

Waste Tyre Recycling Project Feasibility Report



Shangqiu MINGSEN Environmental Protection Equipment Co., Ltd

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 **Project Prospect**



Overview

Project Prospect Analysis

Development of industrial has brought social developing, but also bring problems.

On the one hand, the rapid demand growth drives economy; On the other hand, it also creat huge resource consumption and environmental pollution. Faced with the gradual depletion of resources and worsening environment, it is necessary to find ways protecting environment and developing economy. Circular economy will be good for solving this problem. It requires the economy active principal should be "reduction, harmless, recycling, reuse and recycling" for recycling waste materials.

Along with the rapid development of automobile industry, new problem can not be ignored, that is the management and treatment of waste tires. Waste tires have strong heat resistance, mechanical resistance and degradation resistance, couldn't be naturally digested for decades. If they are discarded in the natural environment, they will not only occupy land, waste resources, but also creat new 'black pollution'. If incinerate it, will pollute environment seriously; if it is simply treated and then loaded for shipping, also have potential safe hazard; if it is processed and produced by the old way, will not only create pollution but also have very low utilization rate. It has become indisputable reality to realize circular economy and sustainable development in waste tire recycle industry.

Used Tyre Pyrolysis Equipment will solve this problem very well.

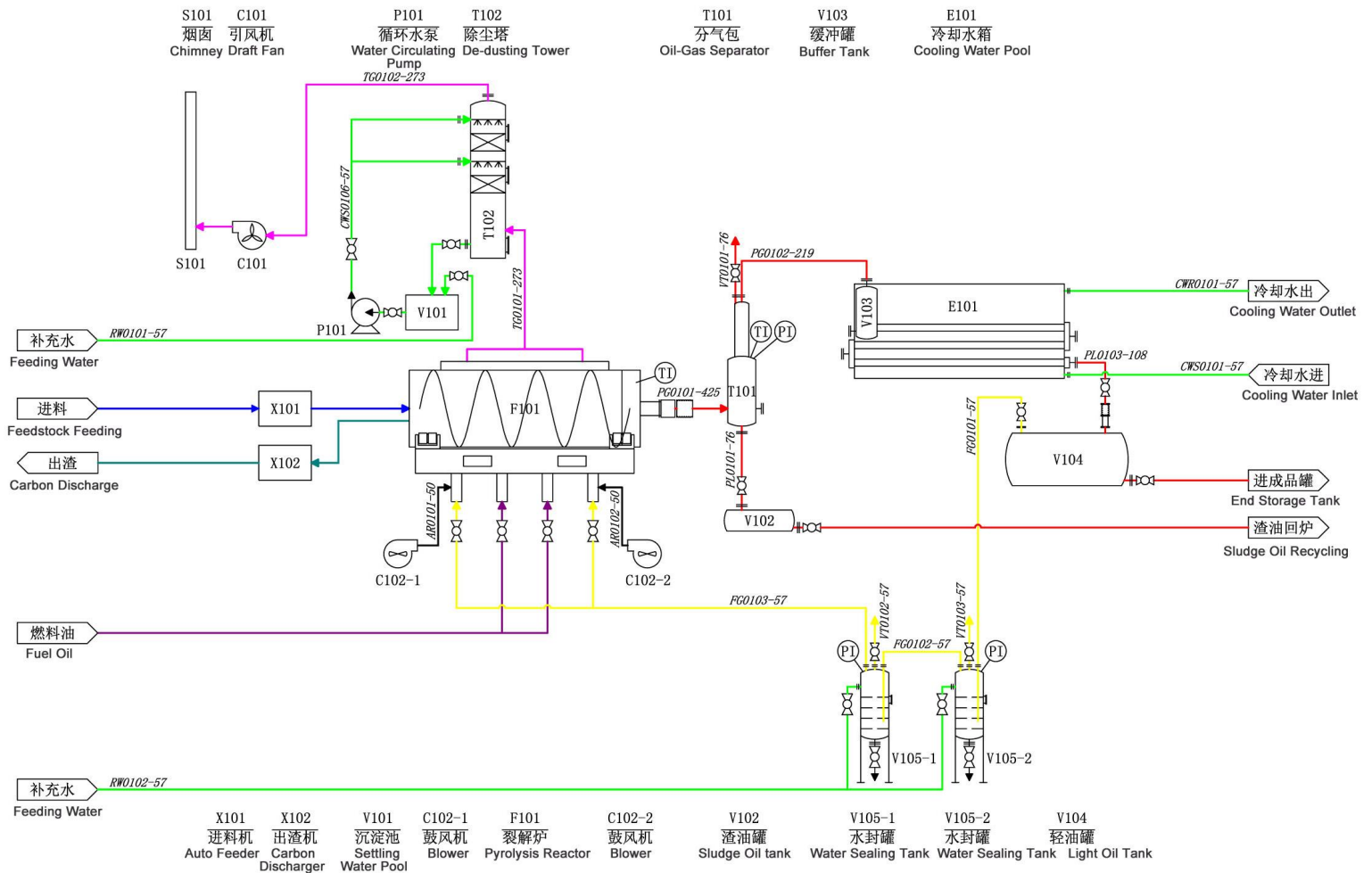


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▶ **Technical Flow Chart**

Overview

Technical Flow Chart



Overview

Technical Flow Chart Description

Step No.	Working Flow	Operating Action
1	Feeding	Put waste tyre in Auto feeder hopper with grappling, feed into reactor via Automatic Hydraulic Feeder, close the feeding door after finishing feeding.
2	Heating	Tyre oil or Non-condensable gas(Extra Non-condensable gas come from other pyrolysis machine running process) heating reactors evenly, after heating around 2 hours temperature up to 260°C,pyrolysis gas come out from oil gas outlet to condenser system to be oil, finally go to oil tank.
