

"Green Technology"

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"Helping You with Positive Solutions"



## HNC PYRO NEXGEN

*The State of the Art Recycle Plant*

# HNC Pyro NexGen

## The State of the Art Recycle Plant

HNC Pyro NexGen is a re-innovation of the previous successful system, the HNC Pyro ATM. Prior to the successful implementation of the HNC Pyro ATM, we came with a new generation, more advanced, higher security, greater performance than the previous model. The HNC Pyro NexGen has absolutely multiple advantages comparing to the previous technology.

The HNC Pyro NexGen performs much better such as more efficient, more quiet, cleaner and lower maintenance cost. The system is suitable for 24/7 hours operation or working at different shifts. Operation and management needs less people to work because it is fully automatic and computer controlled.

During operation it completes all processes of cracking, pyrolyzing, catalyzing as well as harmonizing materials by advanced filtration and separation methods.



"Renewable Green Energy"



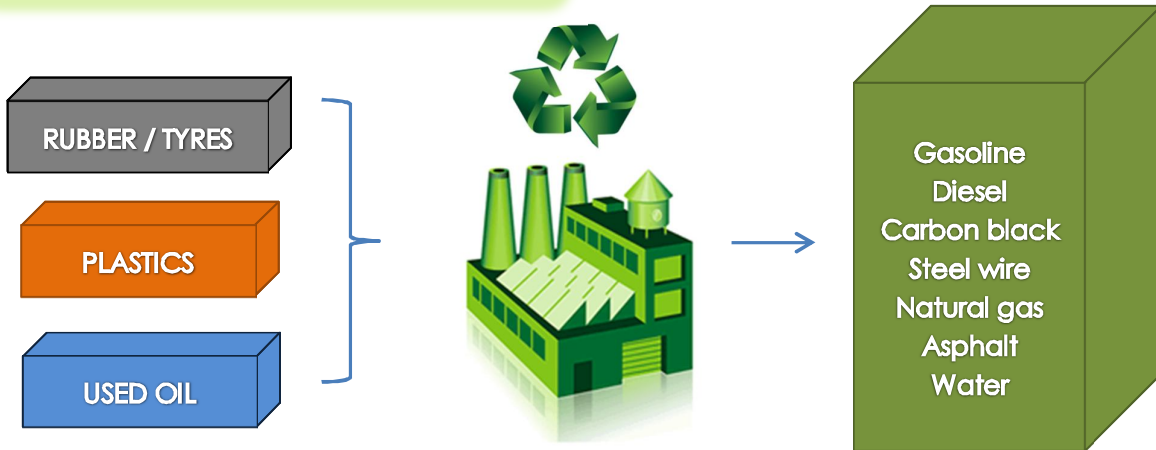
HNC Pyro NexGen is the state of the art system that processes waste rubber, waste plastic or used waste oil into fuel which can be used directly to modern vehicles. The process is clean with no pollution, no emission of gas or dangerous materials.

The overall system processing is green and ecologically safe which recycles or recovers 98% of the usable material. Diesel and gasoline from the system are 100% "Renewable Green Energy".

"Let's keep our environment cleaner"

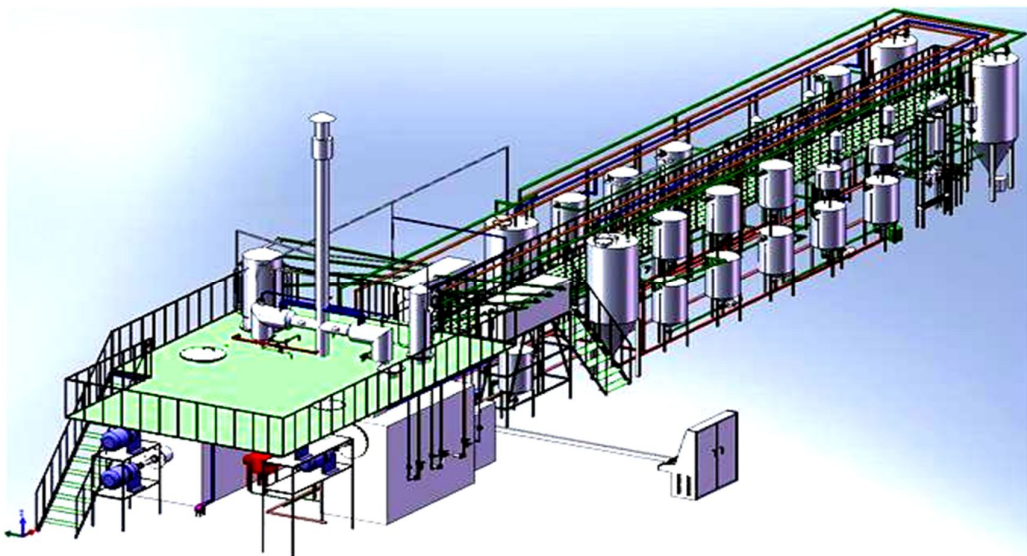


### NexGen Green Technology Process



*HNC Pyro NexGen comes with options based on type of raw materials that clients would like to implement.*

