

## **Overview of Cadmium, its applications,**

## and environmental effects

Cadmium holds a significant role in modern industrial applications, especially with the emphasized transition to green energy and the increasing rate of PV module installation. As cadmium usually is a by-product of the zinc refining process, it raises the question about its production environmental impact and alternative ways of supply. To be more precise, as the lifespan of the PV modules already come to an end, adequate end-of-life treatment is back on the agenda. Due to a lack of information about the material flow analysis and Life cycle assessment of cadmium, an overview of the whole process from the production and use phase to end-of-life recycling could be an interesting topic.

This thesis will focus on the status quo of cadmium in industry its significance, applications, environmental and health risks, supply dynamics, and pathways towards sustainable management.



This study includes the following steps:

- a. Literature review on what is the status quo of cadmium production and supply management.
- b. Simplified material flow analysis of cadmium on a global scale
- c. Life cycle inventory and environmental effect of the whole cadmium market.

Bei Interesse an diesem Thema wenden Sie sich bitte per Mail an Afsoon Mansouri Aski M. Eng., afsoon.mansouri-aski@uni-bayreuth.de

Lehrstuhl für Ökologische Ressourcentechnologie FAN C 2.30 Telefon: +49(0)921 55-7543 afsoon.mansouri-aski@uni-bayreuth.de

