

PROPOSAL FOR NEW ALLOCATION PROCEDURE FOR STEEL RECYCLING.

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Introduction

- The ISO 14041:1998(e) Section 6 describes methodology that is cumbersome and requires arbitrary inputs and is not consistent with engineering or scientific logic.
- My name is Frank Markus P. Eng.
- I am an independent consultant for steel and environmental issues.

Topics of Discussion

- Process parameters in LCI analysis.
- How to apply Debits/Credits for LCI
- Recovered and Recycled Materials
- Types of materials.
- Comparison of proposed and existing method.
- Conclusions.

Topic One

- PROCESS PARAMETERS in LCI anal.
- Figure 1. Factors influencing the LCI analysis for a product.
- Figure 2. Module arrangement for a typical process line (Steel sheet)
- Figure 3. Definition of parameters for a typical production module.
- These three figures define fifteen typical process streams that LCI analyst considers in a typical process module.

Topic Two

- HOW TO APPLY DEBIT/CREDIT
- Figure 4. Defining parameters of DEBIT/CREDIT principle for Purchased/Recycled/Recovered Materials.
- The analyst should Debit/Credit the Recycled or Recovered materials with the same numbers as the otherwise purchased materials would have in a given process function.

Topic Three

- RECOVERED and RECYCLED MATERIALS in the LCI analysis.
- Figure 5. Definition of parameters for the ALLOCATION principle.
- The LCI analyst should use the data supplied with all commercially available materials. His final numbers would represent his product as EMBODIED energy and EMBODIED water and air pollutants.

Real Life

- The Table shows the comparison of results to be expected from the PROPOSED and EXISTING method of LCI analysis.
- Hopefully, the audience is convinced now that this novel method of LCI analysis will bring some happiness to the Steel Industry executive, while not upsetting the “sustainable materials NGO’s”

What This Means

- The ISO 14041:1998(E) should be substantially re-worded using the presented ideas.
- The key points for the audience to remember are:
- EMBODIMENT must incorporate DEBIT/CREDIT principle.
- Embodiment is influenced by materials sourced from near, or, distant sources.
- Computer models should be used to calculate EMBODIED energy/pollutants. for all commercially sold materials.

Next Steps

- Those responsible for maintenance of ISO 14041:1998(E) should take the ideas presented here, incorporate similar ideas, and reword the document accordingly.
- I am presenting the above described ideas also on the IISI Steel Recycling Conference, in Luxemburg, May 15 – 17, 2002.