*For further details please contact us to discuss options that available.*



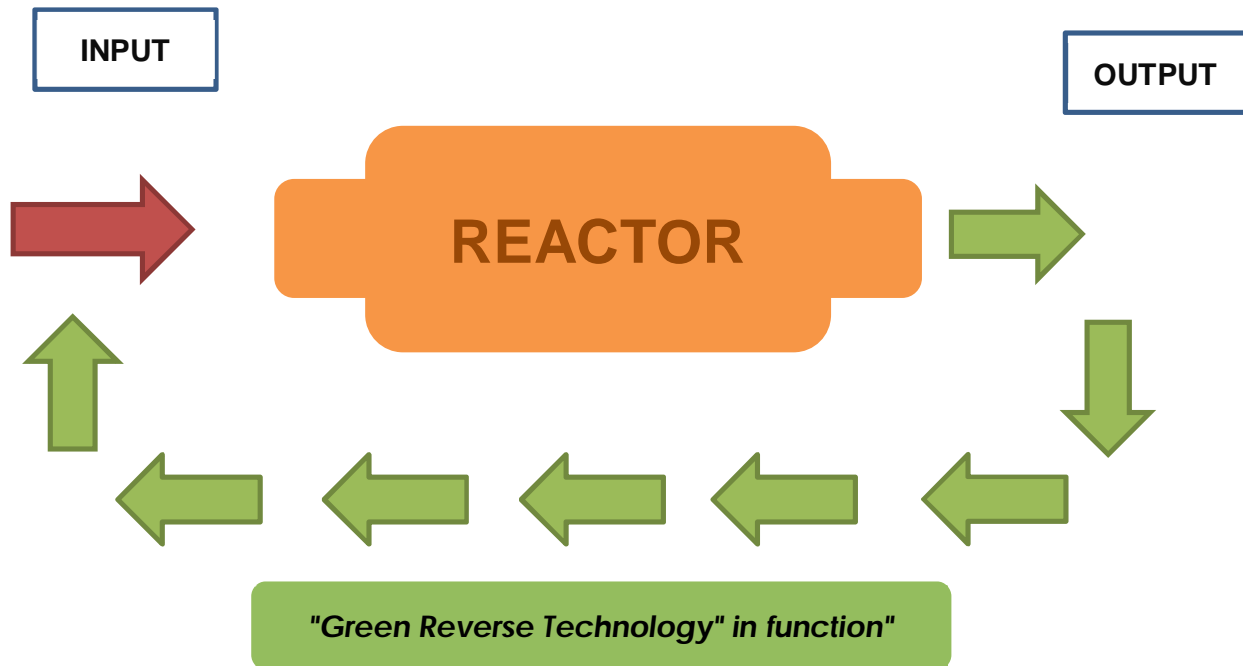
Artist sketch of HNC Pyro NexGen

### Green Reverse Technology

In this newer system we introduce the "Reverse Green Technology" in the system to be more efficient and pollution elimination at maximum. The "Reverse Green Technology" is a feedback system quite similar to the electronics feedback system in electronics engineering. The reverse process sends back pollution and the energy so that after a certain working period the system works without external supplies of energy.



The reversed processing of the smoke cleaning system has a very strong absorbing power, quick absorption and desorption, which can eliminate all the pollutants such as:  $H_2S$ ,  $CO$ ,  $CO_2$ ,  $SO_2$ ,  $SO_3$ ,  $NO$ ,  $NO_2$ ,  $CS_2$ ,  $NH_3$ , as well as other oil organic compounds and solid particles. The system quality to the emission standards of many countries which is sensitive to the emission pollutions.



#### What are the advantages of the "Green Reverse Technology"?

a) Energy efficient – Heating is needed to start the pyrolysis process where it could be either by electricity, gas or any type of heating methods. Approximately, only the first 40 minutes the system needs external heating, once the pyrolysis process already started the system could supply itself gas for heating. Very small energy is needed since most of the gases and fuels obtained from the output are being fed back to the input where the machine is self-sustainable process.



b) Pollution elimination – the system capable to reuse the whole pollutions by filtration, absorbing and reburning the pollutions at maximum.

### Mechanical Close Loop System

In this newer NexGen system, we introduce the "Mechanical Close Loop System", where the plant works with less movable parts, less mechanical failure as well as lower wear and tear.

Almost all NexGen processes are in close loop system with lower maintenance of mechanical parts. In addition the machine has longer lifetime, approximately 16 years with some smaller parts maintenance compared to regular plant.



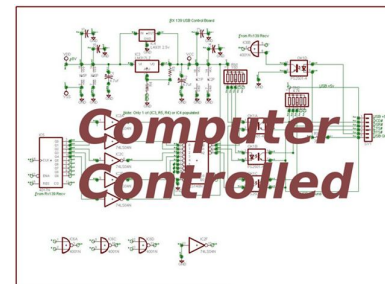
### Quiet System



The newer NexGen system functions more quiet than the previous system with less movable mechanical parts. The system could obtained noise limit permission easily from any countries local authorities worldwide.

