



Het verschil tussen kijken en zien.

“the difference between looking and seeing”

**DWa**

installatie- en energieadvies



# Waste heat; a correct term?

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## Presentation contents

- 
- Short introduction DWA installatie- en energieadvies
  - Some waste-heat facts
  - The Dutch “waste-heat market”
  - Thoughts
  - Lessons learned

# DWA installatie- en energieadvies; installation and energy consultants

## Mission

- Independent consultancy
- Socially involved
- Stewardship: care, don't consume!

## Disciplines

- Technical
  - Economical
  - Policy
- } Related to energy and installations

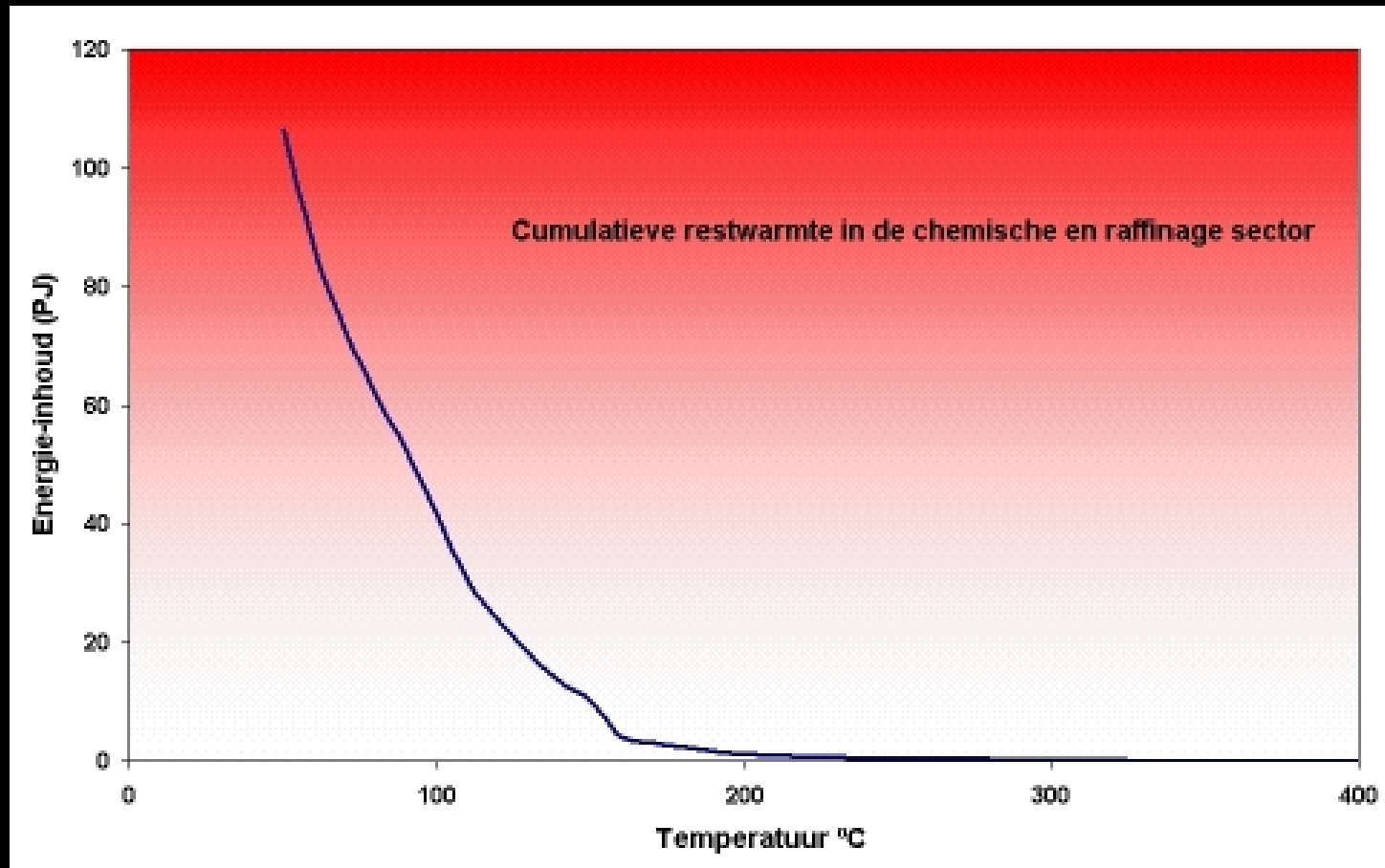
## Working area

- Buildings (developers)
- (Local) government
- Industry
- Initiation, design, realization, management



# Some waste-heat facts

- Available on large scale;



- Too valuable to call “WASTE”!