3	Syn gas Processing	Along with oil to oil tank, still have Syn gas(C1-C4), the gas will go to heating furnace for heating after treating by 2 layers water sealing system and 1 layer fire arrester system, fully burned via oil burner, by this way, can save most heating fuel.
4	De-Dusting system	All dusts created by heating, extracted by professional draft fan,treated by de-dusting system, after treating, emission will be white steam without black dust, white steam will be further treated by professional industry purification system before emission,ensure final smoke emission meet national standard emission requirement.
5	Slag Discharging (Carbon Black)	After reactor temperature cooling down to be lower than 100°C, open slag outlet, connect with automatic discharge machine with slag outlet, discharged carbon will be delivered to carbon warehouse via vacuum delivery system,ensure no dust fly out while discharging process.
6	Steel Wire Discharging	Open feeding door, take out steel wire with our automatic steel wire discharging machine, equipped with dust extraction equipment while discharging steel wire, ensure no dust fly out while discharging process.

Note: 1) Non-condensable gas is the gas which couldn't be liquefaction under normal pressure;
2)Vacuum Delivery System also named as Vacuum Pneumatic Delivering System.



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Waste Analysis and Treatment

Waste Analysis

Heating Process(Natural Gas/Pyrolysis Oil) create the flue gas will go to professional gas treatment system via flue extraction System.

Need circulating water for cool down the hot oil gas,water is recycling, only evaporation, no loss and no waste water created.

Noise mainly come from speed reducer, draft fan,blowers,water pums,all working noise less than 50db.

Solid waste can also be named as waste slag, same as carbon back, has high recycling value, can be used as making rubber production,cable skins, tyre and ohter plastic productions.

A green circular icon with a white center containing the text 'Waste Gas'. Below the circle is a green arrow pointing to the right.

**Waste
Gas**

A green circular icon with a white center containing the text 'Waste Water'. Below the circle is a green arrow pointing to the right.

**Waste
Water**

A green circular icon with a white center containing the text 'Noise'. Below the circle is a green arrow pointing to the right.

Noise

A green circular icon with a white center containing the text 'Solid Waste'. Below the circle is a green arrow pointing to the right.

