



CJ Waterhouse Co Ltd

MATERIALS HANDLING ▼ WEIGHING SYSTEMS ▼ PROCESS SOLUTIONS
PLANT CONTROL ▼ BESPOKE MACHINERY ▼ AUTOMATION

Tel: +44 (0) 1636 610792 Email: info@cjwaterhouse.co.uk

Pilot Pellet Production Plant

CJ Waterhouse Company Limited were originally approached in 2017 by Loesche Energy Systems to design, manufacture and implement a bespoke materials handling and automation solution for their Pilot Pellet Production Plant in California.

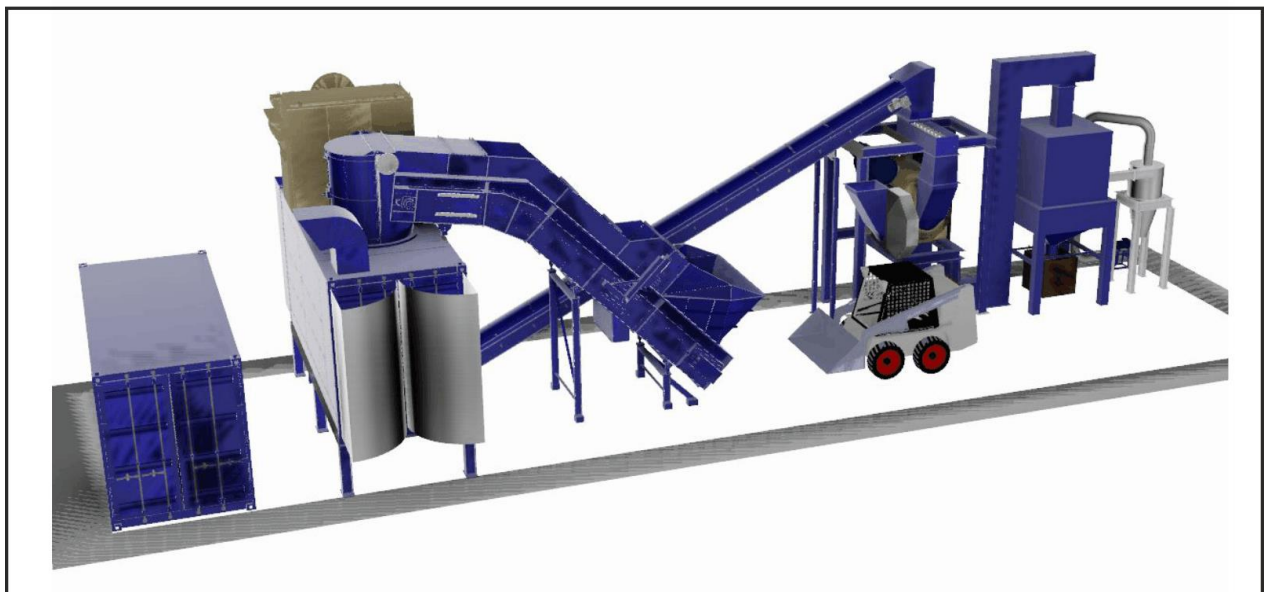
CJ Waterhouse was awarded the contract due to their extensive bespoke materials handling system solution experience and their previous works with Loesche over the past 5 years.

The overall system is to be located at the premises of one of Loesche's clients in California for the purpose of running production trials for a six month period to prove the process before potentially implementing a full production plant later in 2019.

The pilot plant is designed to accept partially separated domestic waste packaging in the form of polymers and fibrous materials such as bottles, card, paper etc. The raw materials are processed and delivered to a palletisation system to produce a finished product that is suitable as an energy source for power generation.

