Atlas-Ray and Sons Company Limited

- No. 2, NDDC Road,
  Eliminigwe Housing Estate, Phase 4
  Elelewon, Port Harcourt
  Rivers State
- Phone: +234 803 309 5671
  E-mail: info@atlas-ray.com
- www.atlas-ray.com

MUNICIPAL WASTE MANAGEMENT

RV-PYROLYSIS PLANT

SOLUTION TO NIGERIA WASTE PROBLEM

PART 1. THE PRESENT STATUS

- **PUBLIC HEALTH HAZARD**
- **LAND POLLUTION AND DEGRADATION**
- **AIR AND UNDERGROUND WATER POLLUTION**
- **WASTAGE OF USEFUL MATERIALS**
- **HIGH MAINTENANCE COST**

PART 2. TOMORROW'S STATUS

There are two main alternatives to the situation shown at the previous, "NOW Section":

1. **Incineration**

   Disadvantages: **wastage of materials and energy, air pollution, operating cost to be sponsored by an external body (local/state government)**

2. **RV-Pyrolysis Recycling**

   Advantages: **No environment pollution at all, self-financing operation (no cost for budget sector), 100% of material recovery, production of electricity and/or synthetic diesel and/or domestic cooking solid fuel (sort of charcoal being cooking being wood alternative), safe and healthy working conditions, steady employment**

   Disadvantage: higher initial cost

FIG 1. SUCH RV-PYROLYSIS WASTE UTILISATION PLANTS AS THE ONE SHOWN ABOVE WORK IN GERMANY, POLAND, IRAQ, KURDYSTAN, ITALY AND JAPAN

PART 3. RV-PYROLYSIS PLANT TECHNICAL DATA

STANDARD PLANT

ITEM	CAPACITY	DESCRIPTION / REMARK
WASTE QUANTITY	120,000 mT/annum	POPULATION: 400, 000 PEOPLE
TYPE OF WASTE	Solid, up to 30% of water	MUNICIPAL, SMALL INDUSTRIES
EQUIPMENT ORIGIN	n/a	EU
ELECTRICITY REQUIREMENT	1.5 mW	SELF PROVIDED
ELECTRICITY PRODUCTION	10.5 TO 15 mWe	SURPLUS OF ELECTICITY: 13 mWe (for sale)
MATERIAL RECOVERY	ORGANIC FIBRES - 45% WATER – 35% ORGANIC GRANULES – 5 – 20% METALS – 5% INERT MATERIALS – 10%	THE MATERIALS ARE CLEAN, DRY, READY FOR USAGE or FOR SALE
LOCATON AREA REQUIRED	34,000 m^2	NO MAJOR STORAGE AREA INCLUDED (OPTIONAL)
ERECTION AND INITIALIOZATION	COMPLETE PRODUCING PLANT	19 months, commencing from the client's irrevocable commitment date
EMPLOYMENT	50 TO 70 PEOPLE	

PART 4. HOW DOES IT WORK ?

