

國立臺北大學自然資源與環境管理研究所
104 學年度第二學期 『清潔生產與工業生態』

課程進度(15)：工業生態學分析工具：能源、水資源與土地利用
Analysis of Technological Systems: Energy, Water, and Land

- ENERGY AND INDUSTRIAL ECOLOGY (G&A, Chp.19)
 - Energy and Organisms
 - Energy and the Product Life Cycle
 - Energy Cycle for Substance
 - National and Global Energy Analysis
 - ⇒ Energy Balance Flowchart
 - Energy and Mineral Resources
 - Energy and Industrial Ecology

- WATER AND INDUSTRIAL ECOLOGY (G&A, Chp.20)
 - Water and Organisms
 - Water and Products
 - The Water Footprint
 - ⇒ Country-level Water Cycle
 - ⇒ Product Water Footprint:
 - Green Water Footprint
 - Blue Water Footprint
 - Grey Water Footprint
 - Water Quality
 - Industrial Ecology and Water Futures

- URBAN INDUSTRIAL ECOLOGY (G&A, Chp.21) RESOURCE INTENSITY
 - Urban Metabolism
 - ⇒ Urban Metabolic Flows
 - ⇒ Urban Metabolic Stocks
 - ⇒ Urban Metabolic Histories
 - Urban Mining
 - ⇒ Resource Recovery
 - Resource Intensity
 - ⇒ Material Input per Unit of Service (MIPS)
 - ⇒ Ecological Rucksack
 - ⇒ Eco-Toxicity per Unit of Service (TOPS)
 - ⇒ Land Use per Unit of Service (Conventional Ecological Footprint)
 - ⇒ Energy Intensity
 - ⇒ Carbon (Greenhouse Gas) Intensity

- HOMEWORK ASSIGNMENT #6 (Due 2016/06/14):

請整理 ISO 14046:2014 及 ISO/TS 14067:2013 國際標準之章節 (Clause) 內容。