local labor, local parts, local materials
- Price anywhere else in South Africa is double to triple (only 1 other manufacturer known of) and price anywhere else in the world is ridiculously expensive
- Comes with blueprints to make own machines and create more jobs which has huge growth and development potential for communities and small business
- Tested over the last 5 years on machines ranging from 2000 liters per day to 80 liters per day applications
- Constant updates and expansions possible (such as LPG bottling and paraffin byproduct – still in development stages)
- Huge economic gains potential due to product which is a basic fuel used by so many industries from private to public, from individuals to organizations

SERVICE

- Local (first machine is made in Cape Town, after that the machines will be manufactured in Eastern Cape and KZN)
- Project facilitator and team, Niko van Rensburg and co., are based in KZN and Eastern Cape
- 12 months on-site service, training, support and supply of parts for machines
- Passion and mission: The project facilitator and team are passionate about the environment. Our priorities and our mission are to serve the planet and its creatures and peoples
- The economic gains are a huge bonus, and these are win-win because everybody wins and will benefit, not just a few
- lots of waste, few jobs
- waste is used to create jobs
- waste is used to make fuel (which everyone needs, everywhere) = lots of jobs and income generation + develop more businesses
- Waste is used to make useful and beautiful products

Way forward

1. Buy machine: get funding, purchase machine and sign contract holding service provider to promises
2. 6-8 weeks from date of deposit to delivery and installation on site
3. 75% deposit required to start manufacture = R375 000
4. 25% balance paid after delivery and installation and training is done to client’s satisfaction = R125 000
5. Agree on date for next step: What date to confirm YES or NO for go ahead?
6. Business plan required? – if yes then who will do it, us or you?