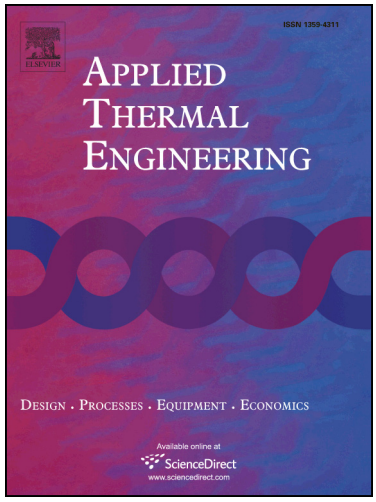

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Linking pinch analysis and bridge analysis to save energy by heat-exchanger network retrofit

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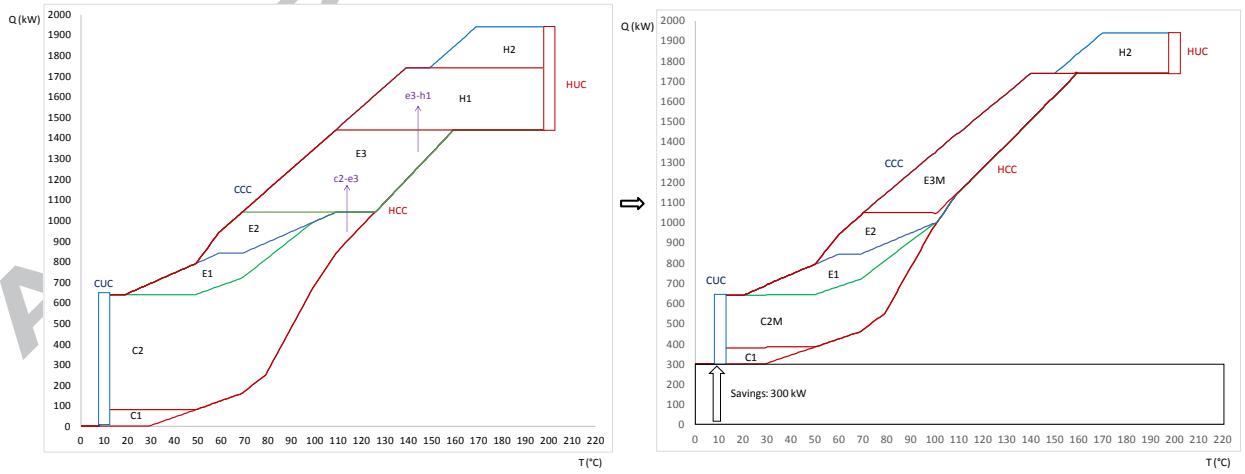
Keywords: process integration, energy efficiency, heat-exchanger network, retrofit

Highlights

- The flow rate of cascaded heat in exchangers is presented between composite curves.
- Reducing energy consumption implies decreasing the flow rate of cascaded heat.
- Removing cross-pinch transfers is not necessary to reduce energy consumption.
- Bridge modifications are necessary to reduce energy consumption.
- Bridge modifications are evaluated on the Heat Exchanger Load Diagram.

Graphical abstract



Before HEN retrofit

After HEN retrofit