

# Cost reduction along the value chain: Which perspective in the research and product development?

- Collector cost development
- Typical price of an installed system
- Share of costs
- Potential in cost and price reduction



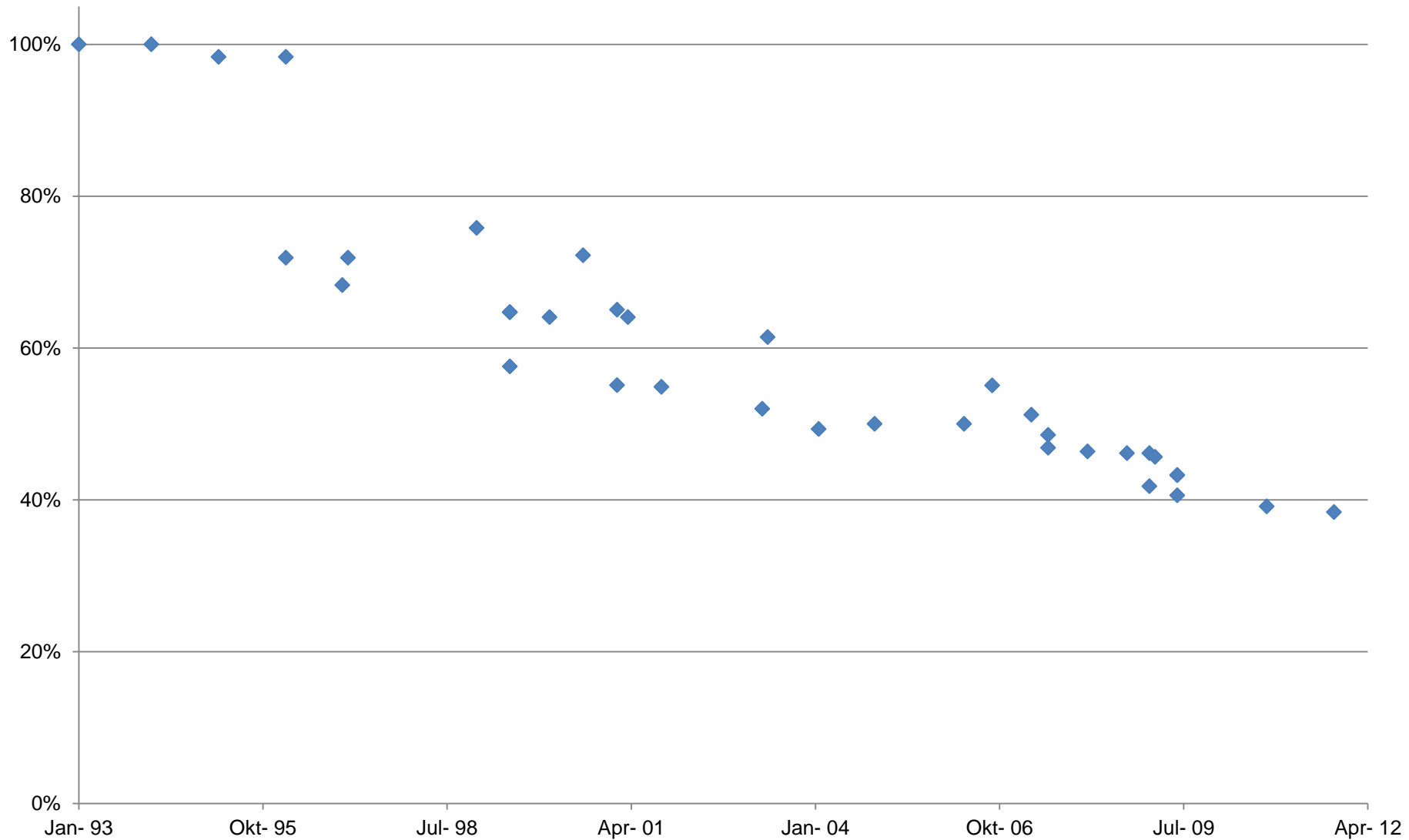
