

From Waste Value :Food Valorization Processes For Sustainable Development

Student name:

Khaled Abdulaziz ALRASHOOD
Obaid Saleh ALGHAMDI
Abdulmohsen Mohammed ALDOSREY

Supervised By:

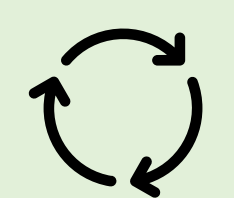
Assadi Amine AYMEN



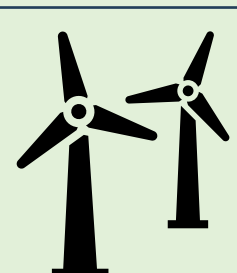
Chemical Engineering



Goals:



Valorization
of waste
food



Utilize
local
renewable
energy



Utilize
produced
energy



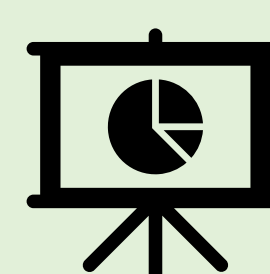
Considerations:



Zero
Emissions



Both Fuel
and
Feedstock



Results:



Sustainable
Bio-oil and
Biochar
Products
from Waste

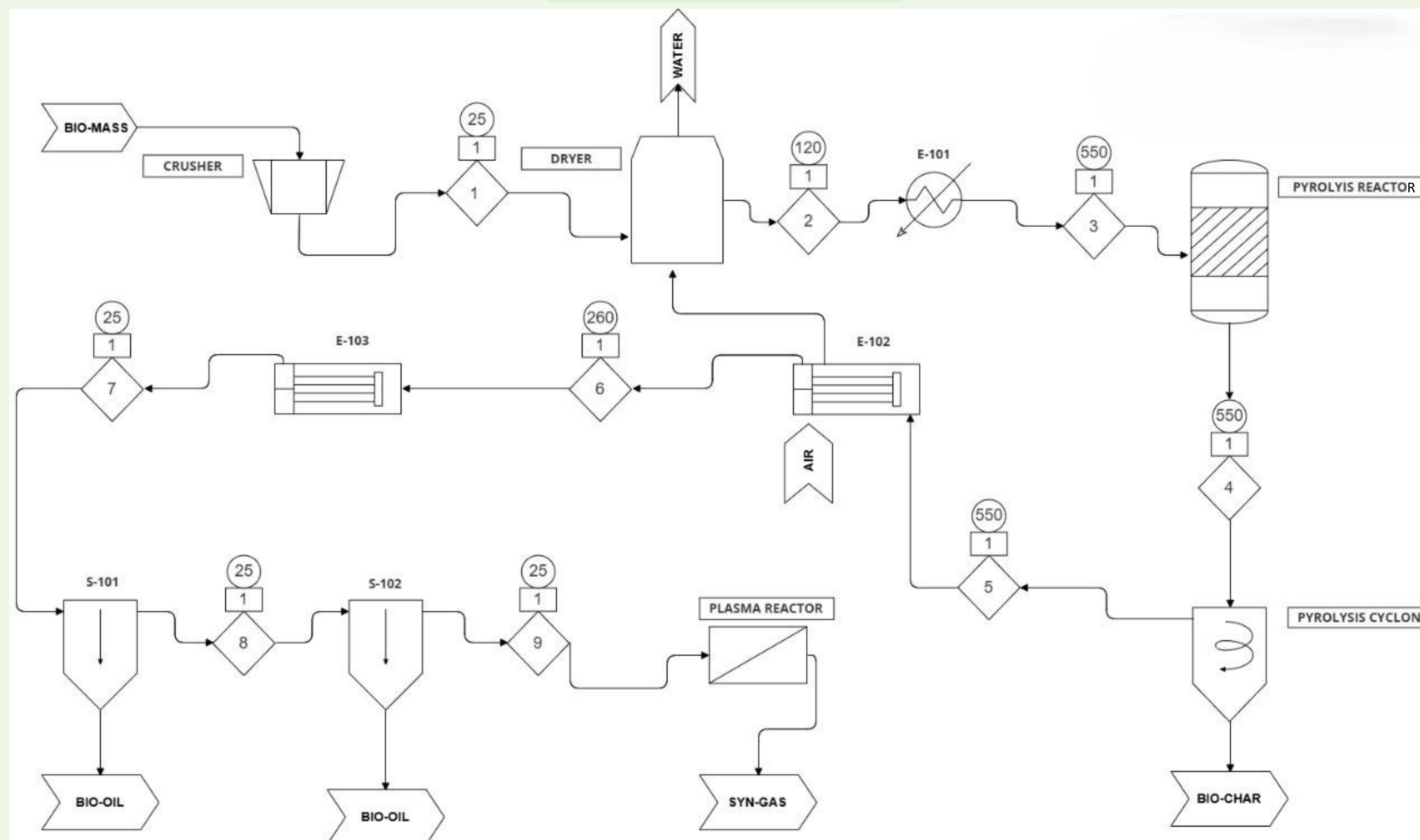


