

Figure 2.1 DFE concept, objectives, and characteristics.

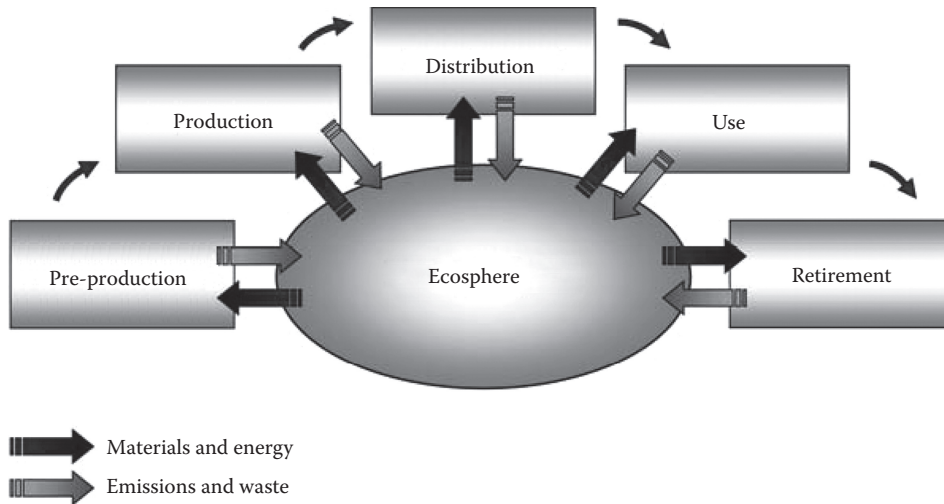


Figure 2.2 Life cycle phases and interactions with ecosphere.

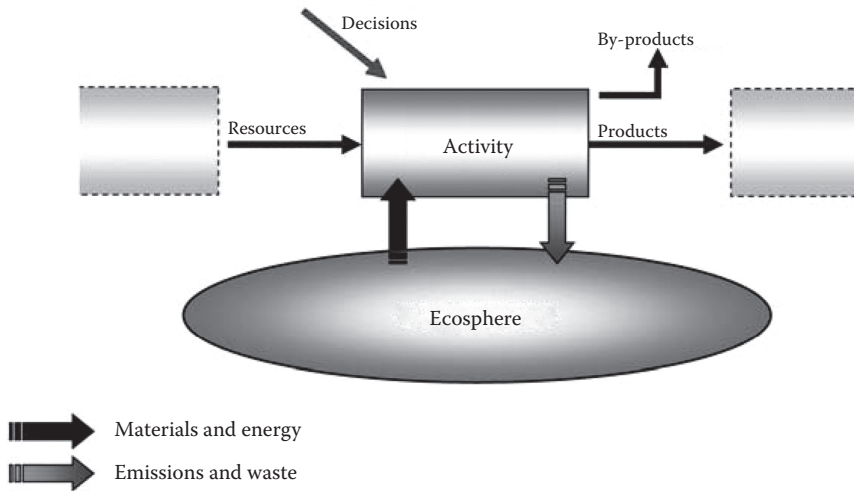


Figure 2.3 Reference activity model.

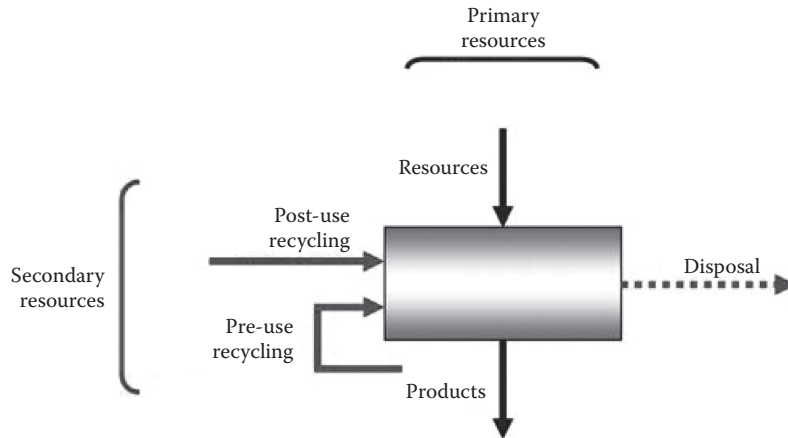


Figure 2.4 Flows of material resources.

