

WASTE ENGINE-DIESEL OIL MIXTURES FIRED CRUCIBLE FURNACE FOR MELTING OF NON-FERROUS METALS FOR FOUNDRY APPLICATIONS

Engr. Dr. Gideon Ayuba Duvuna
Department of Mechanical Engineering Technology,
Federal Polytechnic Mubi, Adamawa State

Been a Pitch Desk for the Award of Grant for Commercialization of the System and Products Produced for Business,
Sponsored by National Agency for Science and Engineering Infrastructure, Abuja, Nigeria

- In Nigeria however, little attention has been given to the development of the casting industry for too long
- This is one of the reasons for our over dependence on imported spare parts and machine components UNIDO, (2022)
- National Demand of cast metal products in Nigeria steadily increased from 72, 000 tonnes to 292, 000 tonnes (1985) to 425,000 in (1990s) and 794, 000 tonnes by the turn of the century, required to meet industrial demand
- At present only 4 foundries have managed to survive out of the 60 registered active ones as of 1995 to cater for this huge demand

- In contrast with India, in which has 9000, registered foundries. The capacity of the country's foundry industry is put at 152,000 metric tones annually
- Which is made up of about 59.1% (60,178 metric tones) cast iron
- 27.3% (41,465 metric tones) of cast steel and
- 33.1% (51,370 metric tones) nonferrous
- All valued at about 19.6 billion naira (US \$196.3 million)
- This is considered unimpressive with the 3 million metric tones per annum in India (Osanrenmwinda, and Iguodala 2022) and (NASENI 2024)

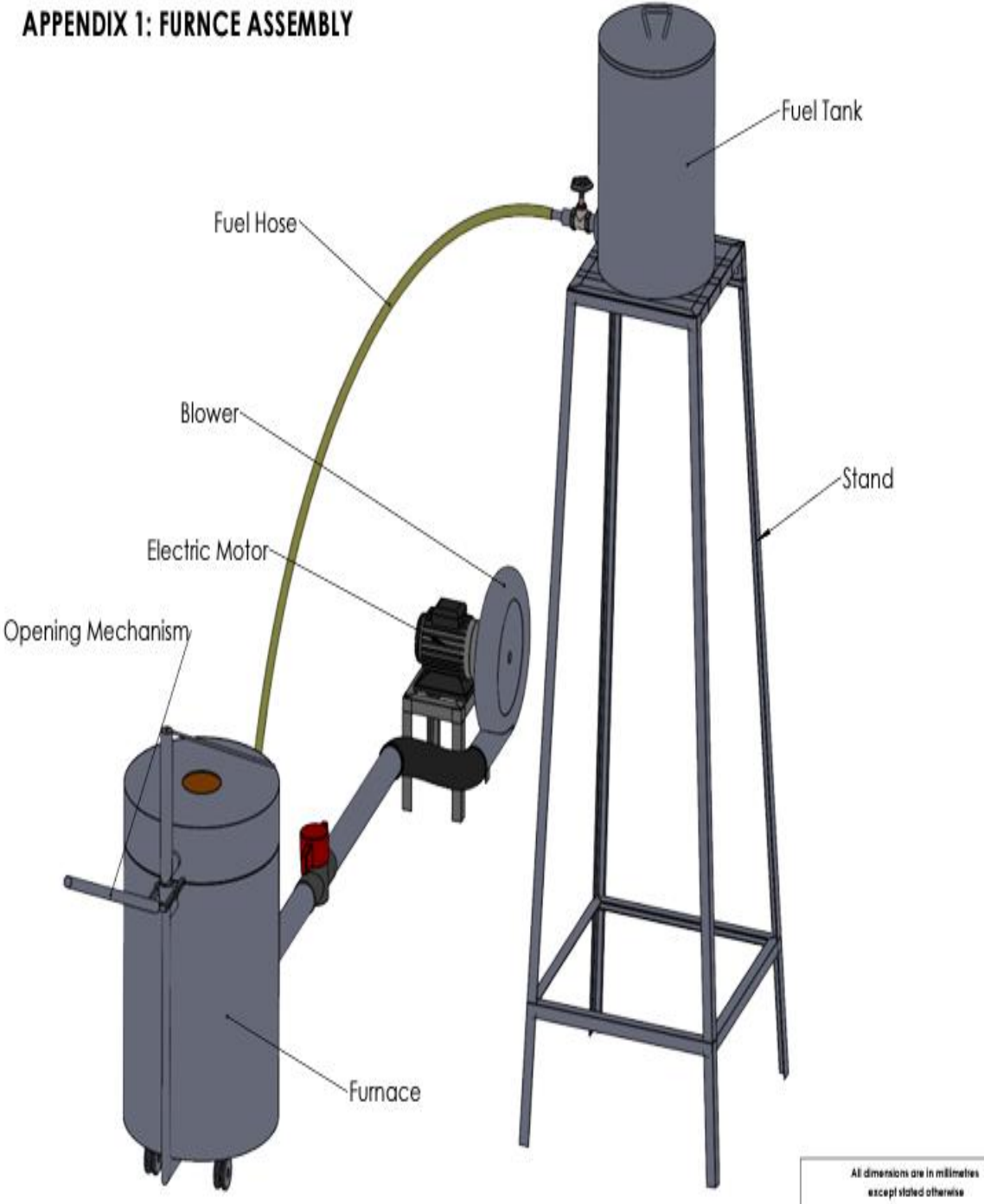
Problems

- The foundry men are exposed to heat and combustion products which are harmful to health
- More than half of the heat escapes due to the open nature of the local furnace
- High demand of wood for charcoal production
- The process consumes large quantities of fuel (charcoal)
- Low combustion efficiency and high heat loss
- Poor performance of the manufacturing sector in Nigeria is indicative of the low state of the foundry industry.

Market

- Nigeria has approximately 3 billion tons of proven iron ore reserves
- Vast investment opportunities in foundry industry
- The market is expected to grow steadily, driven by demand from industries

APPENDIX 1: FURNACE ASSEMBLY



VIDEO OR PITCH OF THE WHOLE PROCESS



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