Environmental
protection
from waste
pollution

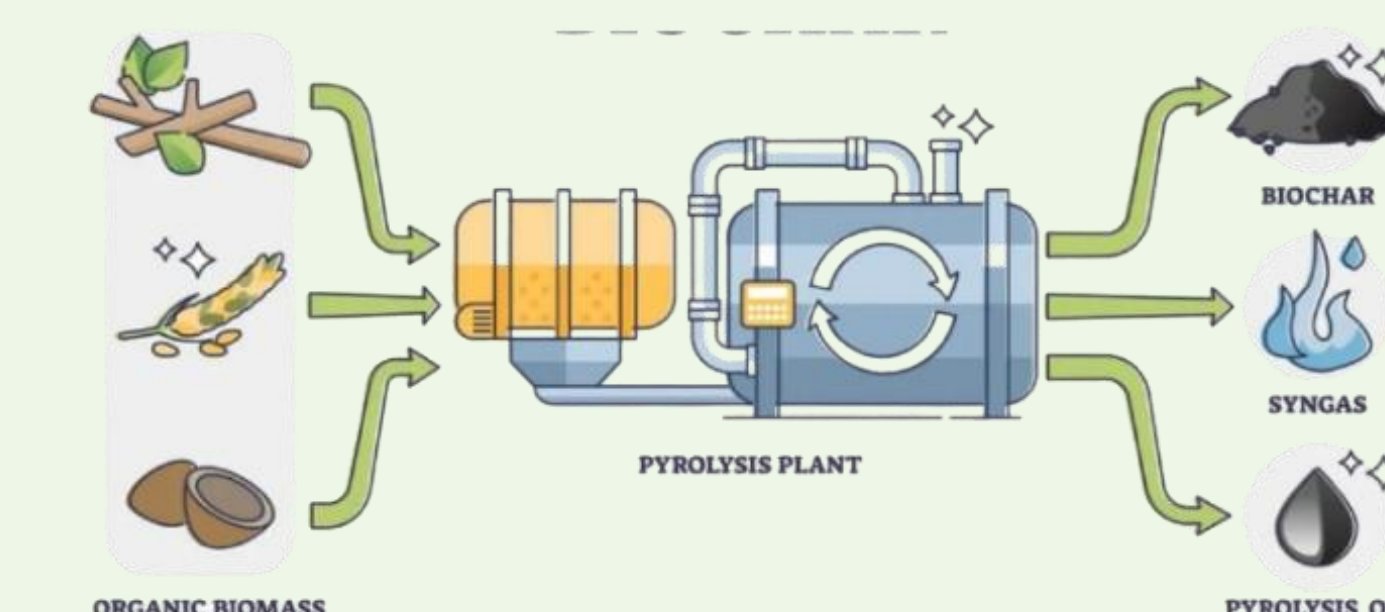


Gaining
200M \$/Y

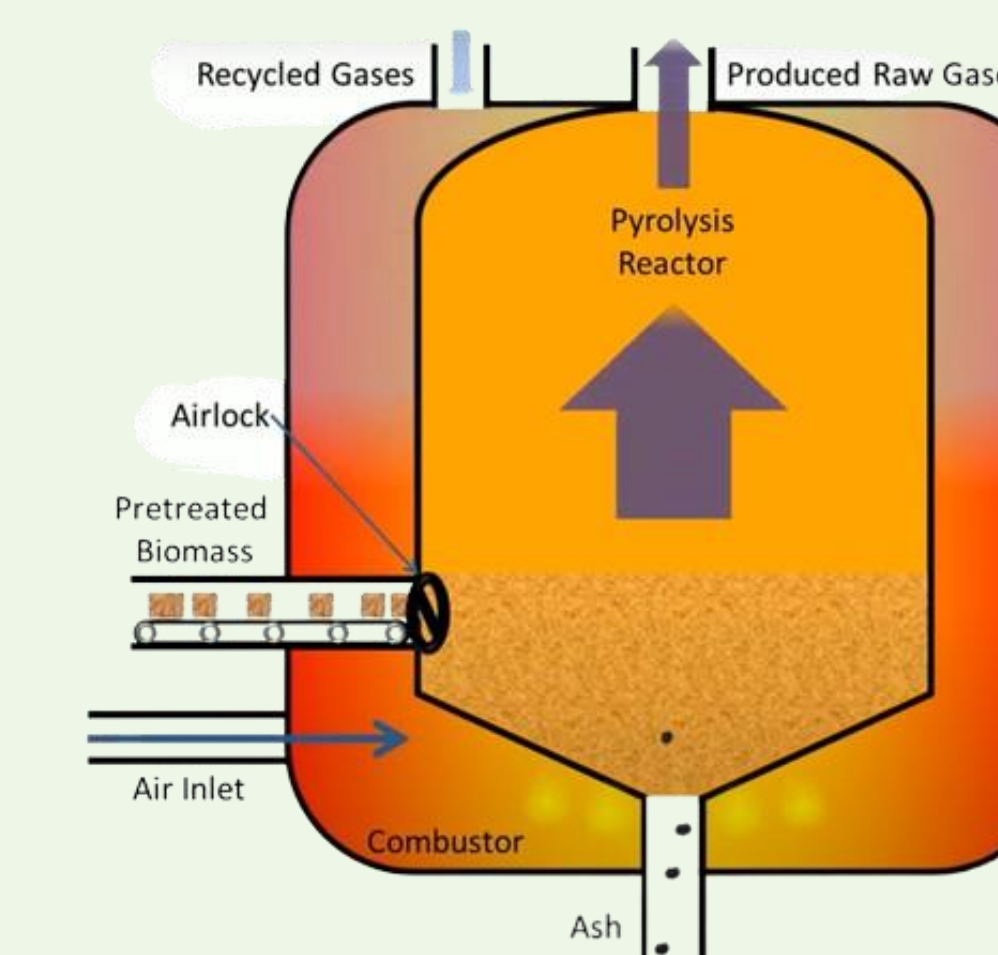
Flowsheet



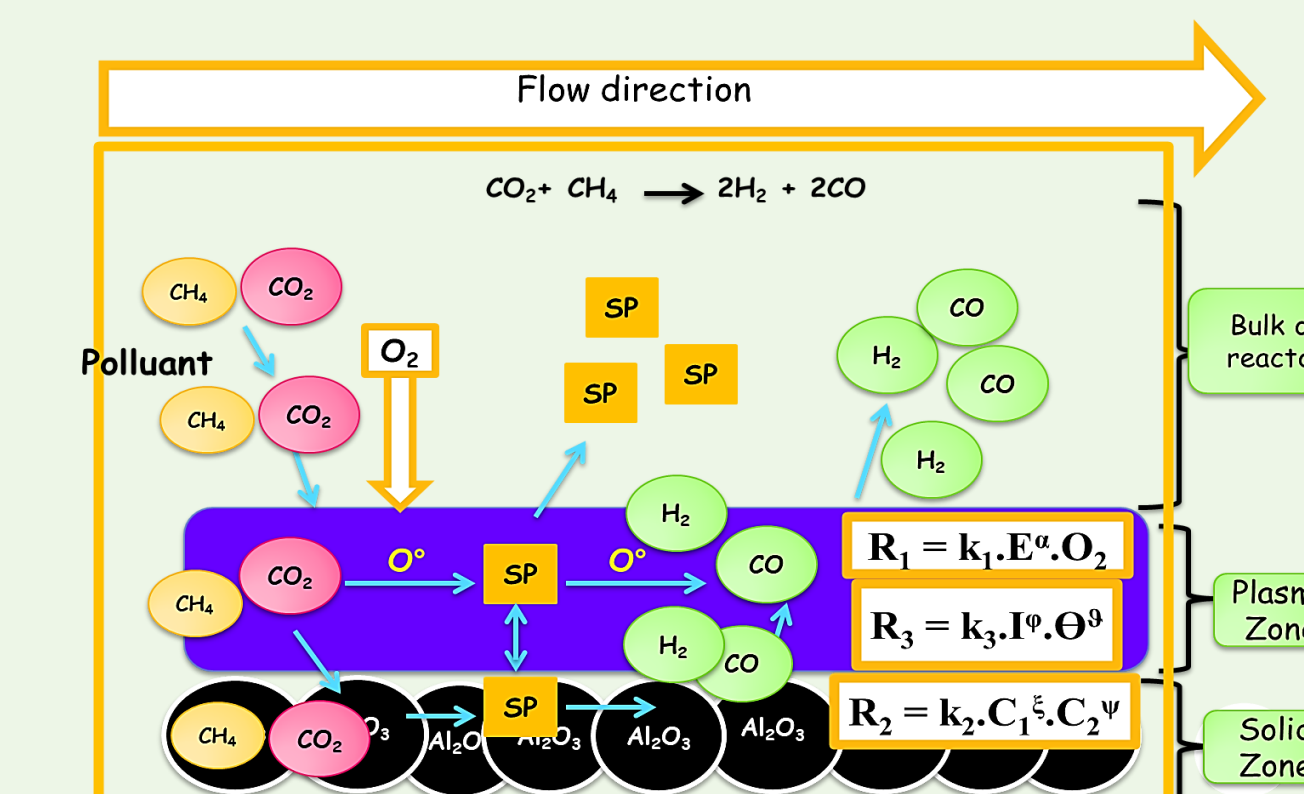
Food Waste To Energy



Fast Pyrolysis is thermal decomposition at high temperatures (400–600C) without oxygen