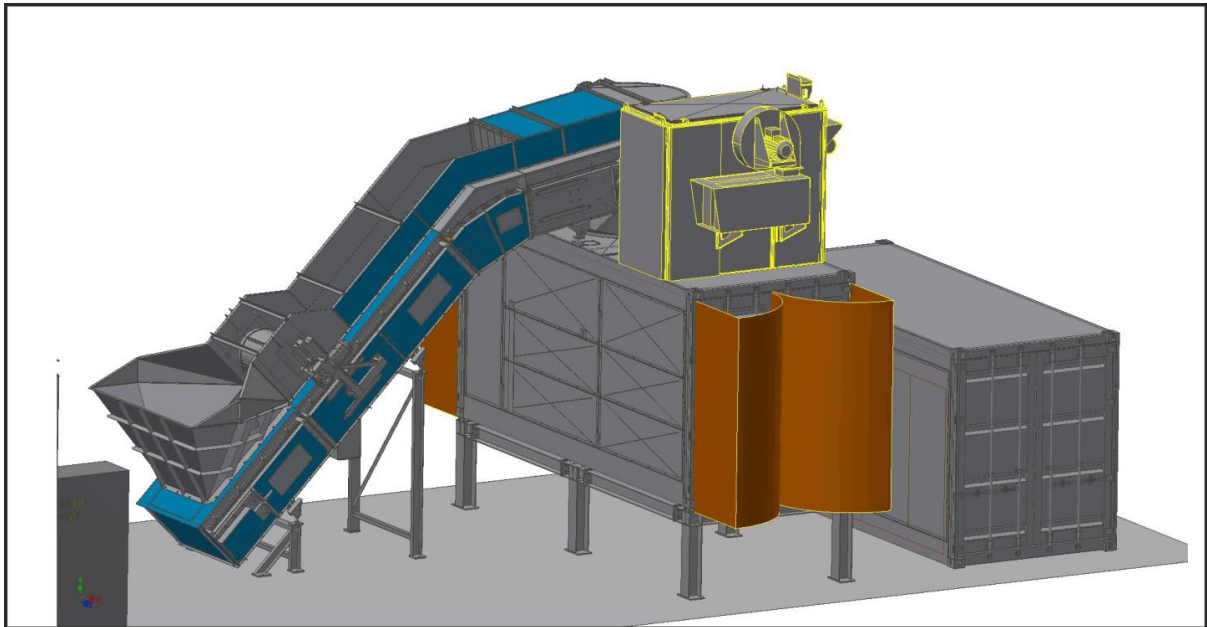
The plant is generally divided into four constituent areas:

- **Material Intake System**
- **Pelletiser Delivery System**
- **Finished Product System**
- **Control System**



