

Ideal Oil Extraction Applications

- ◆ Fresh Kill Poultry Plants
- ◆ DAF Sludge Haulers
- ◆ Slaughterhouses
- ◆ Renderers
- ◆ Food Manufactures
- ◆ Composters
- ◆ Oil Seed Crushers
- ◆ MSW Haulers
- ◆ Landfills
- ◆ Anaerobic Digesters
- ◆ Co-gen Plants
- ◆ Biodiesel Plants
- ◆ Ethanol Plants



Two ton per hour oil extraction machine.

Renewable BioSystems, LLC

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Waste Stream to Revenue Stream



*Advanced Oil Extraction
Technologies*

Renewable BioSystems, LLC

Renewable BioSystems' Oil Extraction Technology



5 ton per hour Oil Extraction Machine

Renewable BioSystems' Oil Extraction Technology will extract in excess of 95% of the available oil from any solid organic waste stream through energy efficient mechanical means. The extracted oil is ideally suited for conversion into ASTM or EN standard biodiesel.

The technology was developed in the UK, where several machines have been in full time production for over two years. Renewable BioSystems, LLC is the exclusive North and Central American licensee of the technology, with offices and manufacturing operations in Fairfield, NJ.

The oil extraction machines can process up to 15 metric tons per hour of organic waste such as offal from poultry and livestock processors, DAF sludge, waste from food factories and supermarkets, the food residual portion of municipal solid waste, fish processing residuals, etc. The technology extracts the available fats, oils and grease for further processing into biodiesel.

Advantages

The *Renewable BioSystems' Oil Extraction Technology* offers the additional following advantages:

- ◆ Converts waste streams into assets rather than liabilities.
- ◆ Compact, self-contained units are easy to install and operate.
- ◆ Produces renewable fuel that does not compete with food by utilizing waste streams as feedstock.
- ◆ Helps decrease dependence on foreign oil sources and expensive new exploration options.
- ◆ Complimentary to existing poultry and livestock processing, rendering, waste collection, co-gen, food processing, composting and anaerobic digesting industries.
- ◆ Reduces dumping in landfills and harmful greenhouse gas production
- ◆ Increases efficiency of composting operations.
- ◆ Maximum up-time ensured by maintenance contracts, local service technicians and remote tele-metric monitoring.



Swine byproduct conveyor feed.

Oil Quality

- ◆ Free Fatty Acids < 2% from offal
- ◆ Free fatty Acids varies for other raw materials
- ◆ Moisture < 2%
- ◆ Impurities < 2%
- ◆ Converts to ASTM or EN standard Biodiesel



Solid fraction from Oil Extraction Machine

Technical Yield

More than 95% of available fat is extracted as oil. Typical fat/oil content of waste materials - as a % of input weight:

- ◆ Chicken Offal: up to 35%
- ◆ Pork Offal: average 18%
- ◆ Pastry: up to 40%
- ◆ Gelatin: up to 38%.
- ◆ Pork Bones: up to 12%
- ◆ DAF Sludge: 15% to 30%
- ◆ General food waste: 17% to 40%

Standard machines are available in 2 to 15 metric ton per hour throughput capacities.