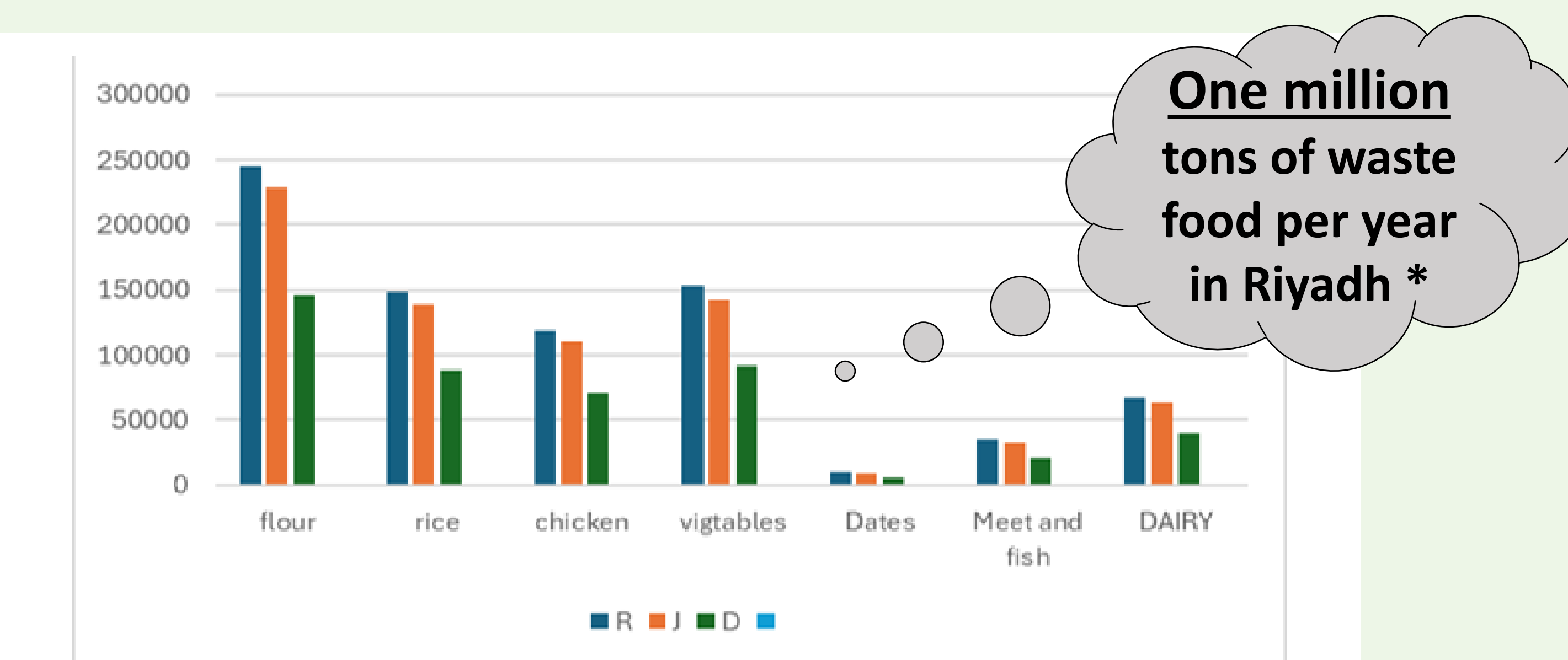
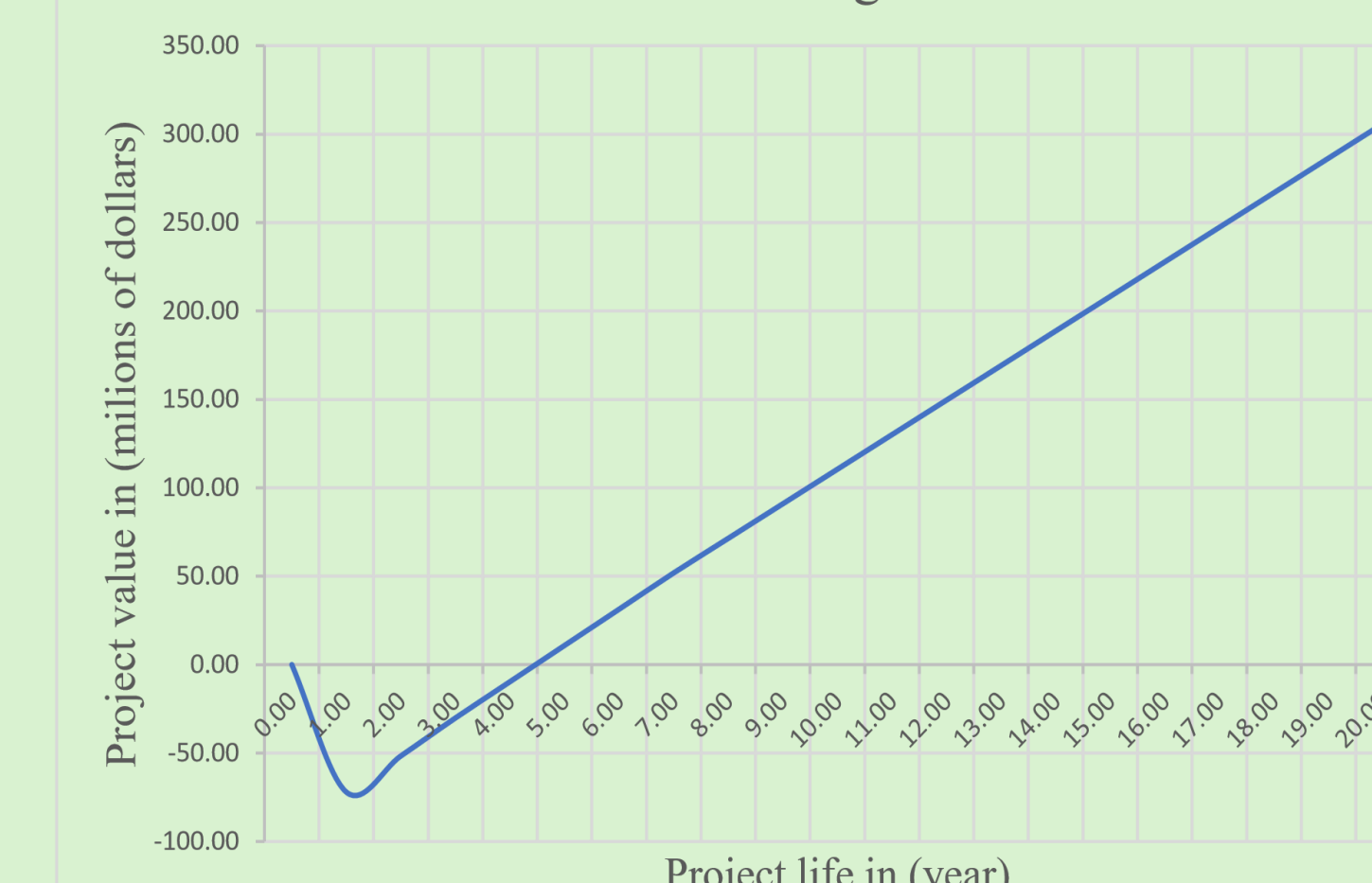


CO₂ treatment and H₂ production are done using a plasma reactor



Economical Analysis:

Cash flow diagram



[Figure] Food Waste of food in Saudi Arabia where R is Riyadh & J is Jeddah & D is Dammam

Statistics on food waste in Saudi Arabia



Biochar fertilizer



Sustainable form of products