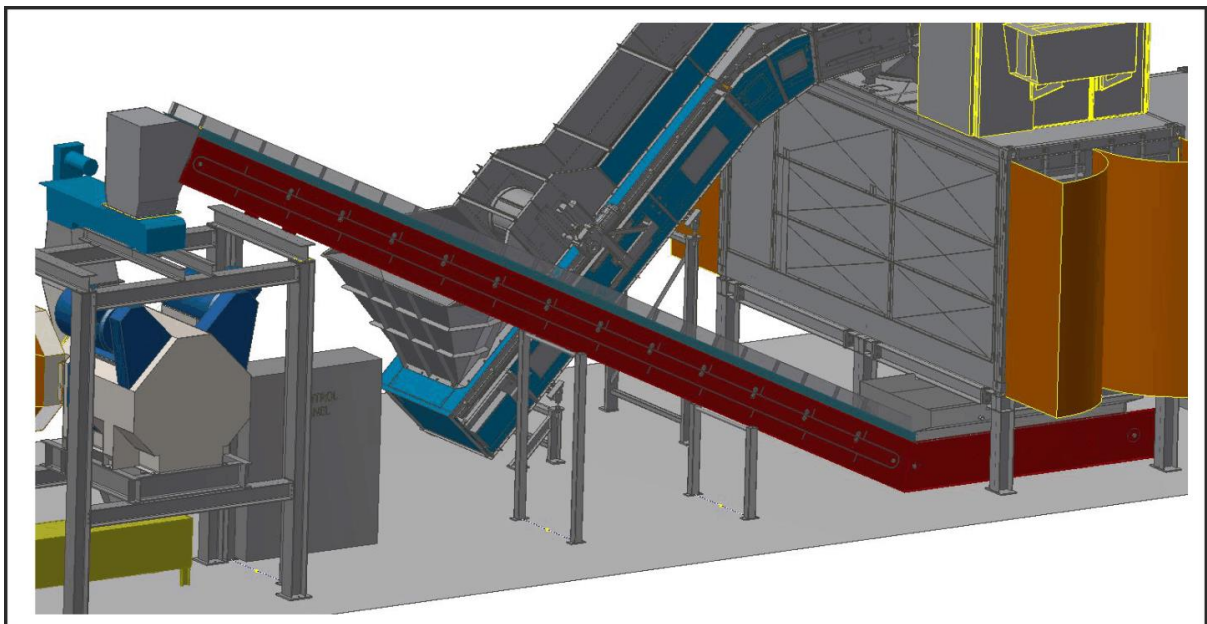
Material Intake System

The material intake system comprises of an inclined feed conveyor with integrated buffer hopper for manual loading of raw material via a dump truck. This conveyor feeds material into the Mobile Rocket Mill which is manufactured by Loesche's sister company ATec. The rocket mill is used to reduce the raw material particle size so as to allow the downstream processing and pellet production.