# The dutch wasteheat market...

- Heat recovery is an 'hot-item'
- Important role to reach the national climate targets
- Almost no heat recovery within processes





## ... and their inhabitants

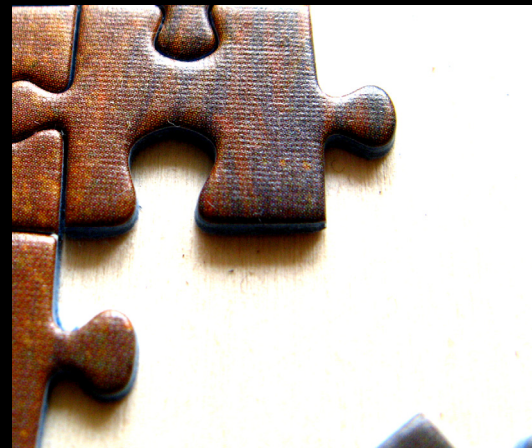
- Today's initiatives seem to be:
  - Restricted to non-profit businesses
  - Only possible with district heating
  - Always initiated by the government
  - Not succesful without subsidy



# Thoughts

District heating is not the only way to use waste-heat.

There are several examples with pay-off times of 3 years or less; so try to find possibilities



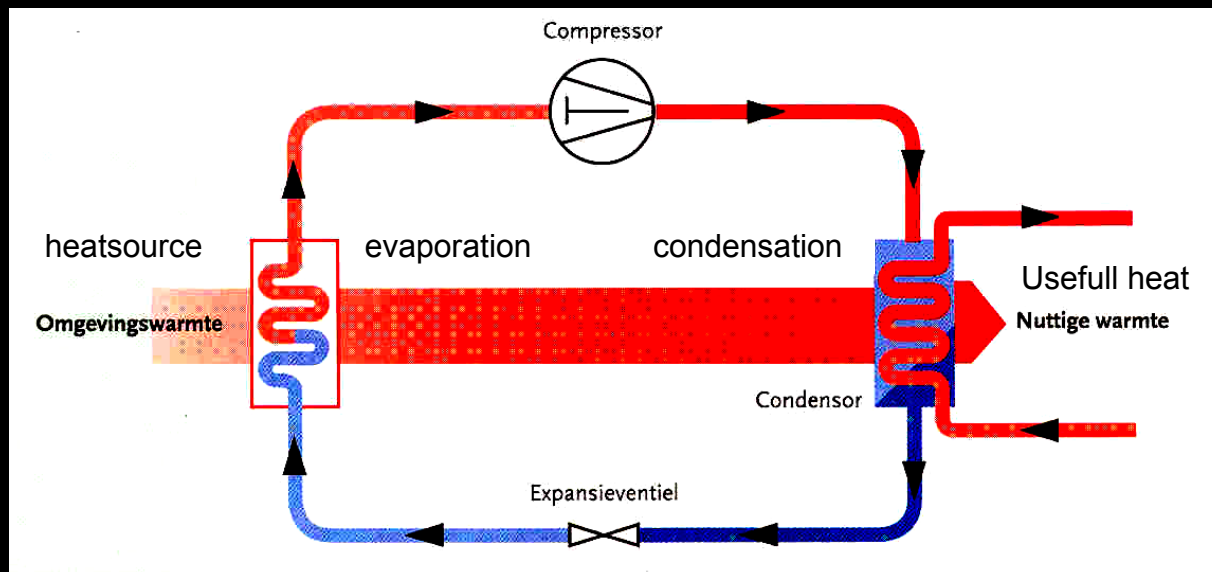
Heat-recovery = improving quality!






# Improving quality

- (industrial) heatpumps today
  - high temperature compression heatpumps
  - mechanical vapour recompression (open cycle)
- (industrial) heatpumps tomorrow
  - thermo-acoustic heatpump
  - chemical heatpump



## Lessons learned (or to learn)

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- Waste heat doesn't exist, talk about heat-remains
  - Heat recovery: #1 chance in energy efficiency & emission reduction
  - Too valuable to sell!



**Thank you!**  
**Any questions?**