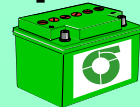


**Green Lead™**

**The Lead Acid Battery  
Life Cycle**

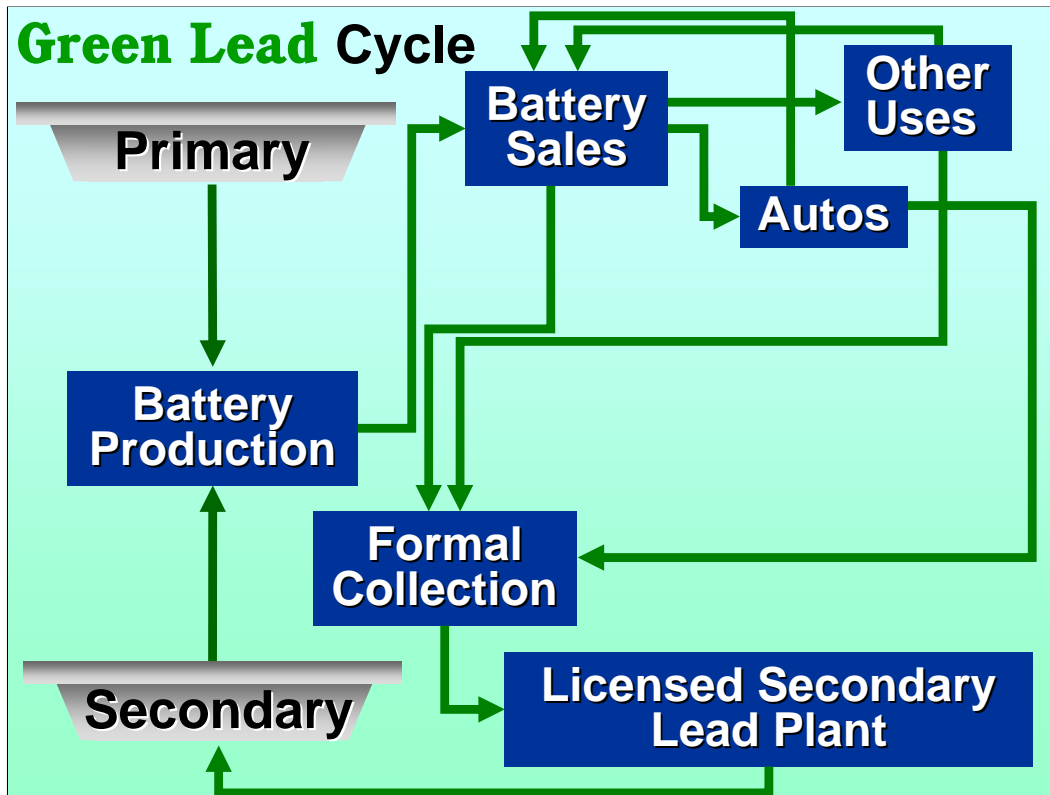
**Brian Wilson  
Green Lead Working Group**



