

Overview

- UK Carriage of Dangerous Goods incorporating ADR Regulations
 - Mixed battery collections containing Lithium
 - Collections of separately sorted Industrial (or portable) waste lithium batteries
- Scope and scale of activities in UK
- Global requirements for delivery of mixed and sorted lithium batteries to recyclers
 - G&P experiences in Europe
 - G&P experiences in USA/Canada
- Advantages and Disadvantages of the Regulatory burden
- Considerations for the Future



Mixed Portable

- UK application under Carriage of Dangerous Goods by Road (CDGR) incorporates ADR Regulations however
- Mixed batteries that could contain Lithium employ the same ADR Rules as per Lithium Batteries under ADR
 - No application of proportional quantities so:
 - **Treated as PGII Class 9 Lithium Batteries**
 - Derogation from Regs upto 333 Kg
 - Packaging criteria for Lithium batteries must be met (pack threshold quantities)
 - Container criteria must be met
 - Vehicle and Package markings must be met
 - Trained Drivers and equipped vehicles
 - Difficult for hundreds/thousands of producers to comply fully with the Regulations



Lithium only

Separately sorted Industrial (or portable) waste lithium batteries

- **Full ADR applies**
 - Packaged in UN approved containers
 - Limited pack quantities
 - Isolation of Battery units (difficult and costly for small portable batteries)
 - Labelled in accordance with ADR Regs
- **Easy to manage for professional organisations**



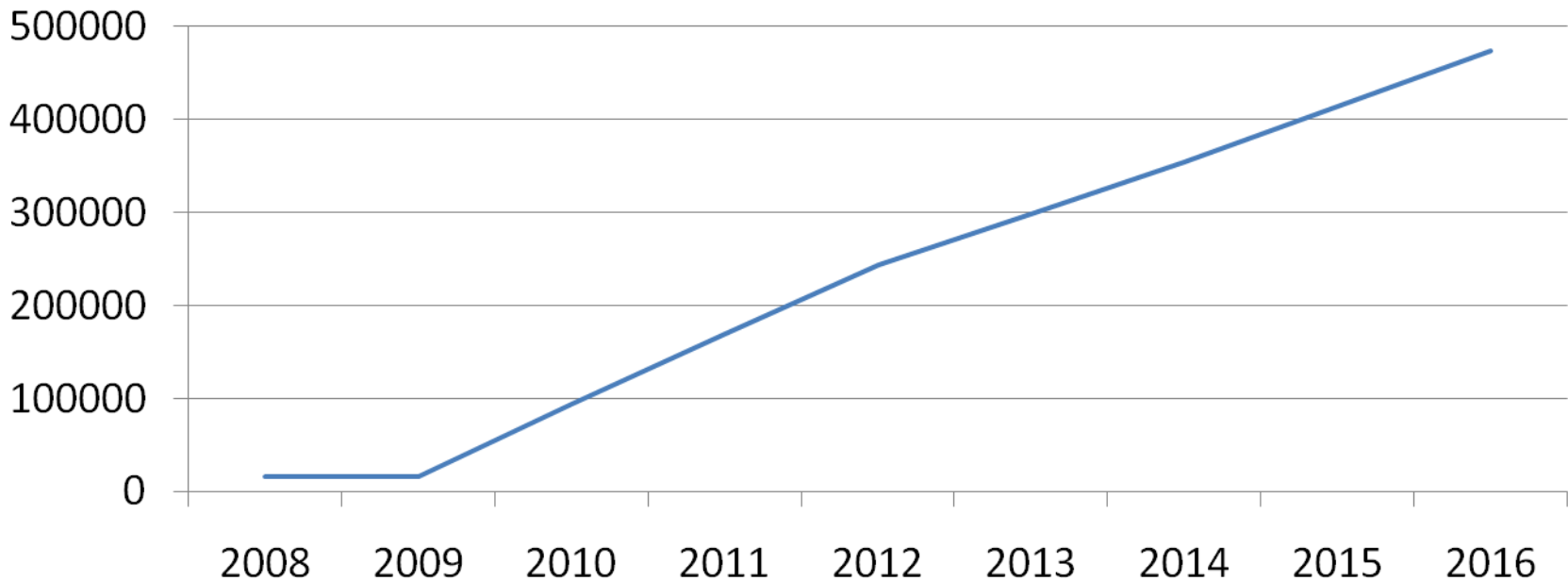
(... but not all operators are sufficiently professional)



Scope & Scale

UK implementation of Battery directive will see a significant increase in collections of mixed batteries

Growth in UK Collection numbers



Burden on producers or collection facilities will increase



Scope & Scale

Increased levels of Lithium batteries from Hybrid/Electric vehicles – large units that may be difficult to comply with ADR Regs (as much as 120,000 tonnes per annum in UK?)

Burden on Recycling companies will increase but we can manage the burden and help the Market to manage it

- Right systems – IT Developments and appropriately resourced organisation
- Right infrastructure (supply of packaging, information, etc... as part of the service)



Globally

Global requirements for delivery of mixed and sorted lithium batteries to recyclers

- Increased level of exports from UK across EU and Global Recyclers
- Full ADR applies (including marine) across EU
 - Vehicle & Driver Requirements....
 - Documentation...
 - Containers, Packaging & Labelling...
- USA and Canada are more strict
 - Definitive and proven isolation of battery terminals
 - Limited quantities
 - Restricted movements
 - Restricted modes of Transport other than Air, e.g. Canada have stopped moving these batteries by Rail



Advantages & Disadvantages

4 significant UK fire incidents relating to poor transport control of mixed batteries containing Lithium for 2008-2009 that G&P are aware of

Advantages of a more relaxed regulatory system

- Larger labour pool for collections i.e. Non ADR trained drivers
- Cheaper packaging
- 'Easy' collections and transport requirements
- Less vehicle costs i.e. equipment etc...

Disadvantages of a more relaxed regulatory system

- More itinerant collectors that do not comply with regulations – leading to more itinerant recycling and illegal cross border movements.
- Greater risks where less controls are employed
- Makes the industry sector less specialised and therefore devalues it to market



Future considerations

- UK will see a significant increase in volumes and movements of mixed batteries containing Lithium and Lithium batteries
- Lithium batteries and batteries containing Lithium pose a significant fire risk if not controlled properly at all stages of the supply chain
- Global movements are likely to increase so should we not adopt a global standard?
- Is a relaxation of mixed batteries and/or Lithium transportation rules good for the Industry sector and will it compromise safety?
- A more specialist Industry sector for both collectors and Recyclers is beneficial to all and will develop more efficient and effective recycling strategies?