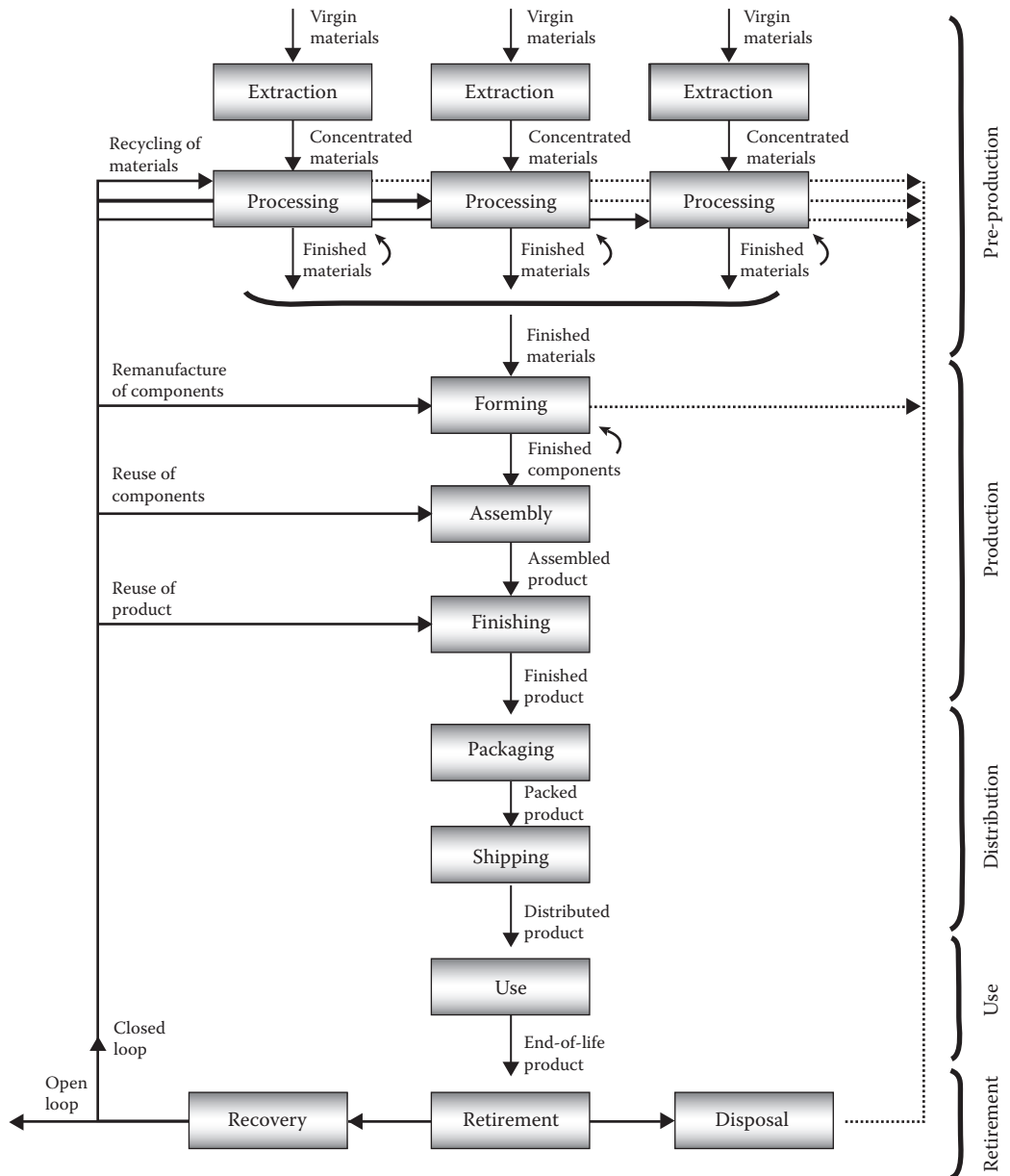


Figure 2.5 Complete life cycle of product and flows of material resources.

