Energy efficient process of industrial heat generation

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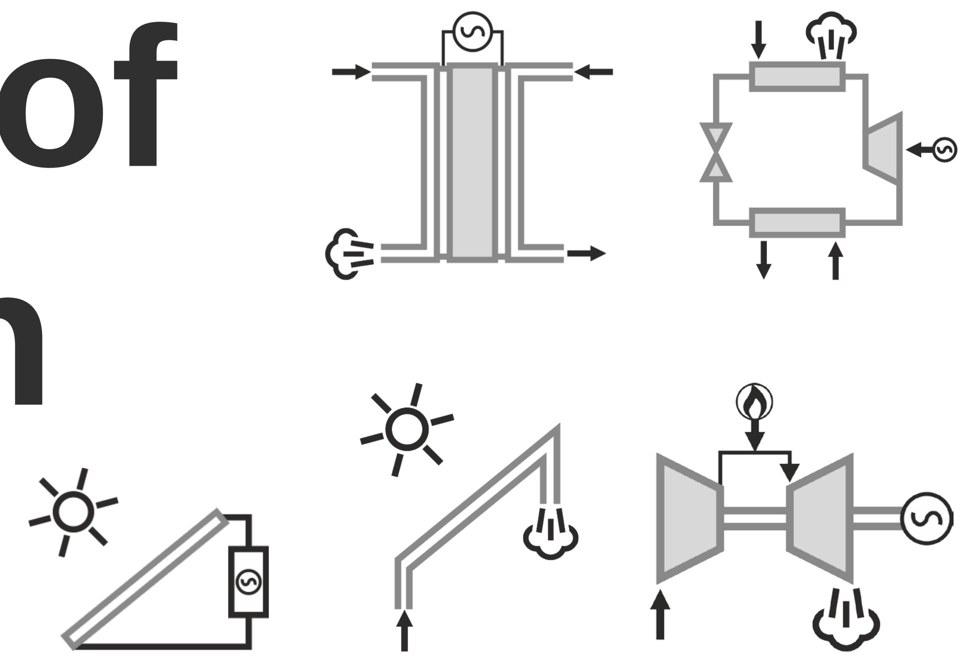
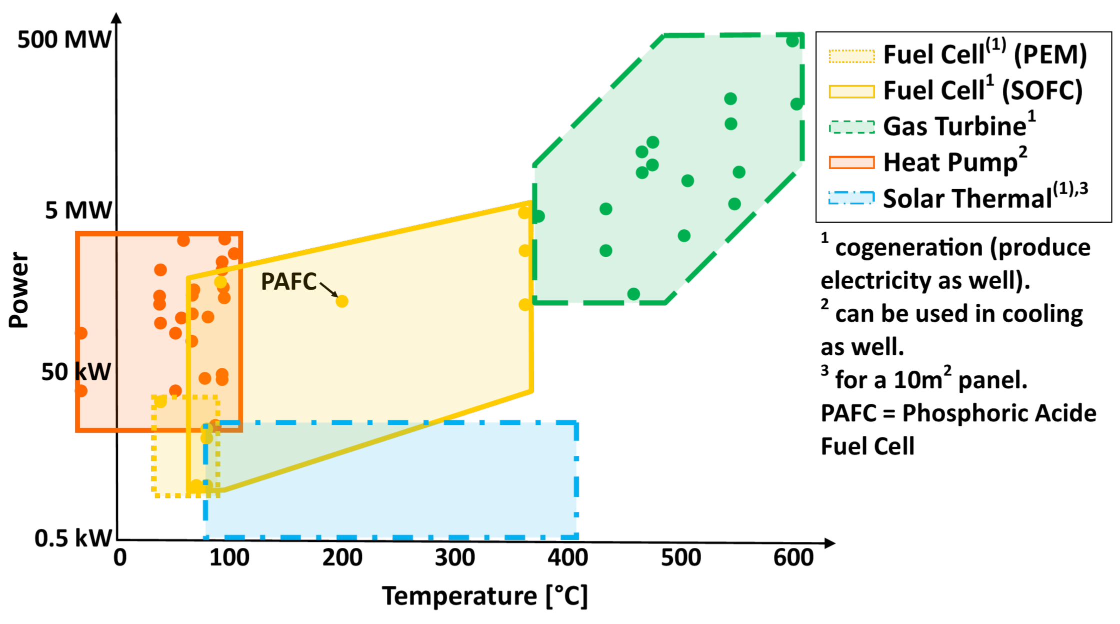


1 Introduction

- **Analysis** of heat generation process (fuel cell, gas turbine, heat pump, photovoltaic, solar heating)
- Clear and concise **description** of types of heating devices
- **Case studies** in different industrial sectors (brewery, sensor production, polymer, packaging, injection molding)

2 Method overview

- Comparison of temperature and power capacity of several industrial heating device available on the market.



Power and temperature capacity of existing processes.