**EUROHEAT & POWER**

**IRHC** Renewable Heating & Cooling  
European Technology Platform

**2012 ANNUAL CONFERENCE**  
**TEAMING UP FOR RENEWABLE HEATING AND COOLING**  
**26-27 APRIL 2012 @ COPENHAGEN**

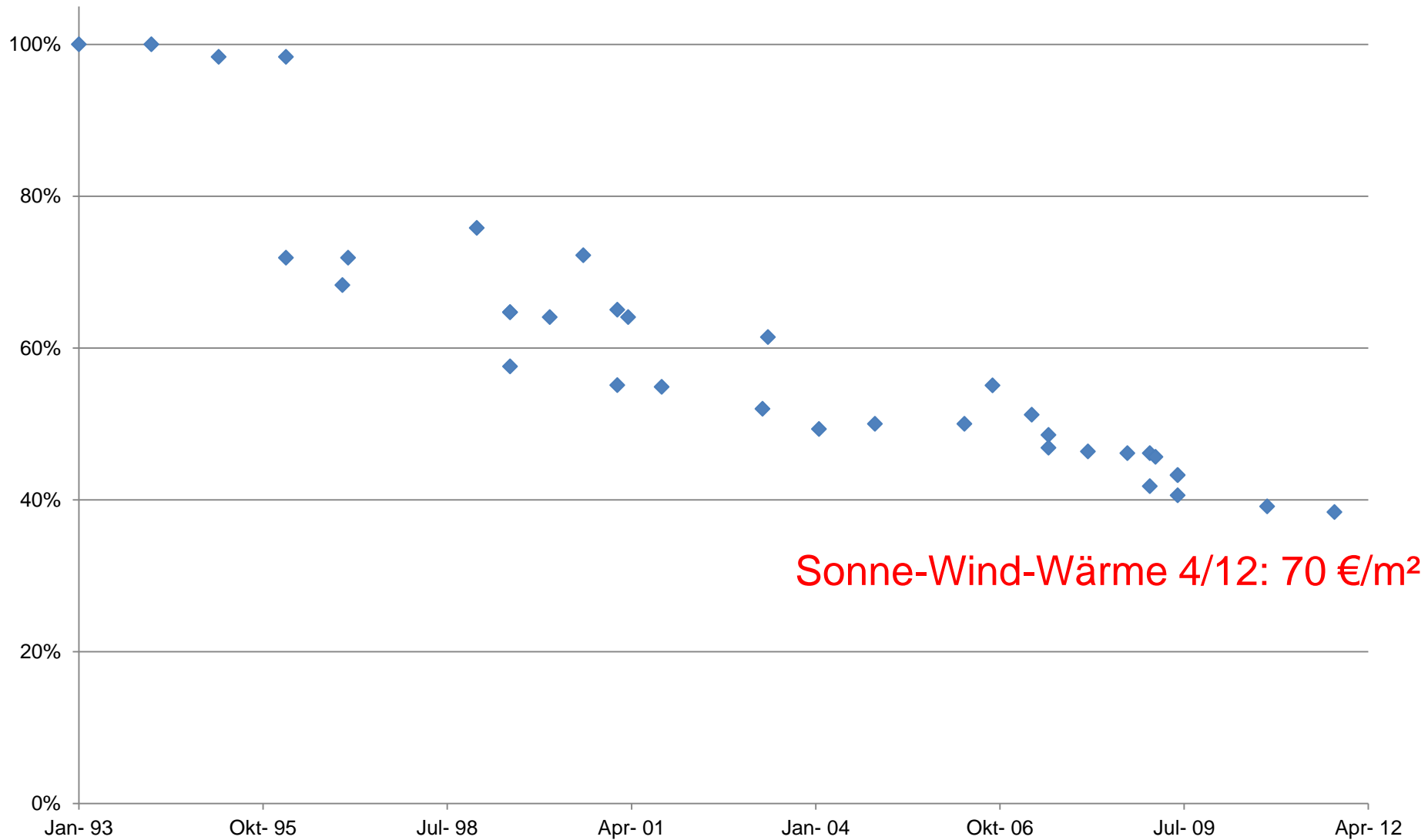
# Cost reduction along the value chain: Which perspective in the research and product development?