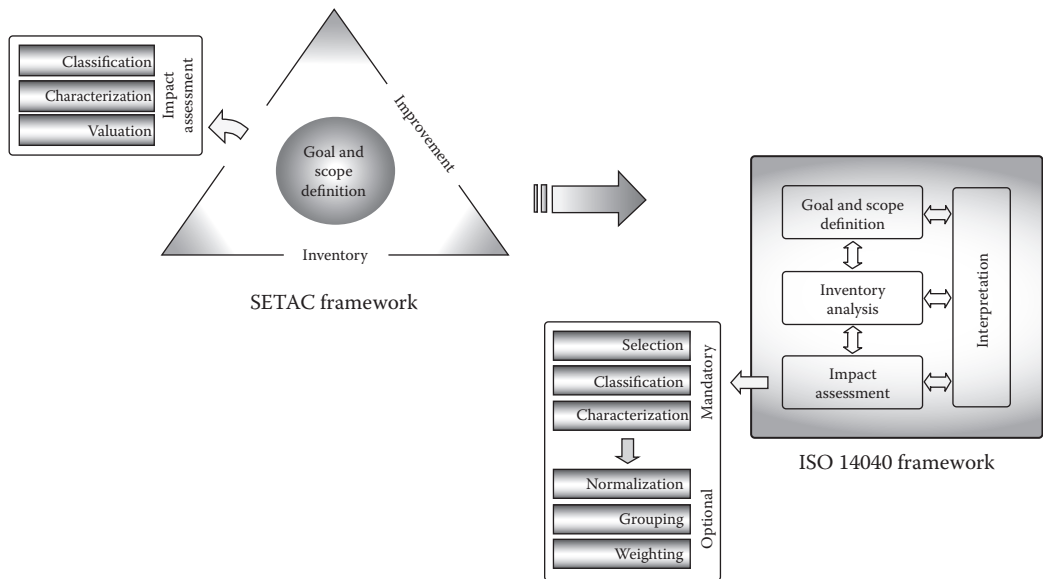


Figure 2.6 LCA framework according to SETAC and ISO 14040.

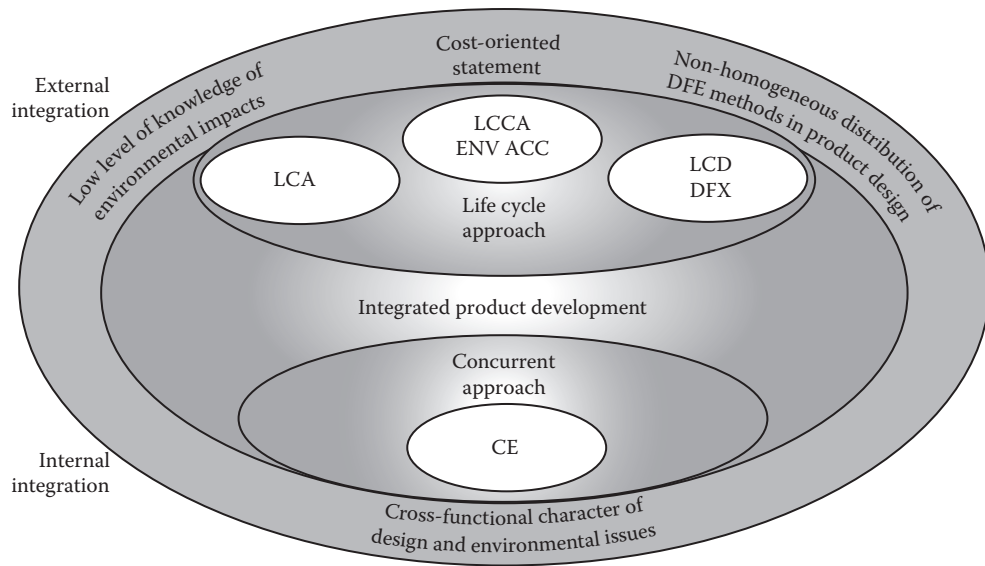


Figure 2.7 Environmentally-oriented integrated product development.

