Project: Process Heat Integration Using Pinch Analysis

Vacant: 6-9 months

Summary: With increasing emphasis on energy efficiency and sustainable process design, heat integration has become an essential approach for reducing energy consumption in industrial processes. This project focuses on applying pinch analysis to identify opportunities for heat recovery and optimize the thermal performance of a process plant. A process simulation will be developed using Aspen Plus to evaluate mass and energy balances, identify high-energy-demand units, and analyze hot and cold process streams. Pinch analysis will then be performed to determine the minimum heating and cooling utility requirements and to design an efficient heat exchanger network. Finally, the project will assess the economic feasibility and environmental benefits of the proposed heat integration strategy, including reductions in operating costs, energy consumption, and greenhouse gas emissions.

Supervisor: Dr Javier Fernández
Contact person: Dr Javier Fernández