Development of production costs since 1993



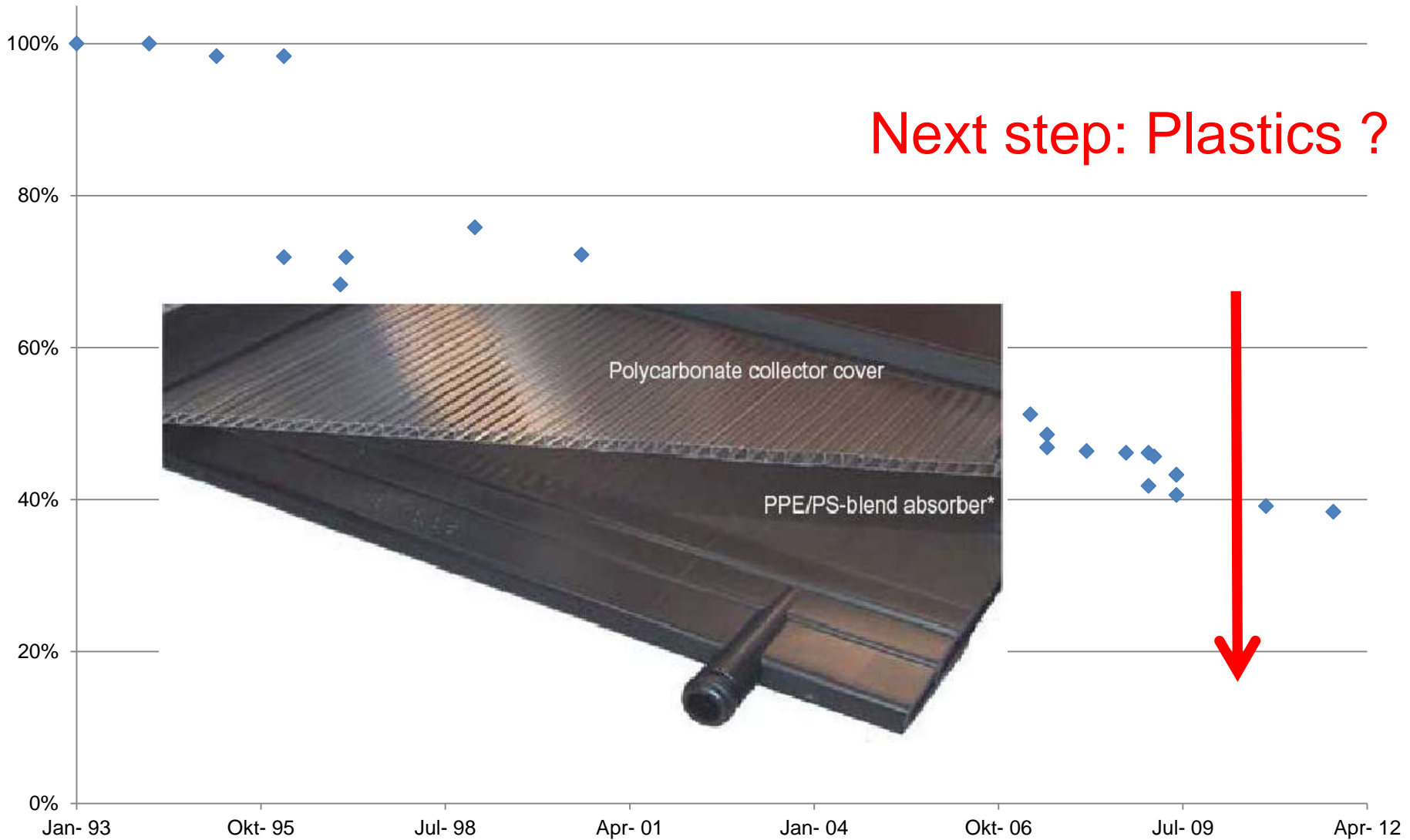
# Cost reduction along the value chain: Which perspective in the research and product development?