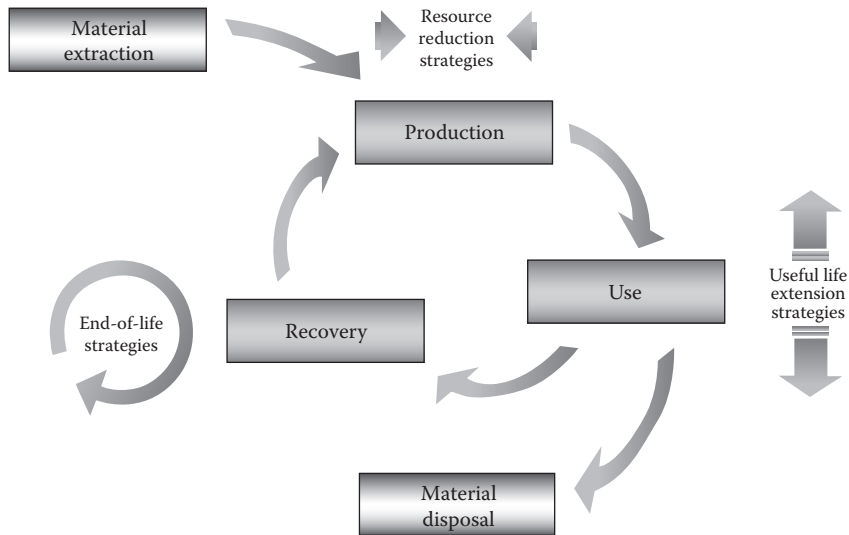


Figure 2.8 Environmental strategies in product life cycle.

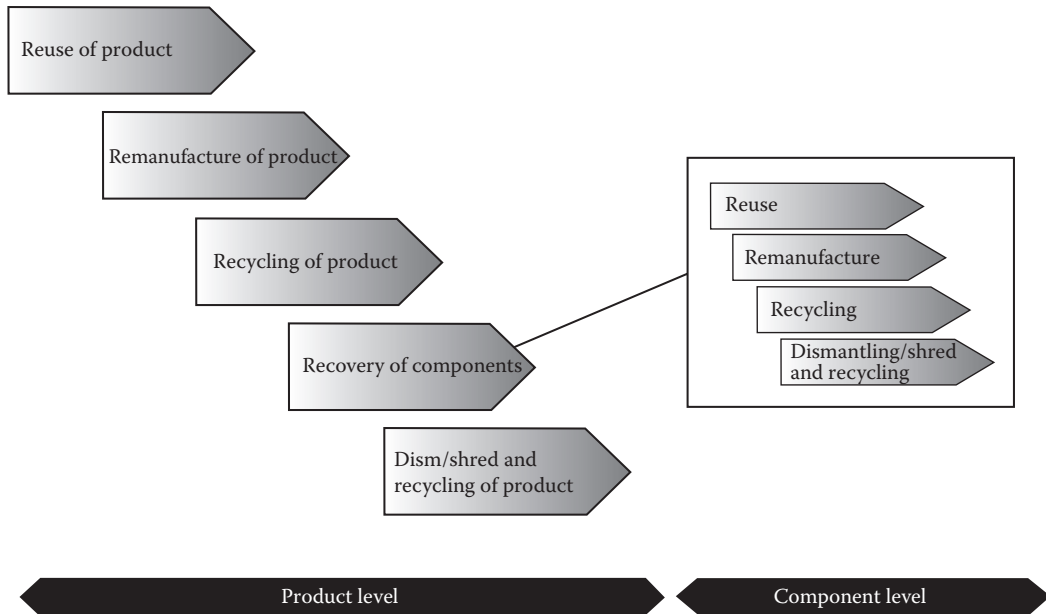


Figure 2.9 End-of-life strategies.