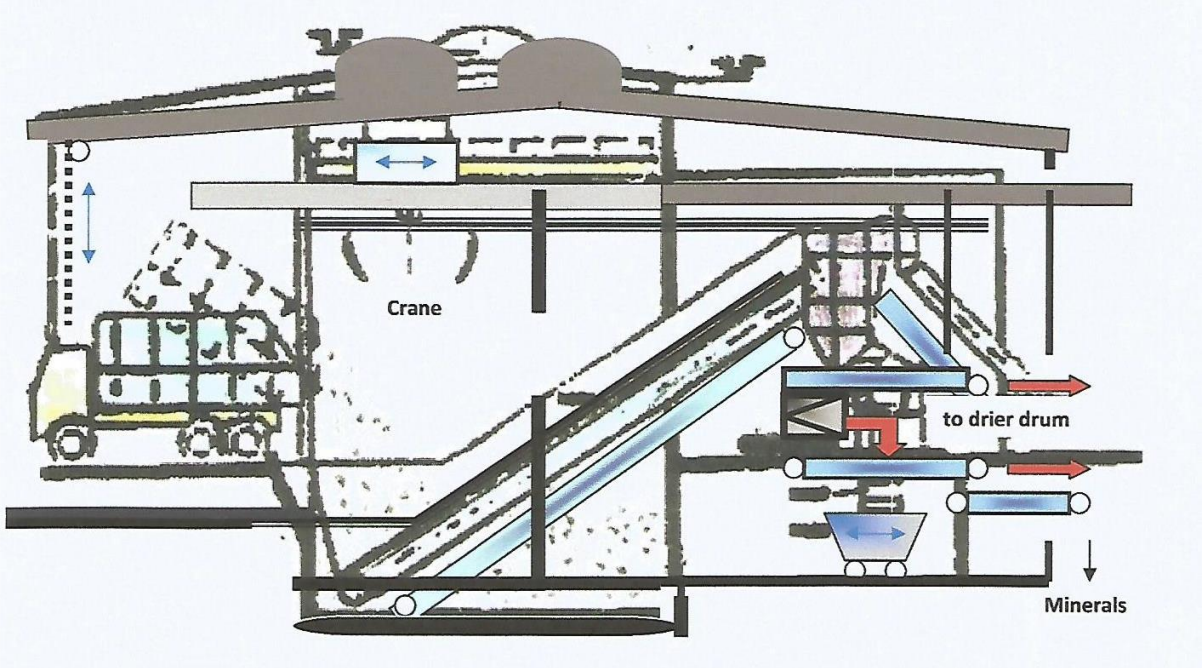

FIG.1. A compactor (tipper) dumps waste into the introductory storage pit. An overhead crane transfers material to the conveyor for an initial automatic separation and drying.