**The Lead Acid Battery Life Cycle**

**How A Green Lead Cycle  
Can Help to Eliminate the “Informals”**

**Brian Wilson  
Green Lead Work Group**



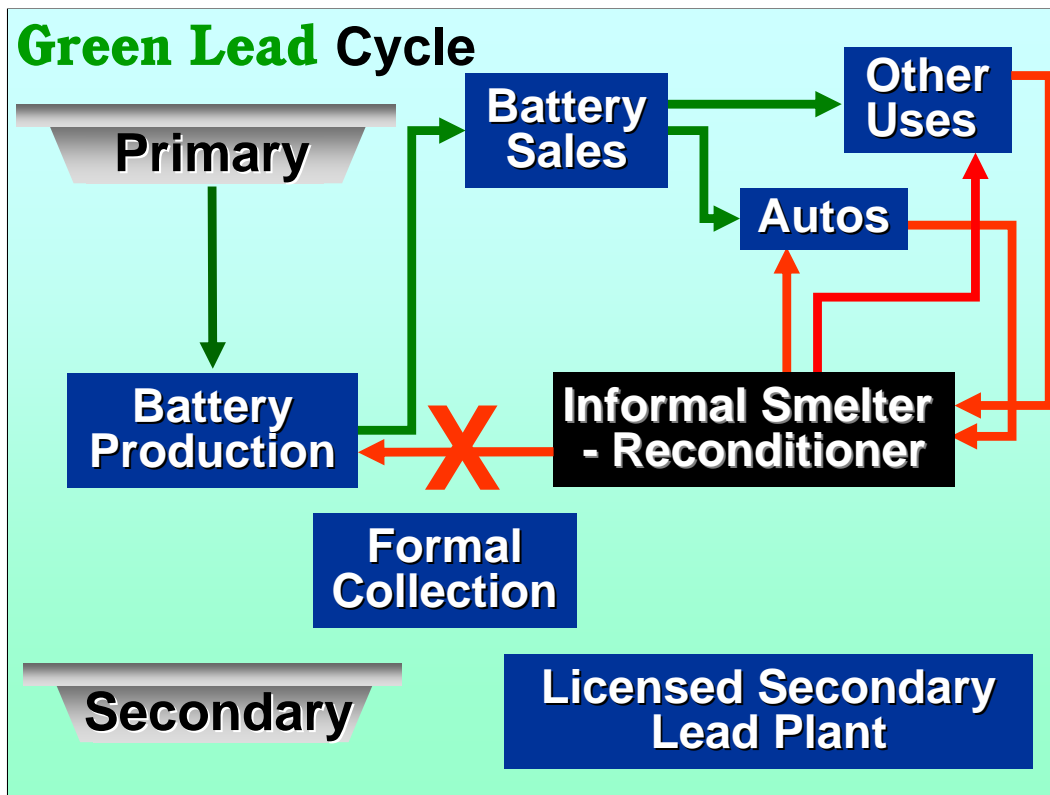
**Green Lead Cycle**

An examination of the Green Lead battery cycle will help to explain how the Green Lead code of conduct works in practice and eventually eliminates the threats posed by the “informal” sector.

Firstly, primary lead is despatched to the battery manufacturer and subsequently Lead Acid Batteries are delivered to the retailer. As we know, the bulk of battery sales are to the automobile sector, but some will be sold for other uses.

Used batteries are usually returned to the retailer for either a refund or a purchase discount and in turn the retailer will send the ULAB to a collection center for sorting and packaging. Some consumers will also send their ULAB directly to a collection center.

The collection center ships ULAB in bulk to a secondary smelter for recycling and the refined ingots will be sold to the battery manufacturer for the cycle to begin again.