**Solid
Waste**



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Raw Material to be Processed

Applicable Raw Material



Waste Tyre



OTR



Waste Bicycle Tyre



Waste Plastic



Waste Acrylic



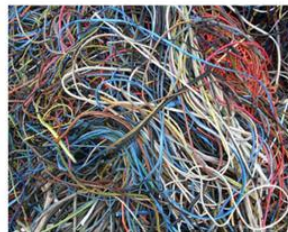
Residue /Heavy Oil



Waste Rubber



Waste Plastic



Waste Cable Skin



Oil Sludge



Waste Leather



Industrial Paint Residue



Waste Sole



Waste Aluminum Foil



Waste Plastic from Paper mill



MSW



Industrial Waste



Waste Oil Filter



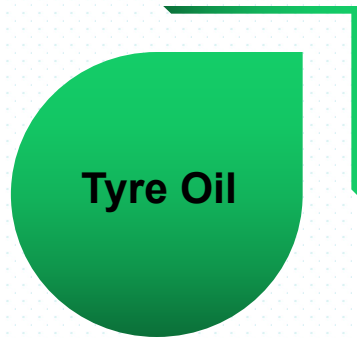
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**End Production
Yield and Usage**

End Production Yield and Usage

(Take waste tyre as example)



40%

Used as Industry Boiler Fuel, can be used in power plant, ceramic plant, glass manufacturers and other industry.



38%

Widely used, can be used in various rubber productions, cable skins and tyre making material.



15%

Waste Steel Recycling



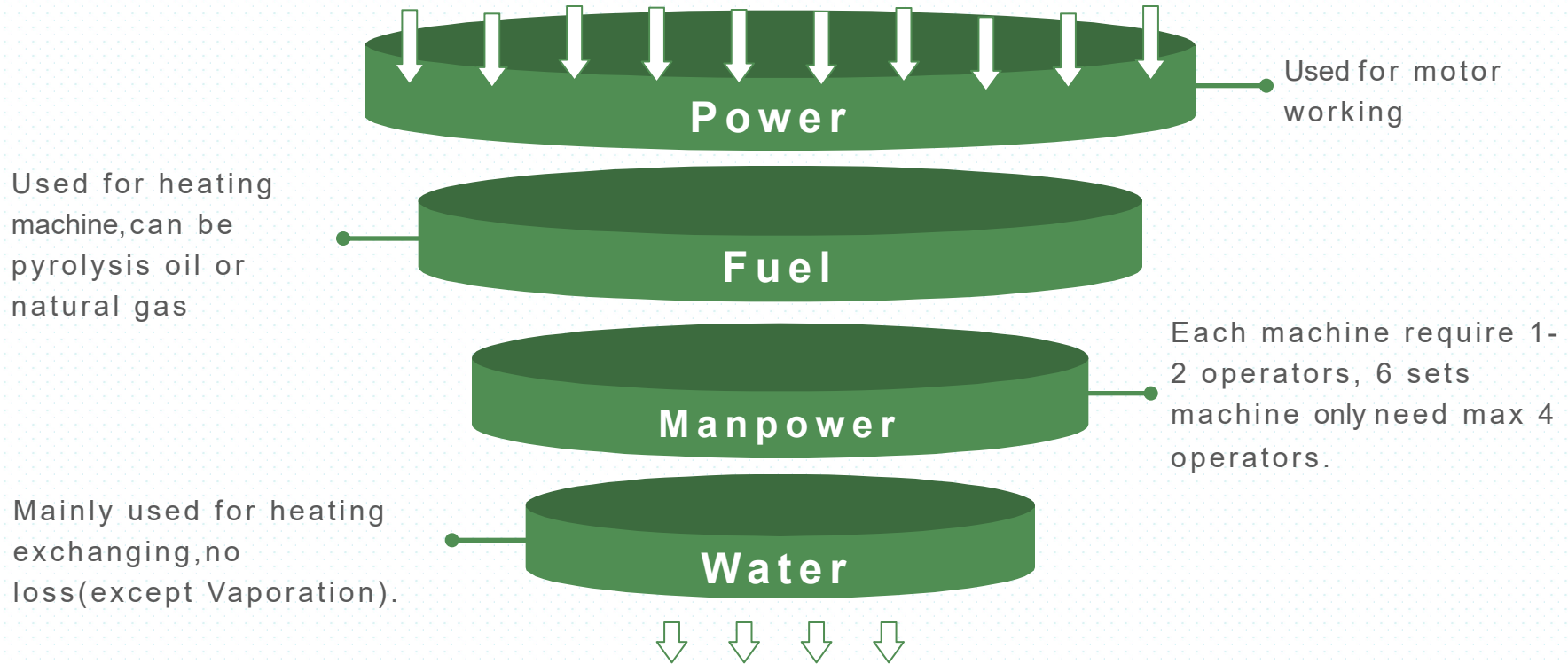
7%

Used as heating fuel, before emission, treated by professional gas treatment system to achieve local emission standard.