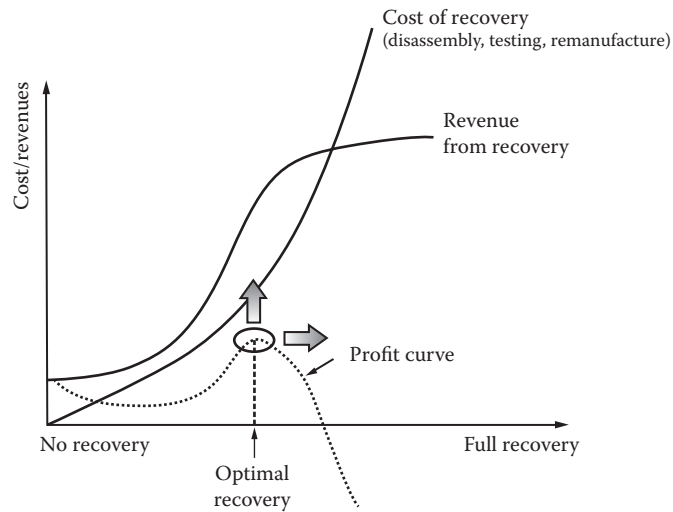


Figure 2.10 Recovery planning optimization.

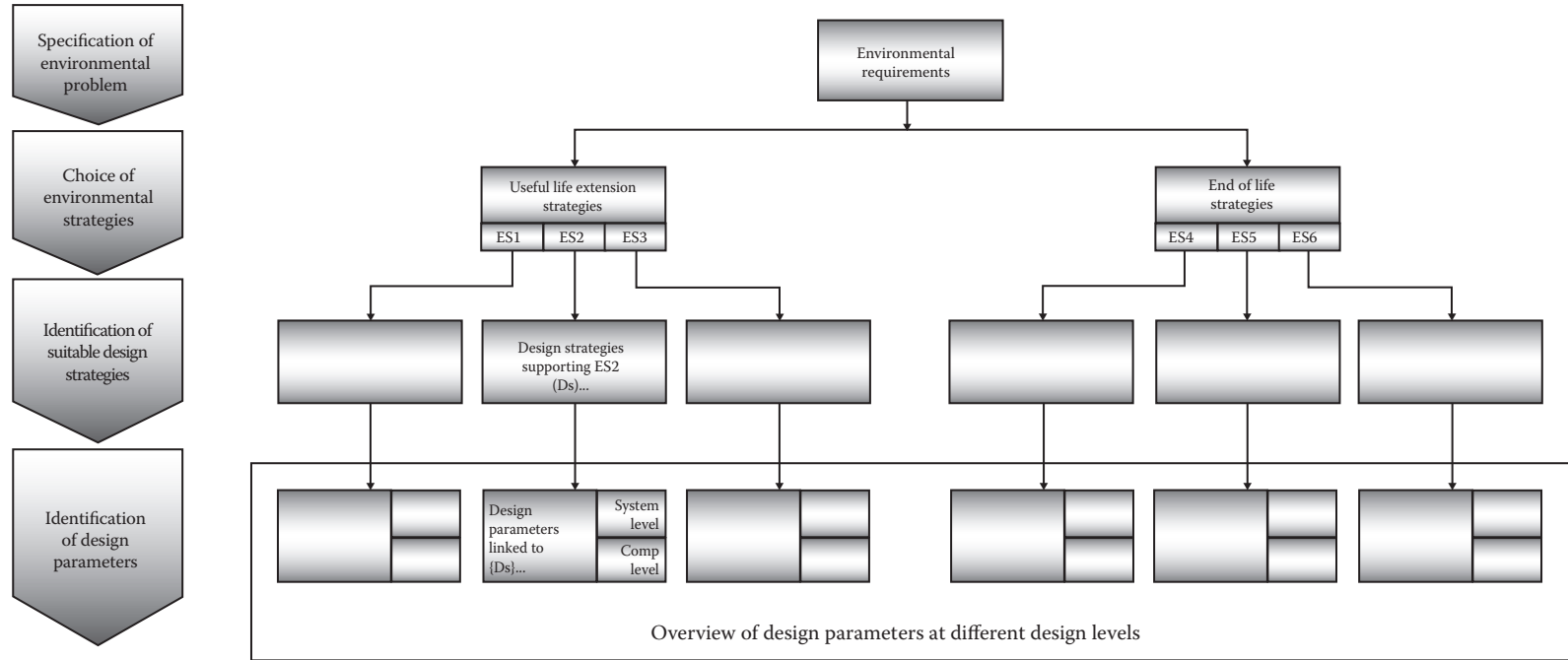


Figure 2.11 Implementing environmental strategies into the design process.

