

# Opportunity to Acquire a Plastic to Oil Project

## On the Instructions of the Anglesey Land Holdings Limited

### OPPORTUNITY

- A part complete Plastics to Oil facility,
- Anticipated output 30,000 tonnes of plastic to 16.5 million litres of Oil.
- Development Spend Estimated to be in the region of £21.6 Million to date
- Plant for sale for relocation only
- Plant completion and commissioning required
- Located on a former 230-acre former aluminium works

### KEY HIGHLIGHTS

- Growth Sector
- Recycling hard to Process plastics into a useable product
- Potential for surplus Syngas to drive Gas Generators

### EXPRESSIONS OF INTEREST

- Interested parties will be required to sign a nondisclosure agreement (NDA) before further information is provided.
- Assets available for Sale for Removal only

### FOR FURTHER INFORMATION

Further information is available upon completion and return of a Non-Disclosure Agreement (NDA), which is available on request. Enquires should be directed in the first instance to:

**Email**

[Richard.Temple@eddisons.com](mailto:Richard.Temple@eddisons.com)

#### Important Notice

The information above has been supplied by our Client and should not be relied upon as statements or representations of fact or warranties of any kind. Eddisons, its Directors and employees shall not be responsible for any error, omission or misstatement. Neither we nor our Client accept any responsibility whatsoever in respect of these particulars, which are simply offered as a general indication to parties who may be interested. Any notice of sale does not constitute an offer or contract.

Eddisons is the trading name of Eddisons Commercial Ltd, Registered in England 3280893. Registered office: Toronto Square, Toronto Street, Leeds LS1 2HJ

## Opportunity to Acquire a Plastic to Oil Project

### Otech 5 PDU, Orthios Eco Park, Penrhos Works, Holyhead, Anglesey, LL65 2UX.

Permit number:

IACC: 09.09.19/13A/SWIP001

Orthios Otech5 is constructing a Plastics Depolymerisation Unit (PDU) on the site of the old aluminium smelting works at the Penrhos Works, Holyhead, Isle of Anglesey, Wales.

The PDU will occupy a part of one of the disused buildings on the site and will process 3 tonnes per hour of mixed residual plastic feedstock. The received feedstock will have been previously prepared before delivery, to a high-quality standard that meets Orthios Plastic Feedstock Spec. Type D-80 or D-95.

At the heart of the PDU are four Advanced Thermal Distillation (ATD) lines, each containing a 750kg/hour pyrolysis unit. The units use a pyrolysis process to indirectly heat the pellets in an oxygen starved environment so that they depolymerise into SynOil (a synthetic oil), SynGas (a very clean synthetic gas, similar to LPG) and Carbon Char (similar to charcoal).

The delivered feedstock will first be pelleted to densify it and make it more homogenous prior to being processed through the pyrolysis units.

The PDU will then further process the raw outputs from the pyrolysis units to produce:

- Synthetic Diesel compliant with BSEN2869 Part 2: Class D – Middle distillate fuels for stationary application;
- Paraffin wax to be sold as produced.
- SynGas from the scrubbed PyroGas, which will be used to power the pyrolysis unit's low NOx burners and on-site gas engines driving electrical generators (gensets). Once the plant is in normal running mode the SynGas will also be used to fire a Thermal Oxidizer.
- The Carbon Char will be collected and bagged for sale as a carbon filter material;
- Electrical power output from the gensets will be used to self-power the PDU process, with any surplus being exported to the Eco Park over a private wire network and/or National Grid, dependent on the energy content of the feedstock.

The ATD pyrolysis process thermally decomposes the plastic feedstock pellets, in the absence of oxygen, at 550°C - 650°C in an airlocked steel retort that is heated by a low NOx burner. The retort and burner are housed within an insulated Thermal Chamber. The entire PDU will be totally enclosed within the existing Orthios Otech5 buildings, apart from an 3 LPG tank, a SynGas storage bag, coolers, chillers and nitrogen generator.

The entry to, and exit from, each pyrolysis unit retort is airlocked to maintain an oxygen starved environment within the retort. The densified, pelleted feedstock will contain some air voids that will contain a small amount of entrained air which will enter the retorts, but insufficient to permit combustion. The starved oxygen environment within the retort, prevents the feedstock from combusting, to allow the plastics to depolymerise to form a calorific gas (PyroGas) and an inert Carbon Char residue. The hot PyroGas is then cooled in a patented condenser which causes the longer chain hydrocarbon molecules to condense into a synthetic Oil (SynOil) that will then be cleaned in the PDU to form a SynDiesel fuel, compliant with BS2869 Class D fuel for stationary engines, plus paraffin wax. The shorter chain molecules within the PyroGas, exit the condenser as a scrubbed SynGas.

The SynGas will be stored in gas storage bags to ensure that the gas from all the pyrolysis units is thoroughly mixed to produce a homogeneous gas to power the pyrolysis units, Gas Gensets and Thermal Oxidiser (TO).

The PDU will generate waste heat from the four pyrolysis unit exhausts venting through the to atmosphere, plus the option of two gas gensets. (not purchased)

Permit to operate - The incineration of non-hazardous waste in a waste co-incineration plant with a capacity of less than 3 tonnes per hour. (Small Waste Incineration Plant (SWIP))

The total quantity of waste pyrolyzed at this permitted installation shall be no more than 26,280 tonnes per year (dry weight) and 26,352 tonnes per year (dry weight) in a leap year. To allow for the management of out of specification materials and moisture, the total amount of waste accepted at the permitted installation shall not exceed 10% of the stated values. The total quantity of waste stored at the site shall not exceed.

SCOGEN's non-catalytic vacuum based oxygen free moving bed continuous thermal process offers the optimum solution for converting carbonaceous feed-stock to gas, including non-burnable wastes such as plastics and tyres. The non-volatiles exit the system as carbon char and the gas continues to be distilled into oil, with the non-condensable gas helping to sustain the process and produce additional power.

Plastics, tyres etc. are wastes that not only create an environmental disaster, but also create a disposal bottleneck, due to the limitation in technologies available to process such wastes. These wastes, which are prohibited to be burnt, can be processed into clean burning oil and gas that can either be used to replace fossil fuels or generate electricity.