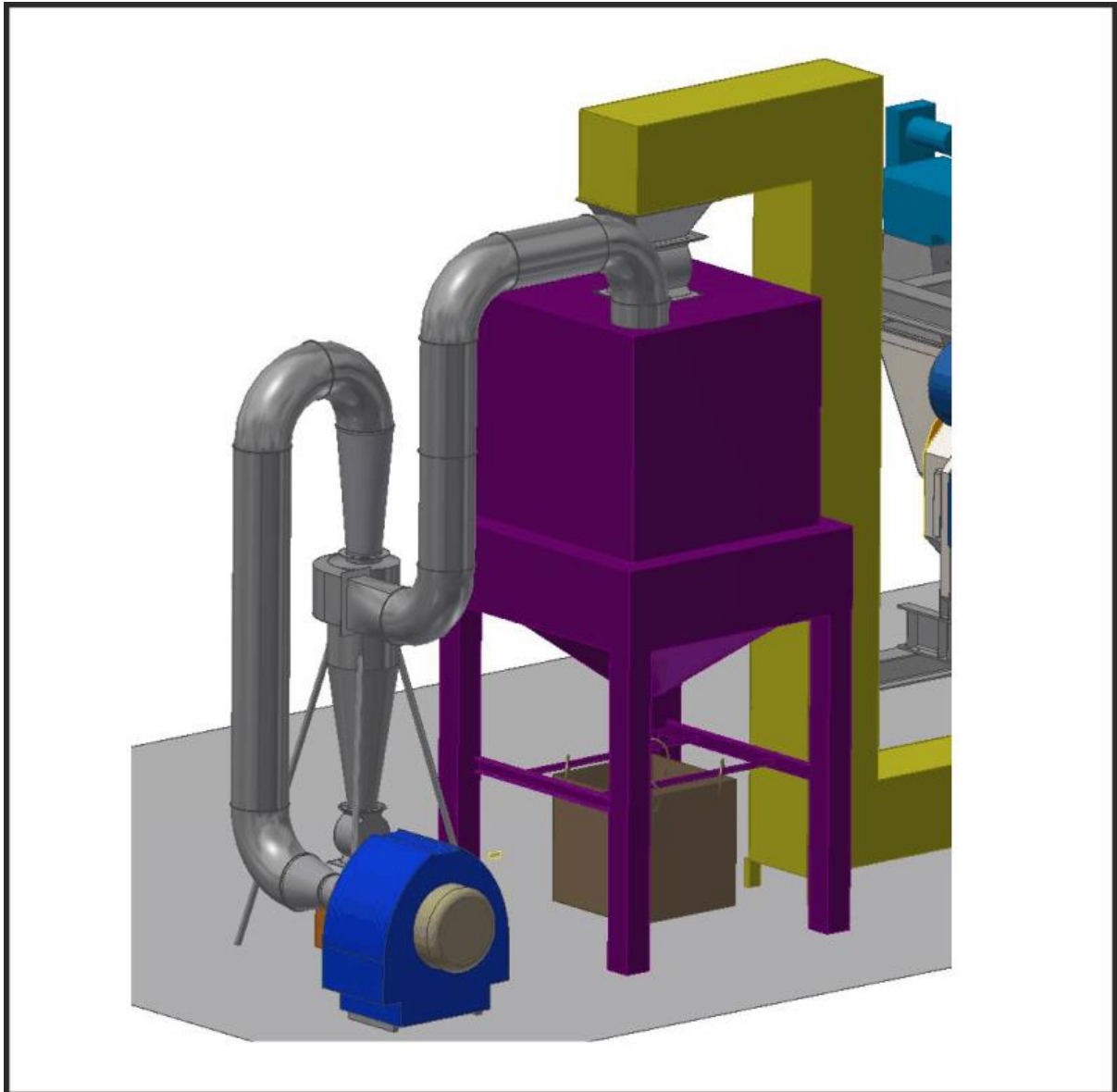
Pelletiser Delivery System

The pelletiser delivery system collects the material from the discharge of the rocket mill via a buffer hopper forming an integral part of the downstream take-off conveyor. This take-off conveyor is an inclined, flighted variable speed belt conveyor which elevates and transfers the milled material to the downstream process. The take-off conveyor discharges its contents to a twin flight screw feeder via an interface chute which directly feeds the pelletiser inlet.



Finished Product System

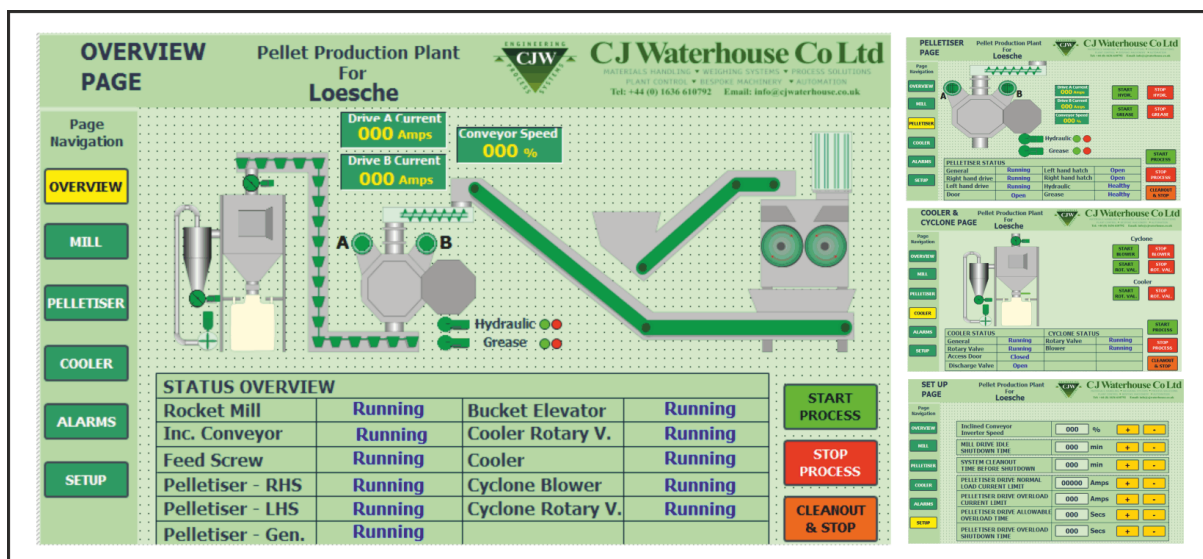
The finished pellets are discharged from the pelletiser into a vertical bucket elevator which transfers them to the inlet of the cooler unit. This elevator discharges the pellets into the top of the cooler unit via a rotary valve to provide a controlled flow of material. The cooler is used to dry and cool the pellets via a vacuum pump system which draws air through the unit as the pellets fall under gravity to the downstream tote bin. Extracted air drawn through the cooler is fed through a cyclone unit with a rotary discharge valve to collect and dust or small particles that may be carried with the air flow.



Control System

The materials handling control system comprises of a central automation panel housing a Siemens PLC and door mounted HMI unit. This central control panel provides full automated control of the following components; pelletiser feed system, pelletiser operation, pelletiser discharge system and the finished product cooling and packing system, automated control of the mill is provided by the mill control panel with an interface link to the central automation panel for interlocking and remote operation.

The HMI display provides the operators with a live graphical representation of the plant together with presenting data and permitting system operation. In addition to this an internal Wi-Fi-link permits the HMI screens and controls to be replicated on remote laptops and tablets.



For more information on the products, services and solutions offered by C J Waterhouse Company Limited please:

visit us at www.cjwaterhouse.co.uk
 email us at sales@cjwaterhouse.co.uk
 or call us on +44 (0) 1636 610792