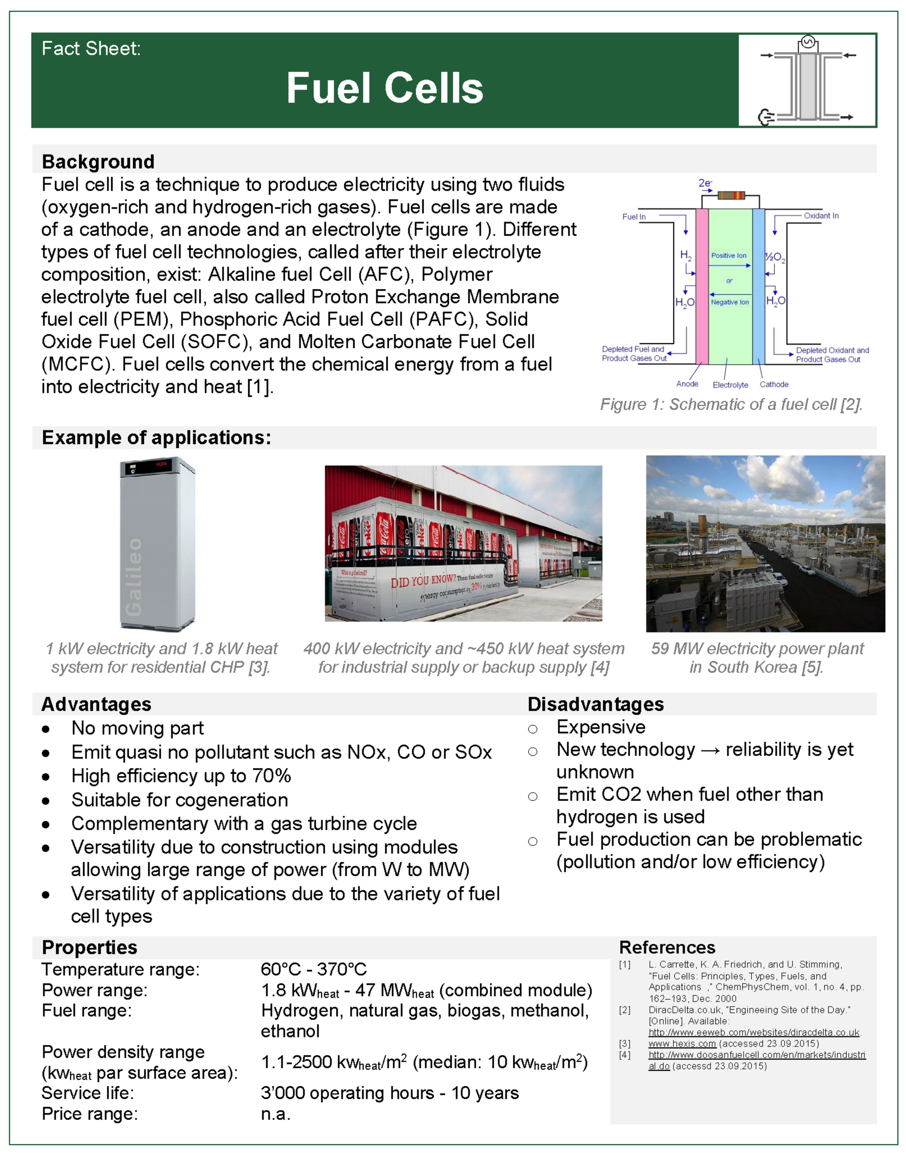
- Fact sheet with description and examples of application of each type of heating system.
- Case studies of several industrial sectors.

3 Results: fact sheets and case studies sheets

Fact sheets are concise and contains:

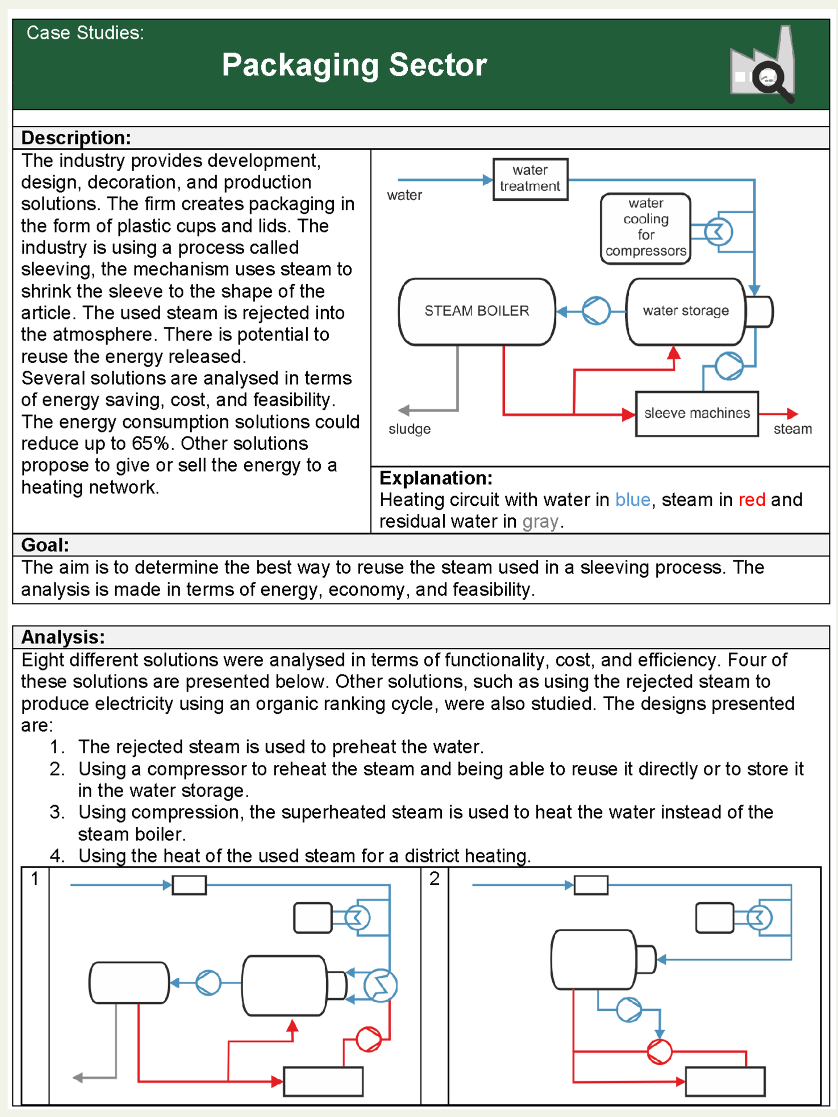
- a clear **description** of the process mechanism
- three **examples** of the process applications
- **pros and cons** of the process
- **properties** such as temperature range and power density range