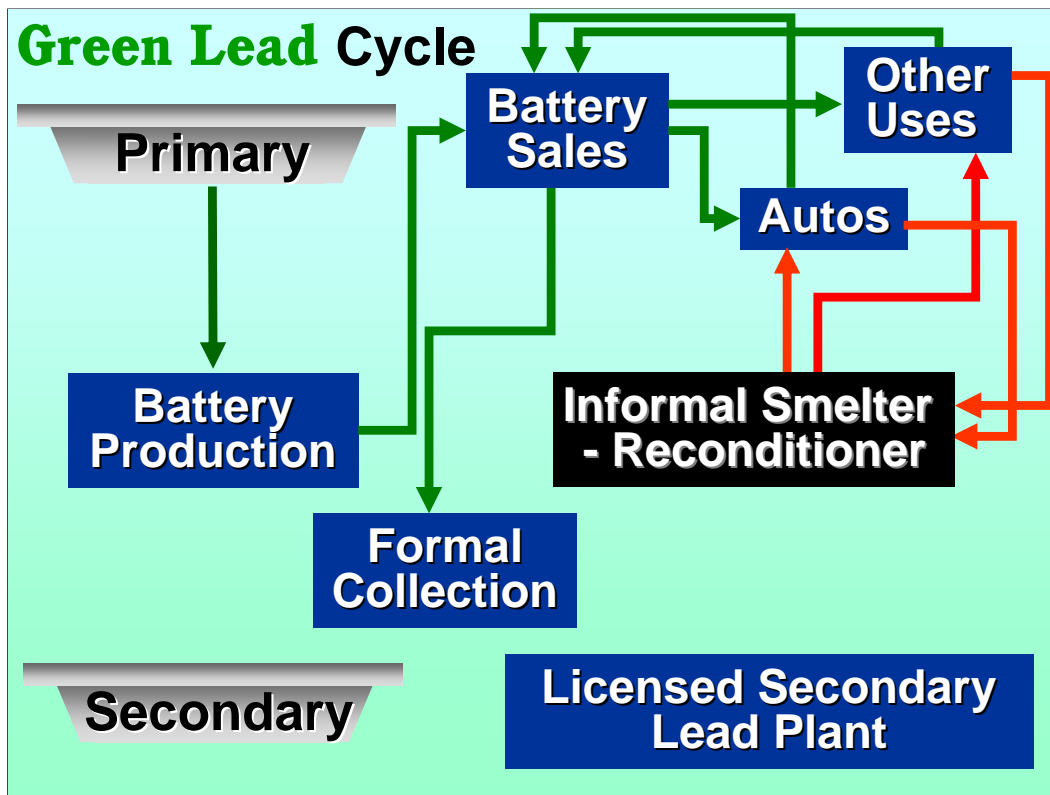
### Green Lead Cycle

In those instances where there are unregulated smelters or “informal” battery reconditioners operating, there is the distinct possibility that by offering a premium for a ULAB above that offered under a deposit/refund scheme, that ULAB will find there way into the “informal” sector.

In the informal sector, where possible the ULAB will be reconditioned and returned to customers looking for a cheap battery.

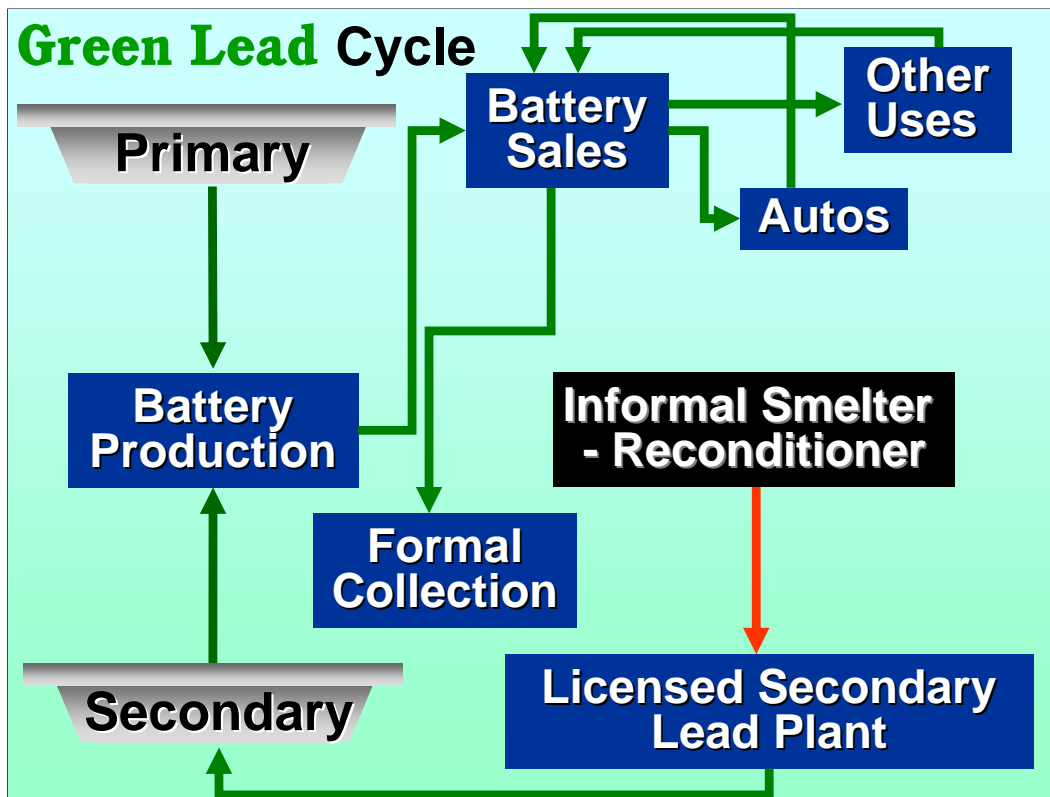
Used battery plates and those ULAB deemed beyond repair will be recycled without much recourse to environmental and health controls. In many cases the lead bullion produced is often marketed to battery manufacturers for use as terminal posts.

It is envisaged that under a Green Lead license, battery manufacturers will only be able to purchase lead ingots from a primary or secondary Green Lead supplier and an outlet for the informal sector will be eliminated.



**Green Lead Cycle**

Furthermore, under a Green Lead regime, battery retailers should be administering a stringent government supported deposit/refund scheme which will ensure that the opportunities for the informal sector to obtain ULAB are drastically reduced, and eventually eliminated.

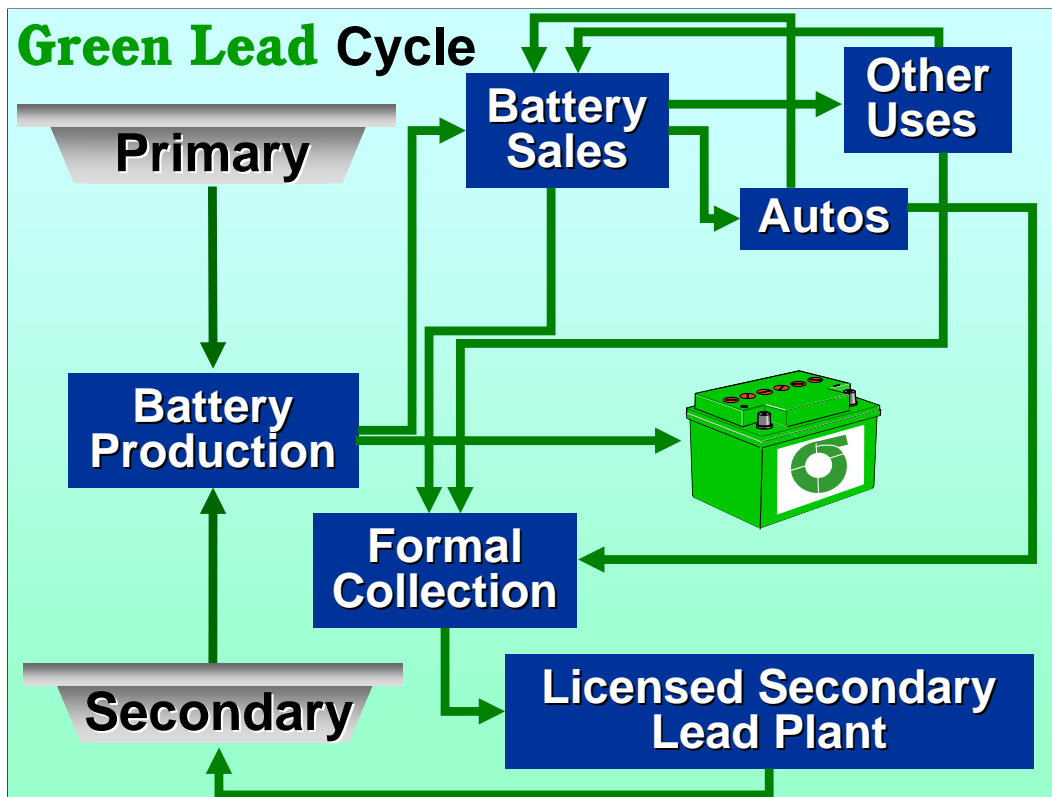


**Green Lead Cycle**

One exception to the principle of not accepting ULAB or reconditioned components from the informal sector will be a Green Lead licensed secondary smelter.

Any leaded waste materials offloaded by the informal sector will be accepted as feedstock at a GL secondary plant. The material will be recycled in an ESM and designated as a GL approved product. In this way, ULAB and leaded waste in the informal sector can be recovered in the most environmentally desirable way.

It is anticipated that in this way those working in the informal sector will either get out of the ULAB business or become legitimate collectors of ULAB.



**Green Lead Cycle for Lead Acid Batteries**

So a Green Lead regime has tremendous potential as model to assist in the elimination of poor recovery practices.

The Green Lead Regime, once in place, will facilitate the development of environmentally sound practices, safe working conditions and excellent recycling rates through the formal sector.