

# Assessment of industrial heat pump integration and waste heat availability using representative profile

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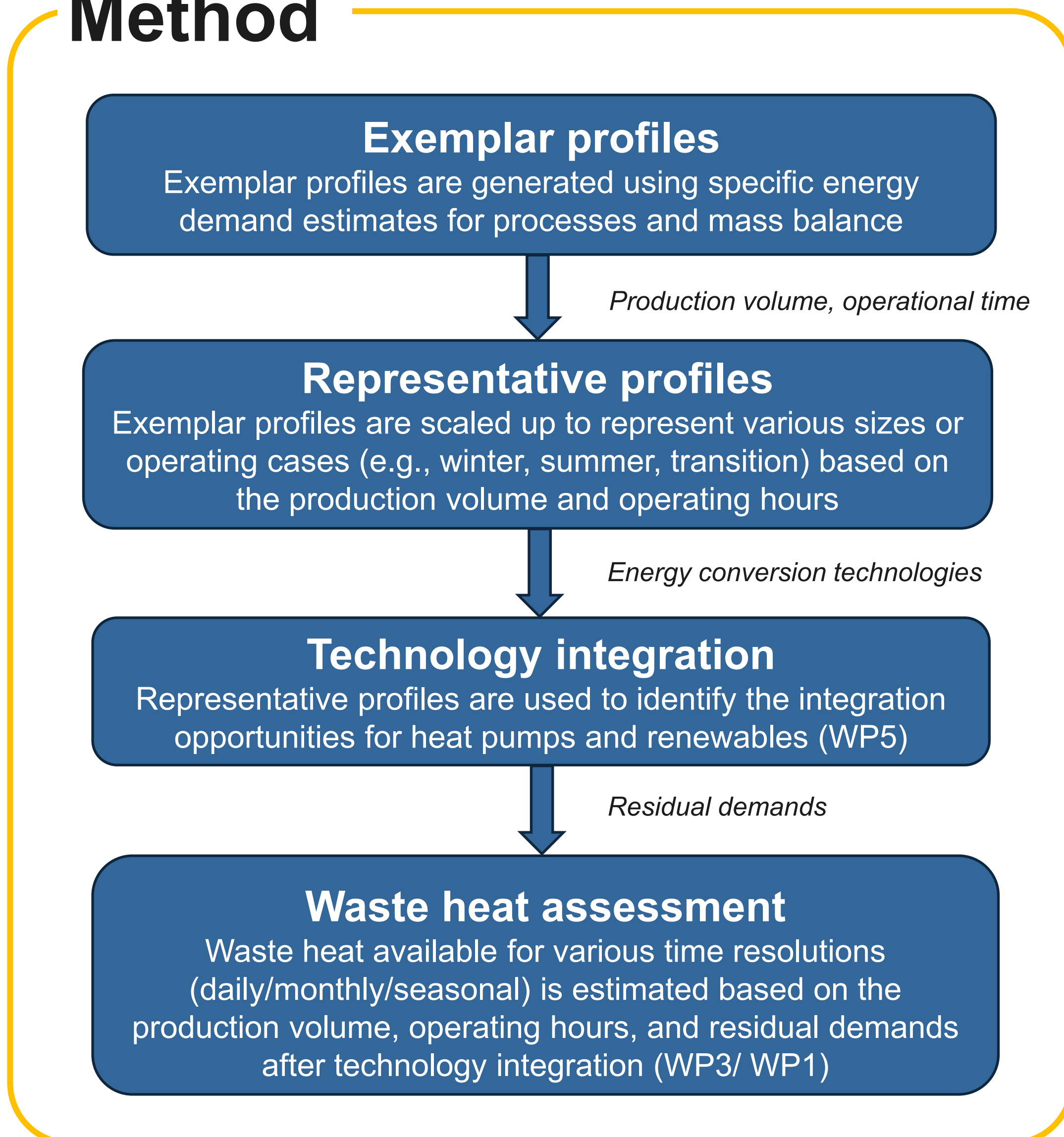
## Goals

- Development of methods and tools for **rapid estimation of process requirements, energy conversion technology potentials, and waste heat availability.**
- Demonstration of the **use of exemplar profiles and representative profiles** developed using Pinch Analysis principles.