Development of production costs since 1993



# Cost reduction along the value chain: Which perspective in the research and product development?

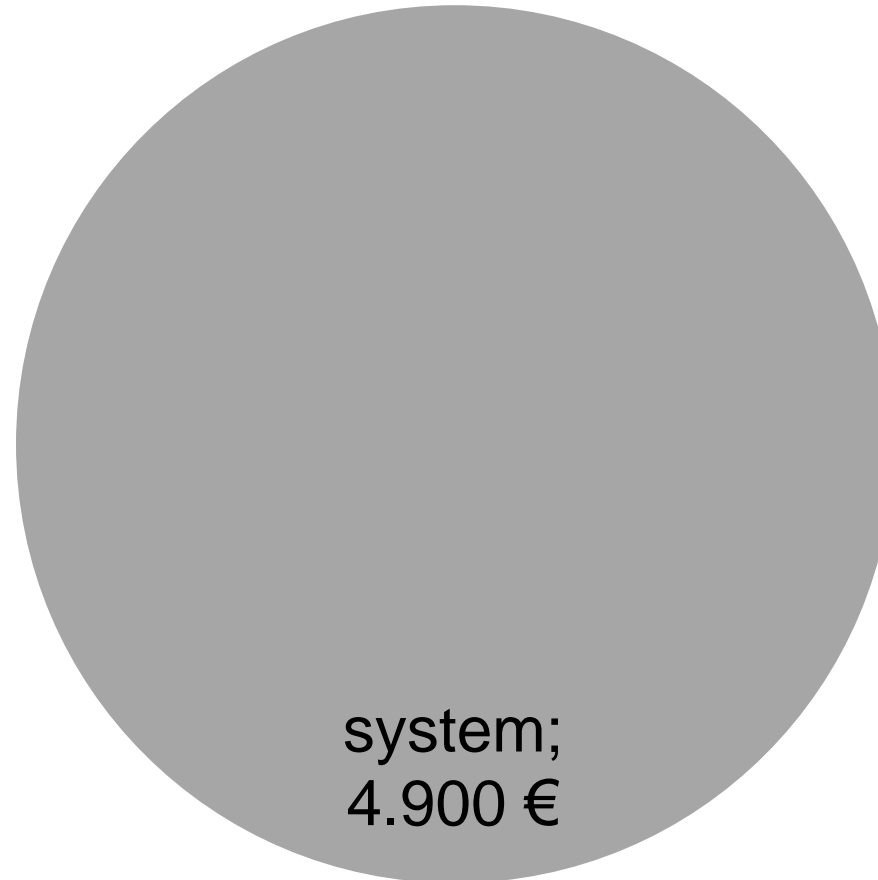
Development of production costs since 1993



Picture: itw/ESTTP

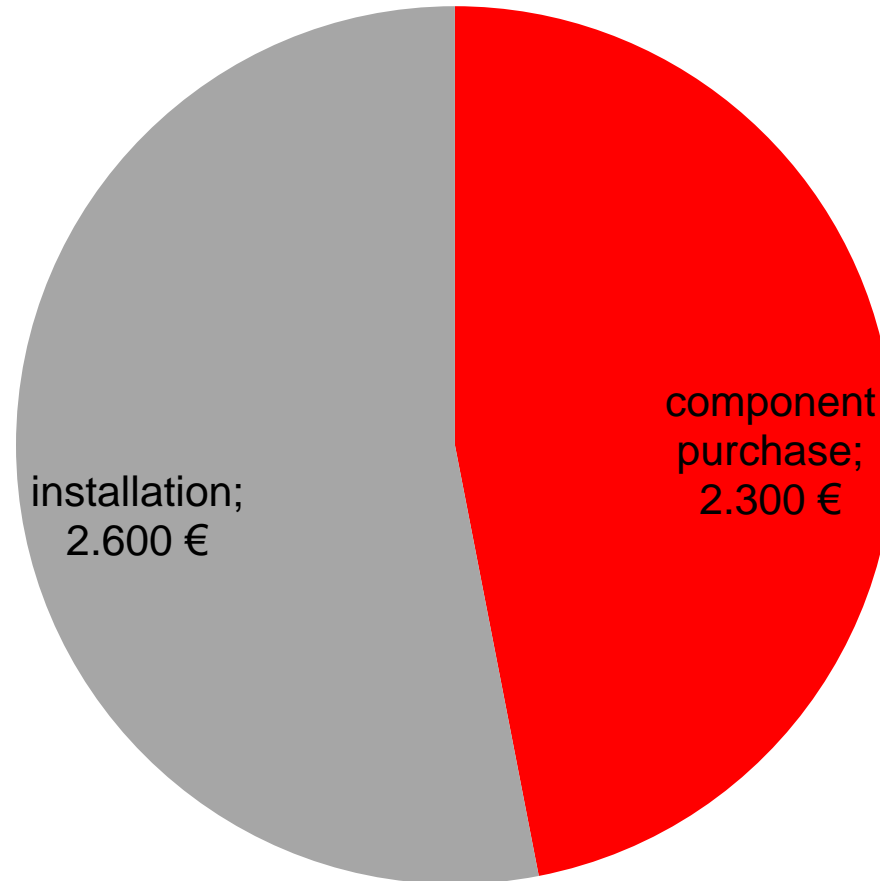
**Cost reduction along the value chain:  
Which perspective in the research and product development?**