Energy Consumption

Energy Consumption



Reference: Averagly process per ton waste tyre, manufacture cost will be around USD 17.00



Economic Benefit Analysis

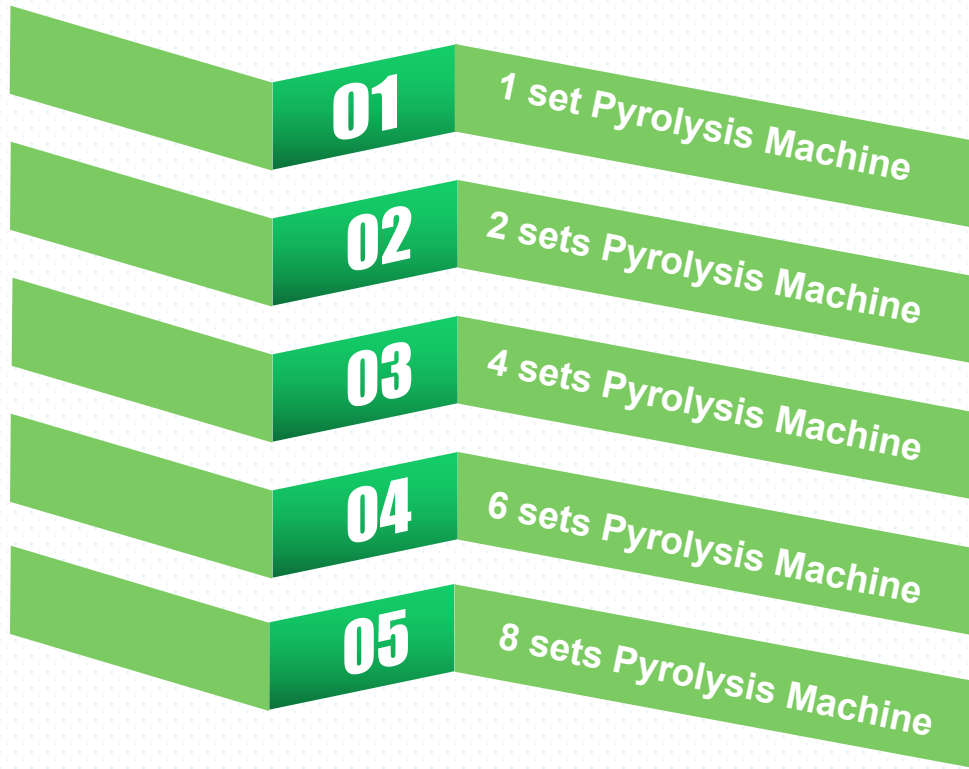
Economic-Benefit Analysis(20000 tons per year capacity)

No.	Item Name	6 sets 12TPD capacity
1	Raw Material(Waste Tyre)	900 RMB/T
2	Raw Material	70tons*900RMB/T=63000RMB
3	Labor Cost	7persons*2shifts*250RMB/D=3500RMB
4	Fuel Cost	Pyrolysis Oil 800 kgs (exclude non-condensable gas)
5	Electricity	Around 3000 RMB
6	Daily Cost	69,500.00 RMB
7	Pyrolysis Oil Price	2600 RMB/T
8	End Production (Oil)	70tons*40%=28 tons(minus heating fuel 800kg), 27.2tons*2600RMB/T=70720 RMB
9	End Production(Steel Wire)	70tons*15%=10.5tons*1400RMB/T=14,700.00RMB
10	End Production(Carbon Black)	70tons*38%=26.6tons*280RMB/ton=7447RMB
11	Daily Output	92,867.00RMB
12	Daily Profit	92,867.00 RMB-69,500.00 RMB=23,367.00RMB
13	Monthly Profit	23,367.00 RMB*25 day/month=584,000.00
14	Yealy Proft (10 months)	Around 5,840,000.00 RMB



► **Project Covering Area**

Covering Area



Device Area 300m² (30m*10m* \geq 6米) Plus Warehouse for raw material and end production totally around 800m²



Device Area 450m² (30m*15m* \geq 6米) Plus Warehouse for raw material and end production totally around 1500m²



Device Area 900m² (30m*30m* \geq 6米) Plus Warehouse for raw material and end production totally around 2000m²



Device Area 1800m² (60m*30m* \geq 6米) Plus Warehouse for raw material and end production totally around 4000m²



Device Area 2400m² (80m*30m* \geq 6米) Plus Warehouse for raw material and end production totally around 5000m²



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Why Choose Us

Choose Us

1 10 Years Experience

Our company has 10 years R&D, manufacturing and service experience, served thousands customers, updating our technology according customer running practical feedback, now has 8th generation production, updating technology for better serving customers, meet customer requirement while apply government license.