## Problems

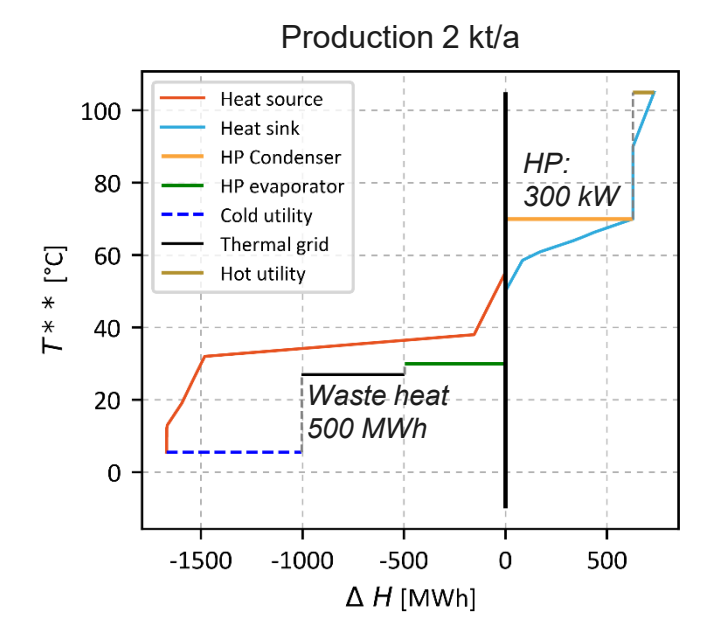
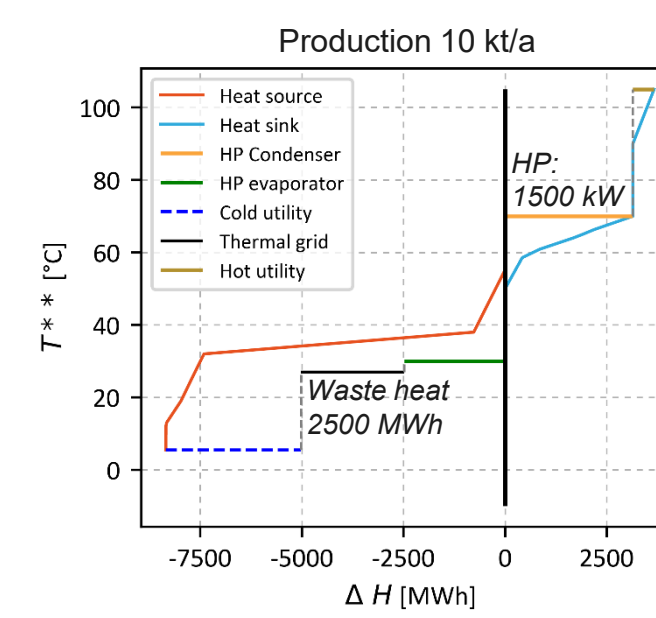
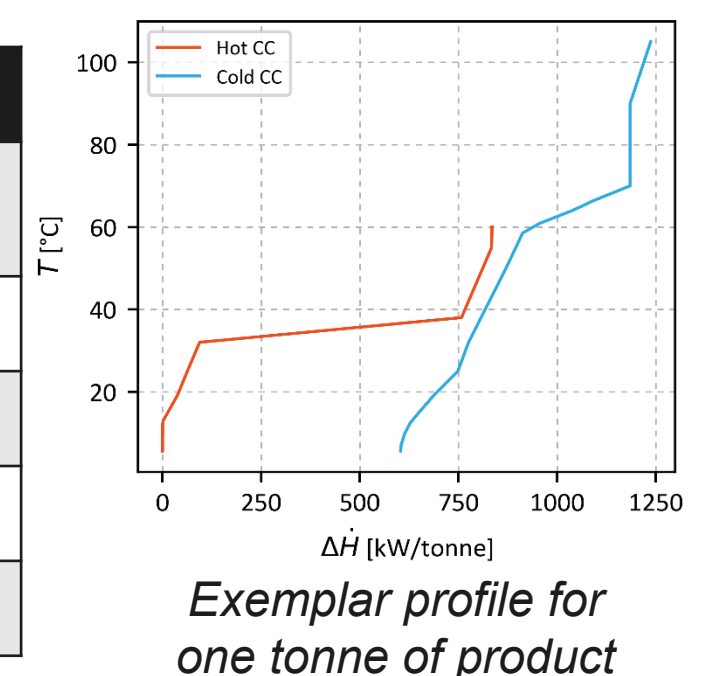
- Limited availability of tools for **quick estimation of process heating and cooling demands**
- Absence of methods to **efficiently scale process requirements for varying production capacities and seasonal fluctuations**
- Lack of tools and methods for **rapid assessment of energy conversion technology integration opportunities and waste heat availability**

## Method

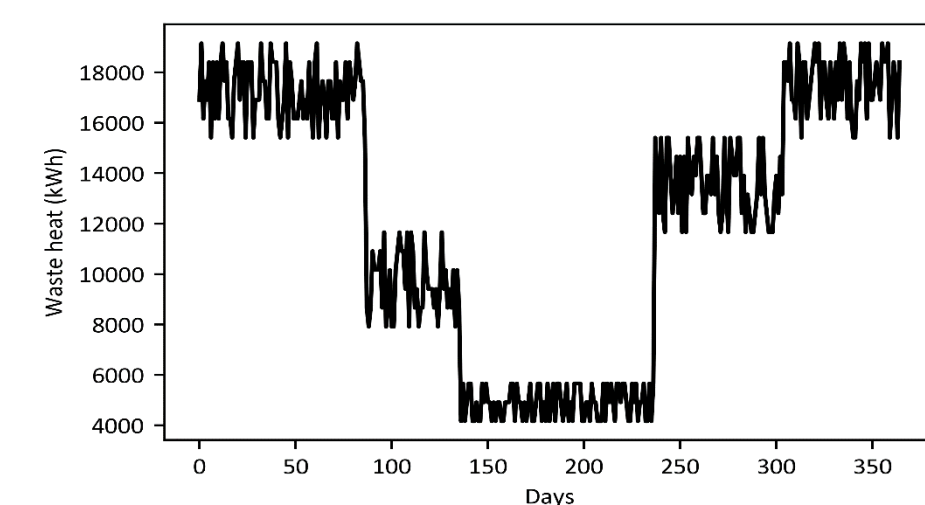


## Results

Case study parameters	Values
Process	Candy production
HP integration temperature	70 °C
Thermal grid temperature	30 °C
Annual production capacity	2 kt and 10 kt
Annual operation	6000 hours



Annual representative profiles



## Conclusions

- Pinch Analysis data in combination with specific energy demand allows the **generation of exemplar profiles for products/processes.**
- Exemplar profiles can be **scaled to represent a given production volume or operating case.**
- Representative profiles can be used to **estimate energy conversion technology potentials.**
- Representative profiles can be used to **estimate the quantity of waste heat that can be used for thermal grids.**

### Core partners



### Associate partners



### Cooperative partners:

