INFORMATION TAKEN FROM THE GHK/BIOIS REPORT ON THE ELV DIRECTIVE - CONFIRMATION SOUGHT ON ISSUES.

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The document below contains some of the important issues extracted from the report, specifically to check facts with the Stakeholders and external experts. This summary of the issues of greatest interest to us includes a few specific questions addressed to Stakeholders, related to facts from the report. We would welcome information relating to the issues and facts raised in this document, including those suggested by our questions.

The Commission would also be glad to know of any information which supports or contradicts other facts contained in the report.

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ELV Waste Estimates

- Numbers and location of ELVs

- Volume of ELV arising each year is increasing (increase in arisings requiring treatment by 2015 from approximately 10 million tonnes to 14 million tonnes)
- There is trade in ELV with net exports to EU10 income countries. The size of this trade will influence the location of waste in 2015 onwards. Estimates for the size of this trade vary greatly: - eg. Imports into Poland of either 80,000 or 800,000 ELV per year.
- Five MS (Germany, UK, France, Spain and Italy) are responsible for approximately 75% of EU 25 vehicle deregistrations
- actual weight of an ELV is estimated to be on average 1,025 kg in 2015, compared to an average weight in 2006 of 964 kg.

- Material composition of ELVs

- Average composition of an ELV in 2015 estimated to be 65% ferrous metals, 12% plastics, 9% non-ferrous metals, with the percentage of plastics and non-ferrous metals rising by a couple of percent in subsequent years.
  For detail, please see Annex 2 of the Report.

Q:Are these estimates accurate?

Achievability of targets

- The 2006 levels for recycling and recovery are achievable today without applying new techniques (with some effort to increase recycling and depollution).
- An increase in the recycling rate (2006 to 2015) from 80% to 85% is equivalent to recycling an additional 39 kg. The increase in the overall recycling/recovery rate

(from 85% to 95%) is equivalent to treating an additional 93 kg (145kg – 51kg). Thus, compliance with the 2015 targets compared to 2006 targets requires diversion and treatment of up to 100kg of material per ELV. (p.11)

- Existing Post Shredder Technologies (PSTs) combined with depollution are capable of achieving a 95% recovery rate. (Annex 3)
- Increase in treatment to meet higher recycling or recovery targets is largely dependent on the increased treatment of plastics. Depollution, re-use of parts, and recycling of metals is likely to achieve around 77-78% recycling in 2015. Plastics will make up around 50% of what remains, with rubber (inc. tyres) around 25%. (Annex 2, p.10)
- There will continue to be a market for plastic recyclates sufficient to create demand for even 1 million tonnes of plastics in 2015, with global demand rising. Prices, dependent on oil prices, are likely to remain high (p.83)

Q:Is there a sufficient market for'shredder' fibres used in sludge treatment?

Q:How strong is the market for the use of 'shredder' sand, or vitrified material for use in construction? Will there still be a market for this material where landfill (of other materials) is banned?

Q:Does the international market for plastics cover all plastics resins, or only some? Will this change?

Costs of Recovery and Recycling

- On the basis of existing technologies, the cost of achieving recycling and recovery targets higher than 80% and 85% is based on certain assumptions – between €4 and -€17 per ELV if Post Shredder Technologies are used to mechanically recycle/recover up to their maximum. (The €4 figure represents costs a gate fee of €100/tonne of shredder residue and low (€35/tonne) landfill costs.) (p.99)
- Under the highest scenario this would represent a cost of less than 0.1% of the life cycle private cost of a car, in lower cost scenarios, greater recycling and recovery would save treatment costs.
- Many operators will meet 2006 targets through installing PSTs. Where they do so, the PSTs which they install will also have the capability to meet higher 2015 targets (for example the current 2015 targets in the directive). In this case, with changed assumptions about costs of capital and profits required, it will be cheaper to use PSTs to recycle and recover higher percentages of ELVs than through landfilling shredder residue in excess of the 2006 targets (even where landfill costs are low). (p.18 and p.101)
- The value of ELVs is likely to increase by at least €20 by 2015 due to changes in composition and relative materials prices, giving ELVs a scrap value of between €40 and €90. Depollution costs are estimated at €40, indicating that any costs of higher 2015 targets would be very likely to be borne by the last owner of the ELV as a reduction in the scrap price they received for the ELV. (p.19 and p.108)
- There are unlikely to be any direct employment benefits or costs after taking into account the diversion of material from landfill operators. (p.19 and p.110)

Environmental Benefits of Recycling and Recovery compared to Landfill

- The environmental benefit of recycling plastics depends both on the resin and the substitution rate achieved (compared to virgin raw material) (Page 155 and from p. 114 and Annexes 5 and 6)
- For many resins, where the substitution rate is 1, mechanical recycling reduces GreenhouseGas (GHG) emissions, compared to landfill. Where lower substitution rates are achieved, mechanical recycling can either reduce or add to GHG emissions.
- The environmental benefit of recovery of plastics depends on the process used and the raw material substituted. Generally, recovery provides greater benefits than landfill when it is undertaken using cement kilns, followed by blast furnaces (where use of materials is feedstock rather than energy recovery), followed by syngas production. For example, recovery for feedstock to generate electricity may substitute electricity generated from natural gas or from brown coal, producing net environmental benefits when compared to coal, but not gas.
- Life Cycle Analysis data on plastics found in ELVs is only available for a limited number of parts and resins, covering up to 20% of the plastic typically in ELVs. (*details from p114. onwards and in Annexes 5 and 6*)

- The GHK/BIO report recommends adoption of environmental criteria for PSTs to promote environmentally beneficial treatment. There may well be better ways to promote the most environmentally beneficial recycling of plastic resins: -

  Q: is it likely that, to meet at recycling target, market forces would direct investment towards recycling plastics in ways that were more environmentally beneficial? – this would appear to be the case if 1) recyclates with higher substitution rates will be more valuable than those with lower (because they substitute more raw material) 2) recyclates for resins which use more energy or raw material in virgin material production will be more valuable than others, as the virgin plastic is more expensive compared to other resins.

  Q: What is the realistic range of substitution rates (compared to raw material) for plastics, now, and in 2015? How does this change for different resins and different final uses?

  Q: given the period to 2015, what developments can be foreseen in plastics sorting technology?