2 Eco-Friendly Environmental

Machine equip with professional and advanced gas treatment system, ensure emission meet national emission standard; Actively respond government slogan "green water and green mountains are golden and silver", no pollution to the environment.

3 After-Sale Service

Once Machine arrive to buyer site, we send technician to buyer site for free installation, commissioning and training. Technician couldn't leave buyer site until buyer fully operating the machine and maintenance skills..

4 Qualitive Product

Technology department in charge of the machine design and production guidance. Manufacture department in charge of producing according technology department drawings and engineer on-site guidance. QC department in charge of inspection to ensure that each part is qualified for delivery.

5 Honor

Company has got CE certification, ISO9000 and ISO14001, also got the honor of 'Qualified products of National Standard'

6 Export Production

Since 2008, our production has been exported to Malaysia, Thailand, Korea, Phillippines, Portugal, Russia, Middle East area, etc...more than 60 countries, send engineers to buyer site for installation, commissioning and training.



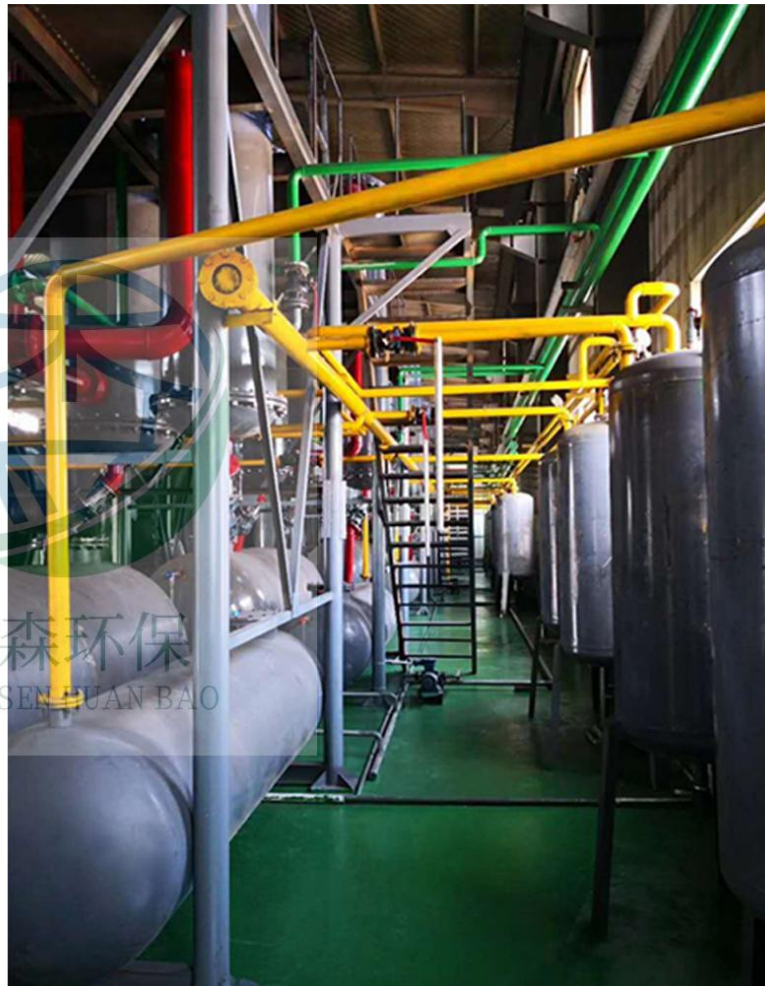
Success Story

Success Story



銘森環保
MING SEN HUAN BAO

Success Story



Success Story



铭森环保
MING SEN HUAN BAO



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Contact Us

Contact Us

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