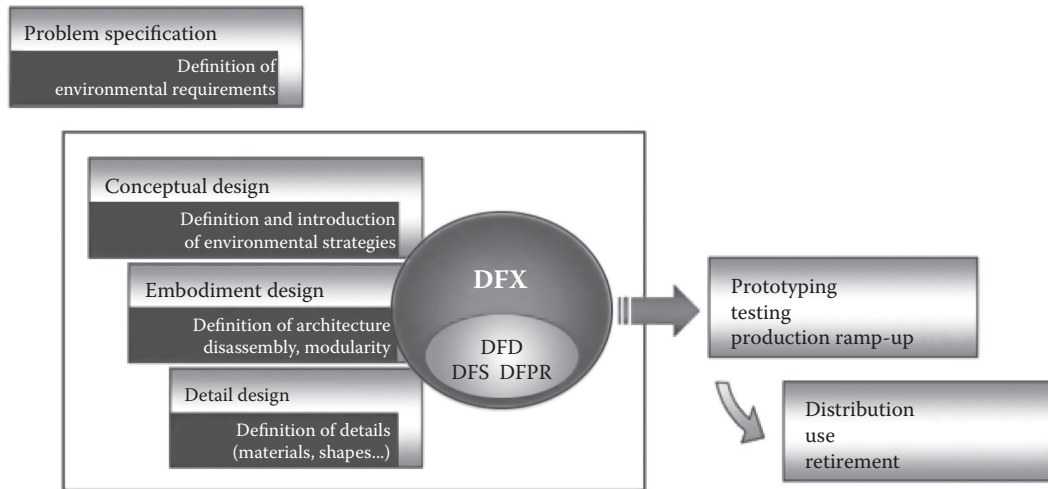
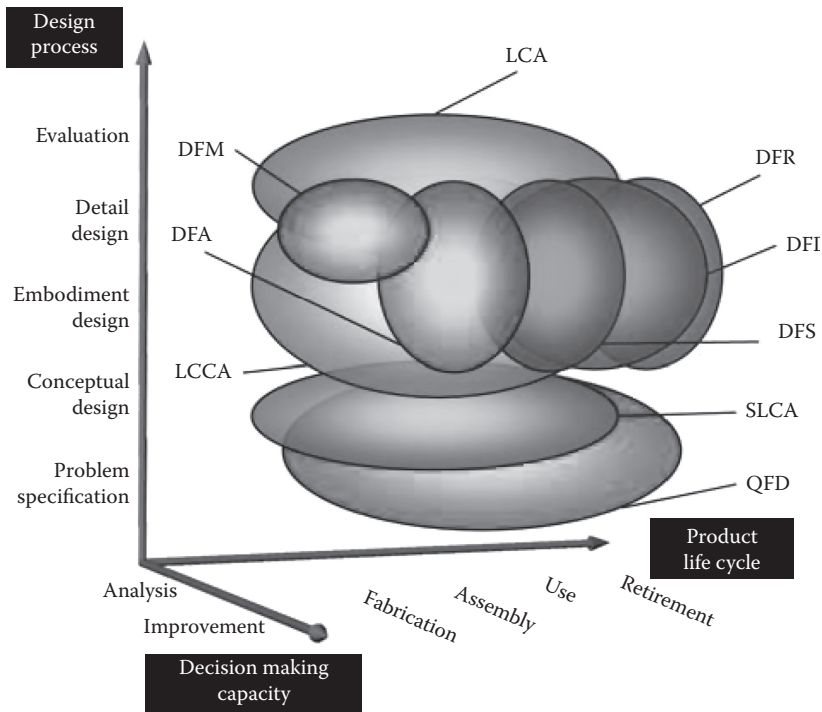


Figure 2.12 Use of DFX tools for integrating the environmental aspects into product development process.



DFD - Design for disassembly
 DFS - Design for serviceability
 DFR - Design for recovery
 DFA - Design for assembly
 DFM - Design for manufacturing

QFM - Quality function deployment
 LCA - Life cycle assessment
 SLCA - Streamline LCA
 LCCA - Life cycle cost analysis

Figure 2.13 Integrated design: tools and techniques.