



Non-Technical Summary
for
EV Recycling Ltd.

Site Location:

**EV Recycling
Unit 12, Llanelli Gate
Dafen, Llanelli
Carmarthenshire
United Kingdom
SA14 8LQ**

Overview

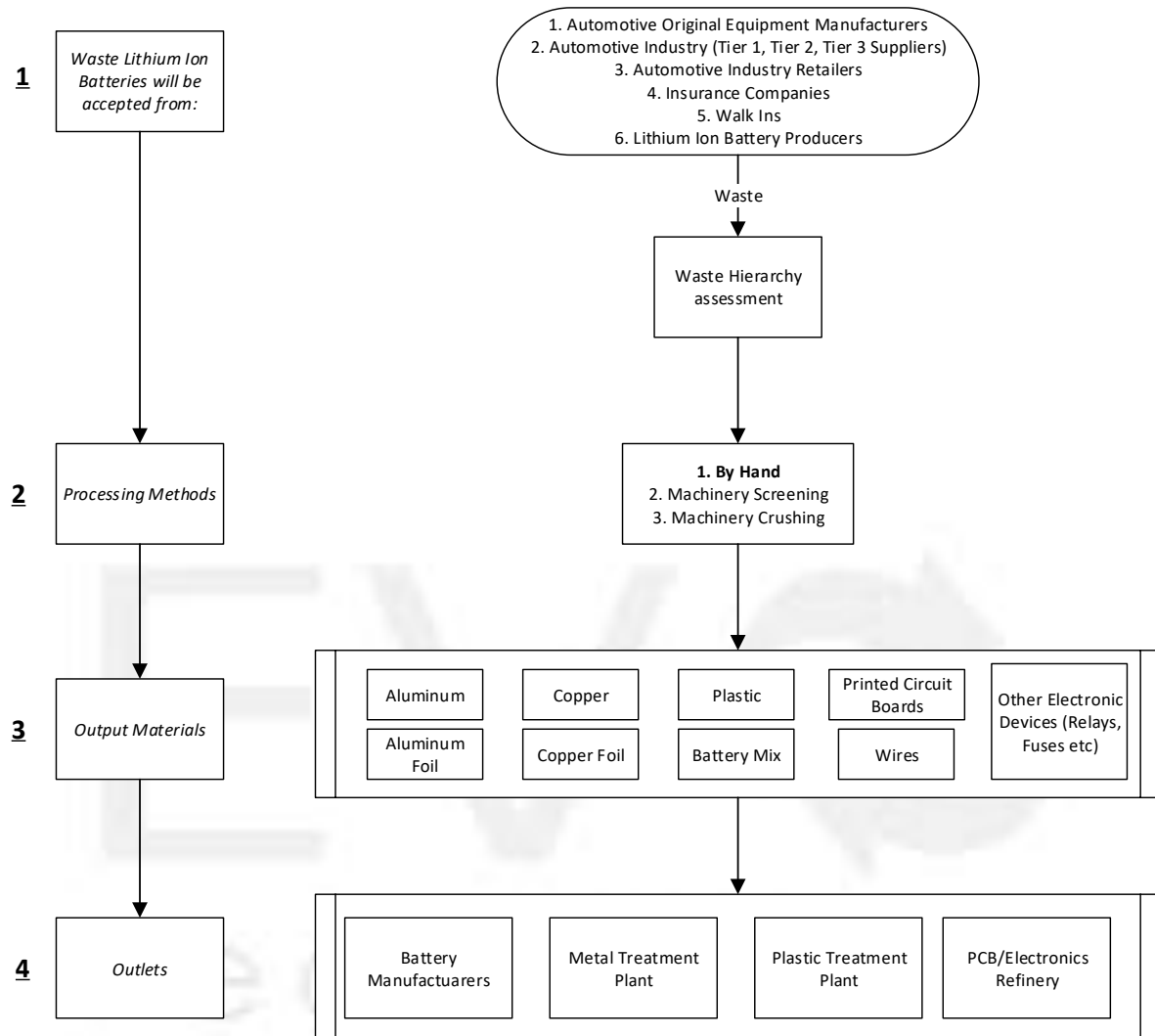
This document is intended to provide a non-technical summary of the activities and processes for EV Recycling, in support of the Environmental Permit Application; Part B2 Document; Question 5c.

Document Revision History			
Date	Author	Version	Notes
01/11/2019	Sam Joseph	1	Report
08/01/2020	Sam Joseph	2	Updated info as a result of NRW meeting with Dave and James
13/01/2020	George Chamberlain	3	Added Flow Chart
14/01/2020	George Chamberlain	4	Clarification on process. Waste only
31/01/2020	George Chamberlain	5	Address change
16/03/2020	Sam Joseph	6	Confidentiality Justification Review

- **EV Recycling** requires the environmental permit for the following address:
EV Recycling, Unit 12, Llanelli Gate, Dafen, Llanelli, Carmarthenshire, SA14 8LQ
- All processes, risk assessments and environmental management system documents have been developed for this specific site. Refer to these documents for information.
- EV Recycling has achieved WAMITAB certificates as evidence of technical competence.
- EV Recycling also has a **Waste Carrier's** license and has applied for **ABTO** (Authorised Battery Treatment Operator) and **ABE** (Authorised Battery Exporter) licenses.
- EV Recycling has its own management system, and **plans to achieve ISO-14001** in the future.

CONFIDENTIAL

Non-Technical Summary



EV Recycling requires an Environmental Permit in order to carry out the planned recycling activities for electric vehicle lithium ion batteries.

1. The batteries are sourced from the industry; OEM's, Producers, insurers walk ins, etc. The size of batteries accepted can include anything from complete battery packs to modules and cells.

2. The batteries/modules/cells will enter a process of dismantling, initially manually and at a later point in time crushing and screening activities on the regulated site. This process will be part-automated and part-manual; a study is on-going to determine the most efficient and cost-effective methods for dismantling and screening.

For the purpose of the permit being applied for, it is essential to state that these activities will be using a 'dry-process'. This is to say that no pyro-metallurgical or hydrometallurgical processes will be involved at any stage of the process. There are ZERO Emissions to Water under normal operating conditions. Potential for emissions to water – and the response procedures – are outlined in the Environmental Management System.

3. The batteries are comprised of a number of recyclable materials; aluminium (battery casing), copper (electrical pins/terminals) and plastics (connectors) can all be recycled in the usual manner or sold as scrap.

As well as these materials, the battery also contains valuable metals which come from the cathode and anode components. These are screened/separated from the other materials and can be referred to as 'Battery Mix'. This includes valuable materials such as Lithium, Nickel and Cobalt. Battery Mix may also include electrolyte solution, depending on whether it was collected this separately or not.

4. The outlet for the recycled materials / battery mix are the battery manufacturers and further regulated refineries. They purchase this mix and then treat it using further processes (chemically or heat treatments) in order to separate the elemental materials prior to being reused within the industry for new batteries.

Document Details:	
Author:	Sam Joseph
Date:	16/03/2020
Checked by:	George Chamberlain