Typical solar DHW system (installed) : 5 m<sup>2</sup> collector, 300 l DHW cylinder



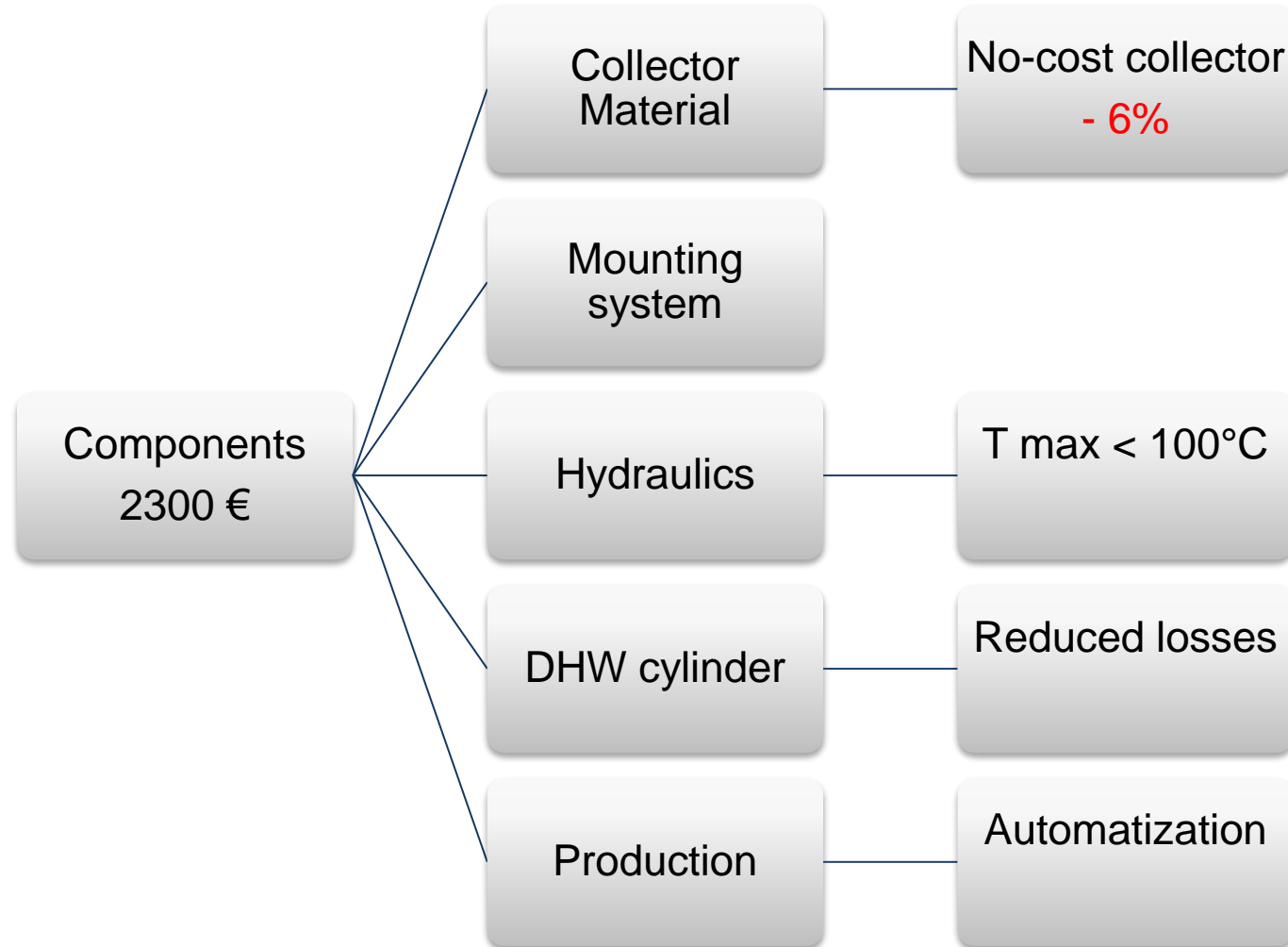
## Cost reduction along the value chain: Which perspective in the research and product development?