### Computer Controlled System

The newer NexGen system utilized fully automatic processes and computer controlled system so that the process run smoothly and under fully observation.



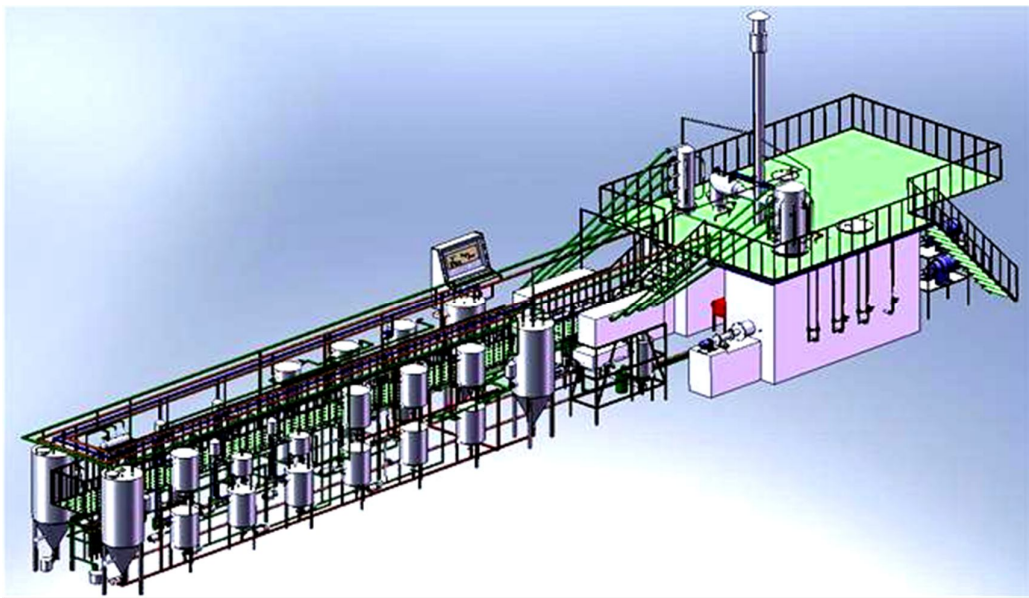
Users could monitor the process through computer terminal and make decisions. This type of plant management guarantee higher security for the system as well as for employees.



**Pollution Free**

The NexGen system produces no smoke, no smell, no second regeneration pollution as well as no other third regeneration wastes discharge. The system has the function of automatic separation and filtration.

For example when the system is being feed with raw materials such as waste plastic, rubber, foam, chemical fiber clothes, tyre and all kinds of waste oil, etc; without cleaning and sorting, the system could produce out standard gasoline, diesel oil, natural gas and carbon black. The natural gas returning to reactor for heating could as well be collected for other usages.



Artist sketch of HNC Pyro NexGen



**NexGen's Technologies Synopsis**

The raw materials that suitable for the NexGen plant are:-

- Waste tyres or waste rubber
- Waste plastic
- Used oil

There are few models available depending on the raw materials for the system. Clients need to specify what would be their projects so that we could come out with the right model.



*\*The end products are different and based on the raw materials. The specifications of the gasoline is approximately RON 95.5 and the specifications of the diesel from 0 to -40*

**Raw Materials and End Products after Processes**

| Raw Materials        | End Products   |
|----------------------|--|
| <b>Waste tyres</b>   | Gasoline, diesel, carbon black, steel wire and natural gas     |
| <b>Waste plastic</b> | Gasoline, diesel, carbon black and asphalt                     |
| <b>Waste oil</b>     | Gasoline, diesel, asphalt, carbon black, water and natural gas |

**Production Yield Rate for Different Raw Materials**

**Waste Tyres (Steel Wire) – Sample 1**

| Products retrieved | Percentage (%) |
|--------------------|----------------|
| Diesel             | 30.00%         |
| Gasoline           | 5.00%          |
| Carbon black       | 40.00%         |
| Steel wire         | 10.00%         |
| Natural gas        | 5.00%          |



**Waste Plastic - Sample 2**

| Products retrieved | Percentage (%) |
|--------------------|----------------|
| Gasoline           | 50.00%         |
| Diesel oil         | 20.00%         |
| Carbon black       | 10.00%         |
| Asphalt            | 10.00%         |

**Waste Oil - Sample 3**

| Products retrieved   | Percentage (%) |
|----------------------|----------------|
| Gasoline, diesel oil | 70.00%         |
| Asphalt              | 20.00%         |
| Natural gas          | 6.00%          |
| Water                | 4.00%          |



## NexGen's Waste Tyre Processes

The diagram below shows a sample of how the waste tyres as raw material to feed up to the HNC Pyro NexGen plant.