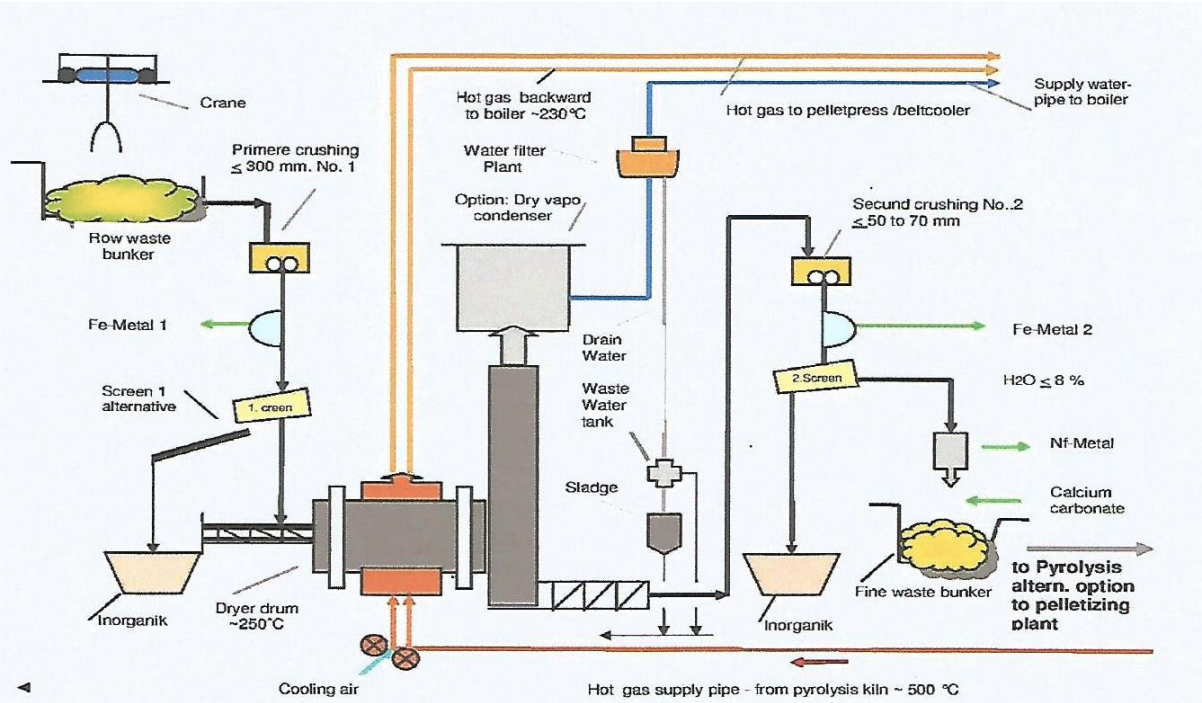

FIG. 2. Material leaves the drying drum to be cut into small pieces and then – via final separation process – it reaches storage pit as a separated, dry material. From there it will go for pelletisation.

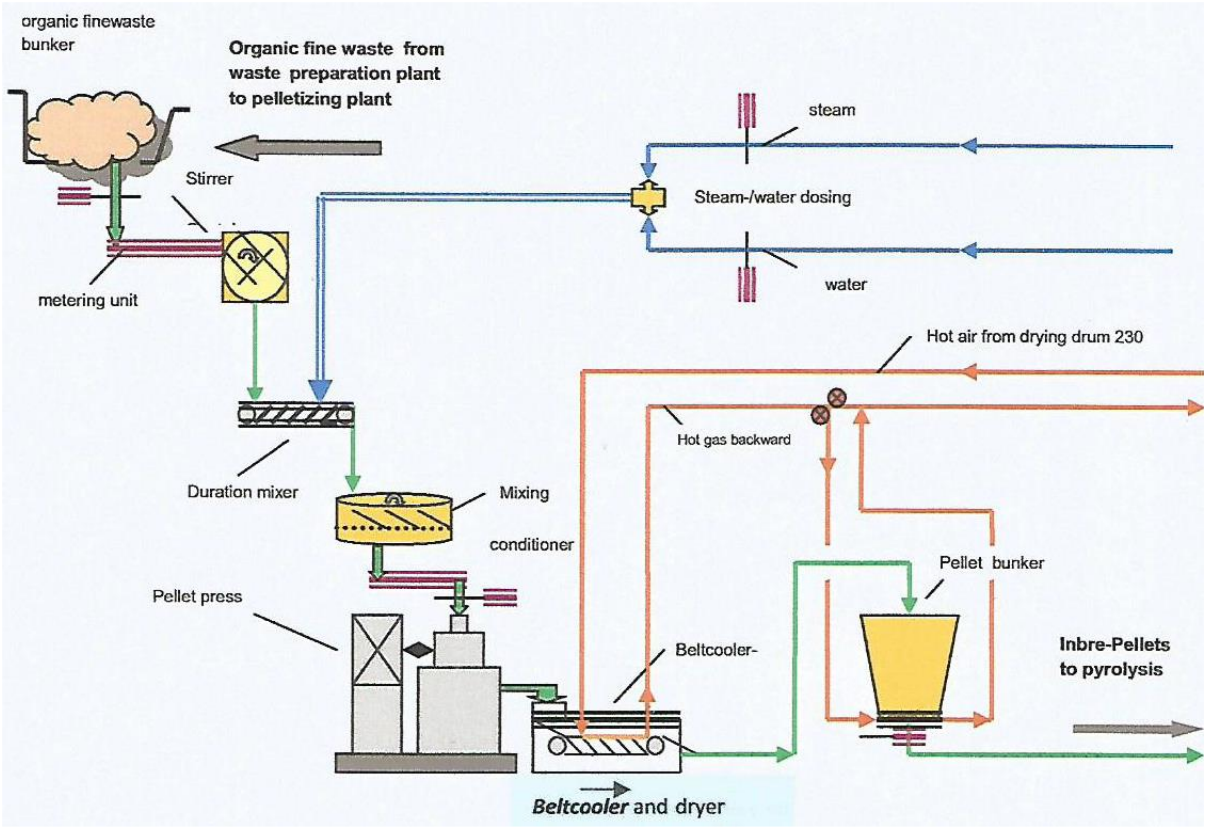

FIG. 3. Material leaves for pelletisation and for storage in the pellet pit. From there it will either go to pyrolysis or/and for packing and sale as a domestic cooking fuel .

