

Aircraft Recycling – A Literature Review

Task for a Project

Background

The term "sustainability" gained new importance over the last years. Manufacturers are urged to improve all phases of their product's lifecycle and reduce their environmental impact. Accordingly, the subject of recycling is increasingly investigated. Recycling in the case of airplanes has not happened in the past, as retired aircraft have simply been stored on so-called airplane boneyards. The extend of this aircraft storage is nowadays even visible with GoogleEarth. With the increasing importance of sustainability this process has to be replaced by environmentally friendly and yet economic recycling methods. [Ribeiro \(2015\)](#) sees a "deficiency of knowledge and lack of total management for the aircraft life cycle from cradle to grave." Today aircraft like the B787 and A350 are built with a higher percentage of CFRP and a lower percentage of metal. This saves weight and fuel, but causes problems at the end-of-life when disposal of carbon fiber components has to be managed. [Johanning \(2017\)](#) has considered aircraft recycling as part of Life Cycle Assessment (LCA) in conceptual aircraft design.

Task

Task of this project is to summarize aircraft end-of-life handling strategies und the progress this subject experienced so far. The task has to be approached with a literature review. Based on existing literature and other sources, following subtasks have to be considered:

- Describe the methods used for a literature review.
- Report about state of the art with respect to aircraft end-of-life processes.
- Explain legal aspects that need to be considered when examining aircraft recycling.
- Investigate aims and challenges of aircraft recycling.
- Provide information on composite material recycling and its application in aviation.

The report has to be written in English based on German or international standards on report writing.