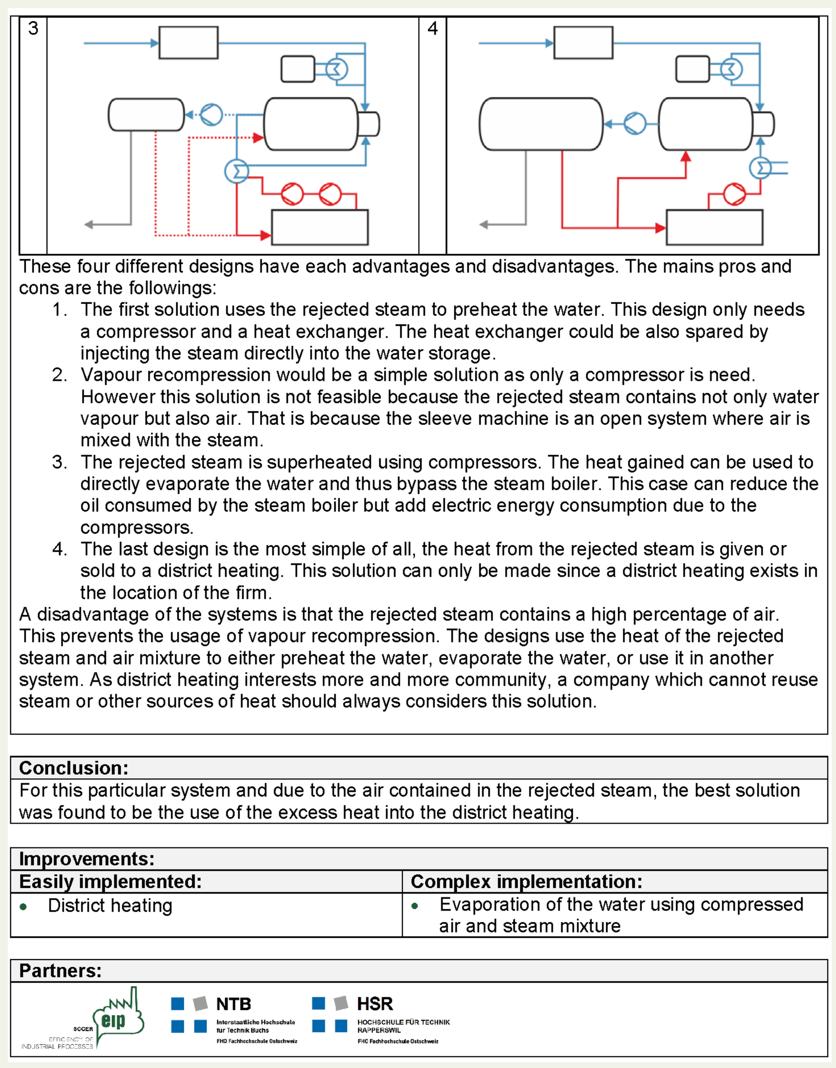
Link to fact and case studies sheets:



Case studies sheets are two-sided pages of analysis of a company in a particular industrial sector containing:

- a **description** of the firm
- a **schematic** of the system analysed
- the **goal** of the study
- the **results** of the analysis
- a **conclusion**
- the possible **improvements** separated into simple and complex solutions





4 Conclusions

- The main results of this task has been to create short, simple, and precise documents able to inform industrial people with an overview of industrial heat generating methods and their usages as well as an outlook into the near future.

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EPFL École Polytechnique Fédérale de Lausanne
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