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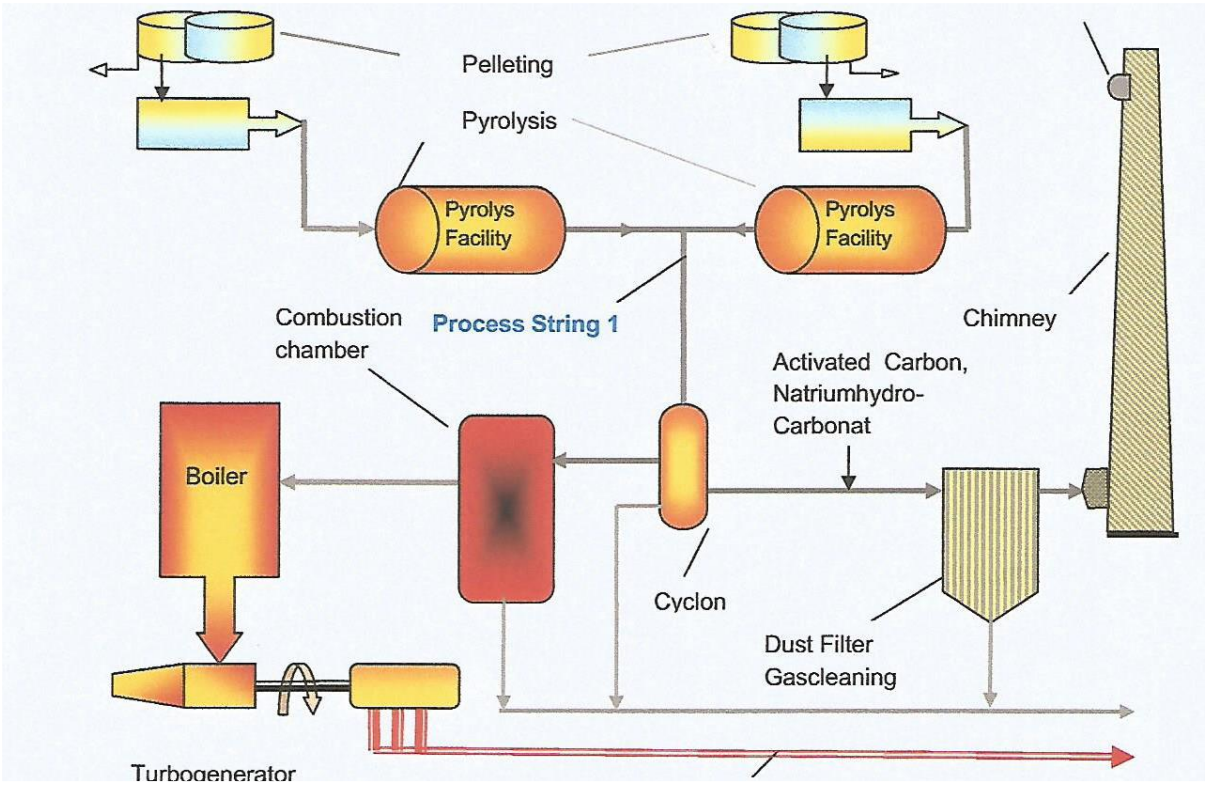

Fig. 4. Pellets go for pyrolysis and for heat generating. Steam is produced in order to power a turbine and an alternator producing electricity for own use and for sale.