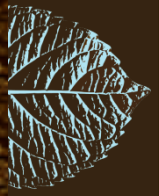
Process Tree

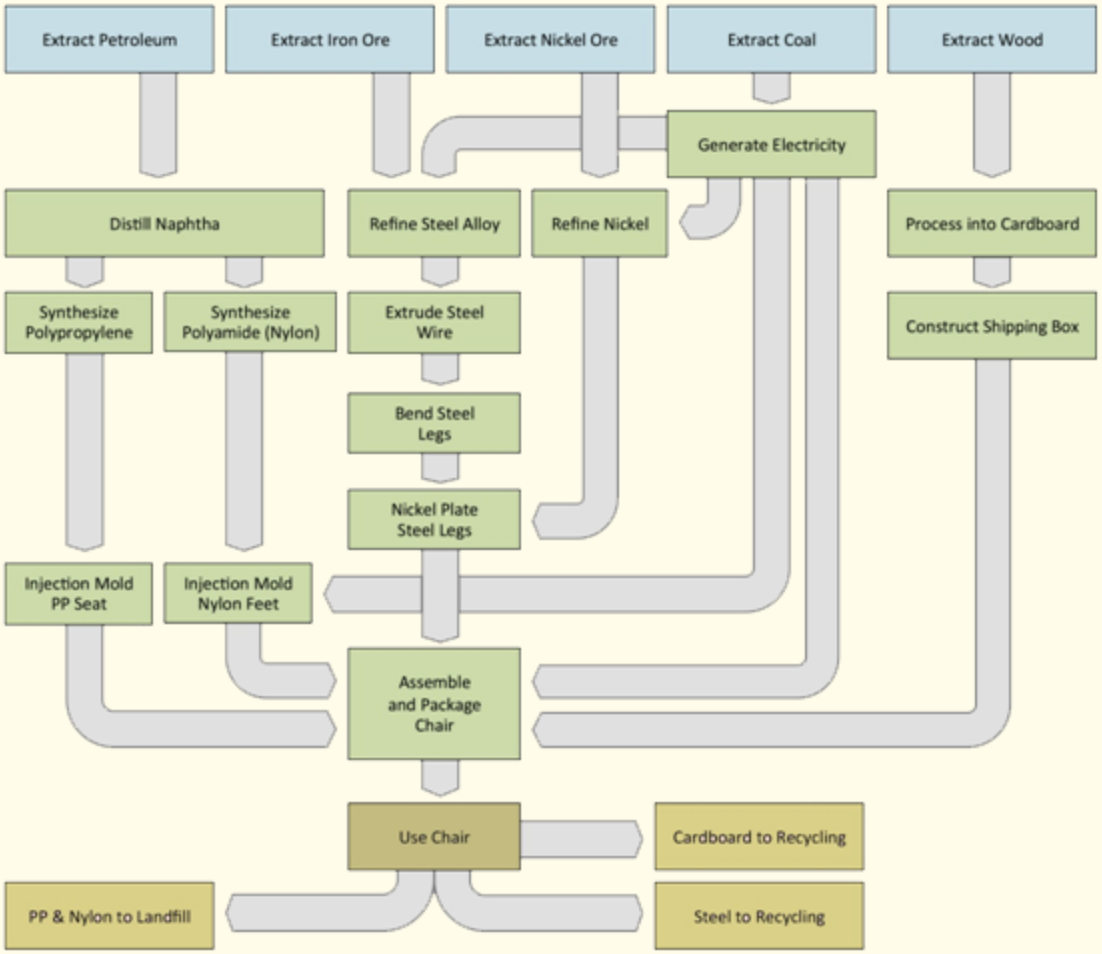


Okala Practitioner **Chapter 9**

Process Tree

The process tree is a method that helps designers strategically explore the transformation of resources and materials through the life of a product system. It triggers thoughtful reflection about ecological impacts and design priorities.

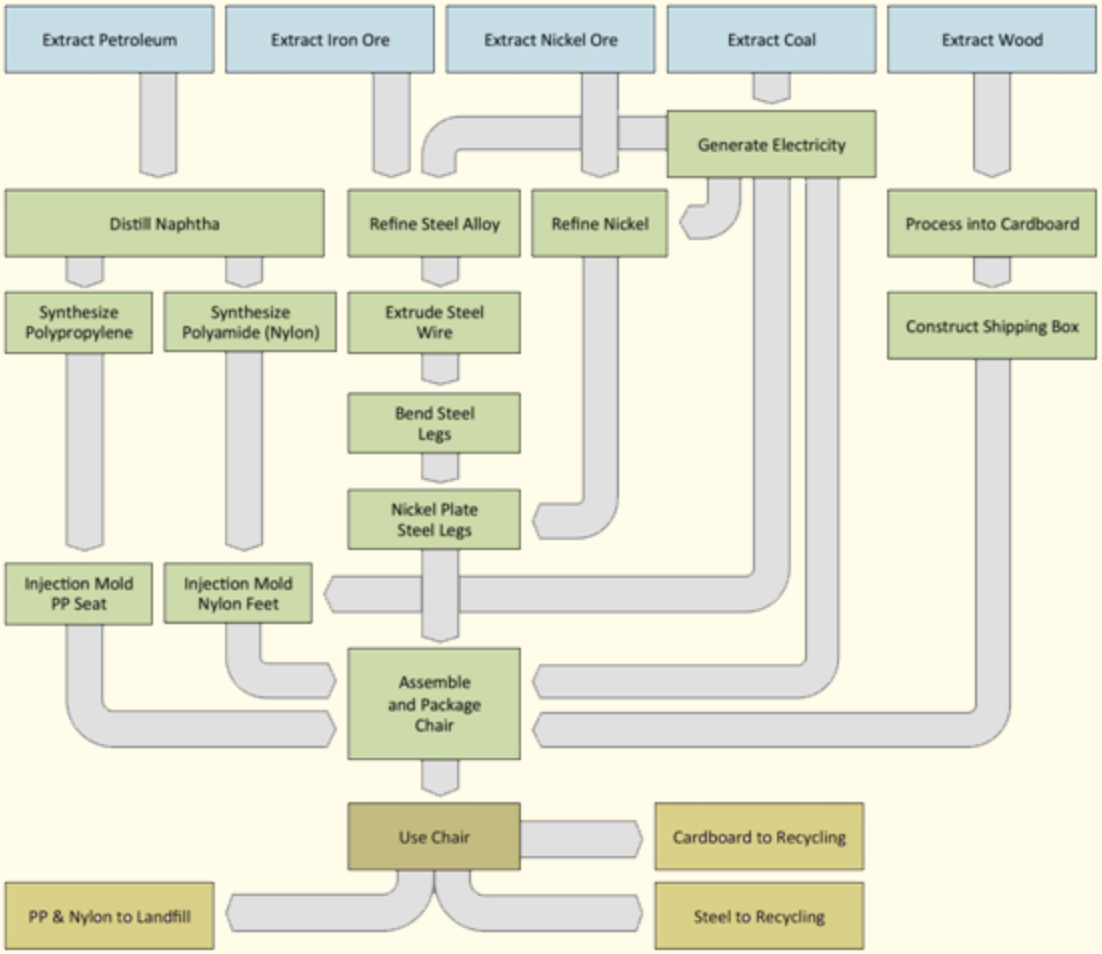
The process tree also assists in presentations and discussions because it visualizes the flow of materials through the manufacturing and use phases of a product system.



Process Tree example

This process tree for a molded polypropylene (PP) chair aligns extracted raw materials (inputs) at the top of the tree, with arrows indicating the flow of materials and energy through the product system. Fossil fuels were used for material feedstock and production energy.

Material transport is implied between many of the steps in the tree. In this example, the PP resides in a landfill at the end of the chair's life. The PP could be recycled instead of landfill disposal, if the infrastructure for this is in place.



Process Tree

Making a complete process for an existing product often requires considerable time and effort, including consultations with suppliers, their sub-suppliers and manufacturing facilities.

The process tree can uncover critical information about the product system that reveals opportunities for improved functional and environmental performance.

Class activity:

Detail a *Process Tree* for an audio headphone

The class now breaks into small groups. Each group evaluates a headphone.
Include all of the extraction, material processing, manufacturing and use inputs that apply.
Consider the plastic parts, metal parts, parts, the microelectronics, the ink, and the paper packaging. Assume that the primary substance in the electronics is tin.

When finished, compare the different results.

Discussion:

What were the similarities and differences between them?

Did you need more information? If so, where?

Okala Practitioner

Integrating Ecological Design

This presentation is part of an educational presentation series that supports teaching from the *Okala Practitioner* guide.

Okala Practitioner and these presentations were created by the Okala Team to disseminate fact-based knowledge about ecological design to the design disciplines and business.

Unless provided in the presentations, Information sources are found in the *Okala Practitione*r guide.

The Okala Team:

Philip White IDSA	Associate Professor, Arizona State University
Louise St. Pierre	Associate Professor, Emily Carr University of Art + Design
Steve Belletire IDSA	Professor, Southern Illinois University Carbondale

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Okala Practitioner is available through amazon.com.

More information and the free Okala Ecodesign Strategy App can be found at Okala.net.