Typical solar DHW system (installed) : 5 m<sup>2</sup> collector, 300 l DHW cylinder



# Cost reduction along the value chain: Which perspective in the research and product development?

Cost reduction potential – **and effect on system price**



# Cost reduction along the value chain: Which perspective in the research and product development?

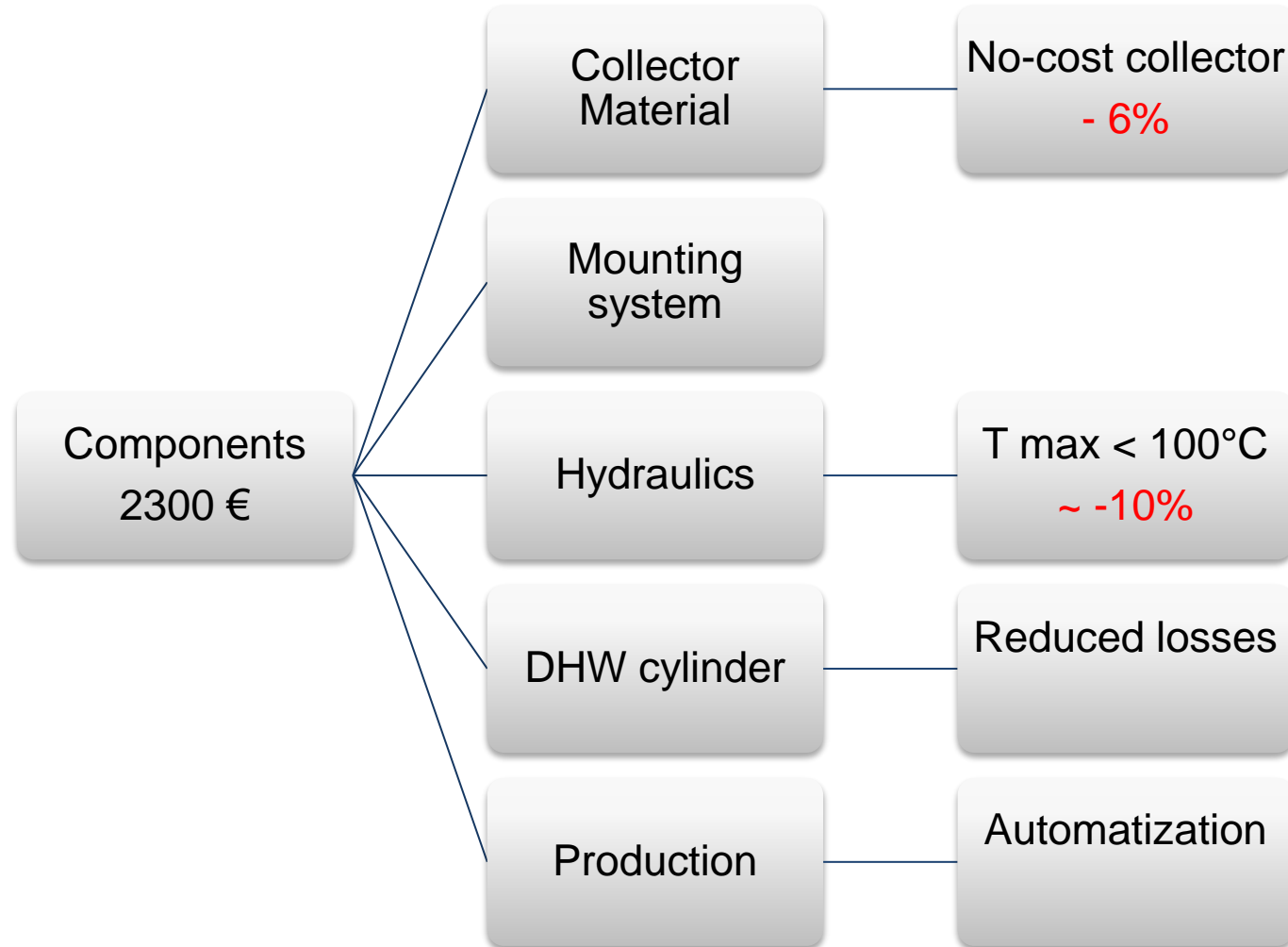
Cost reduction potential – **and effect on system price**





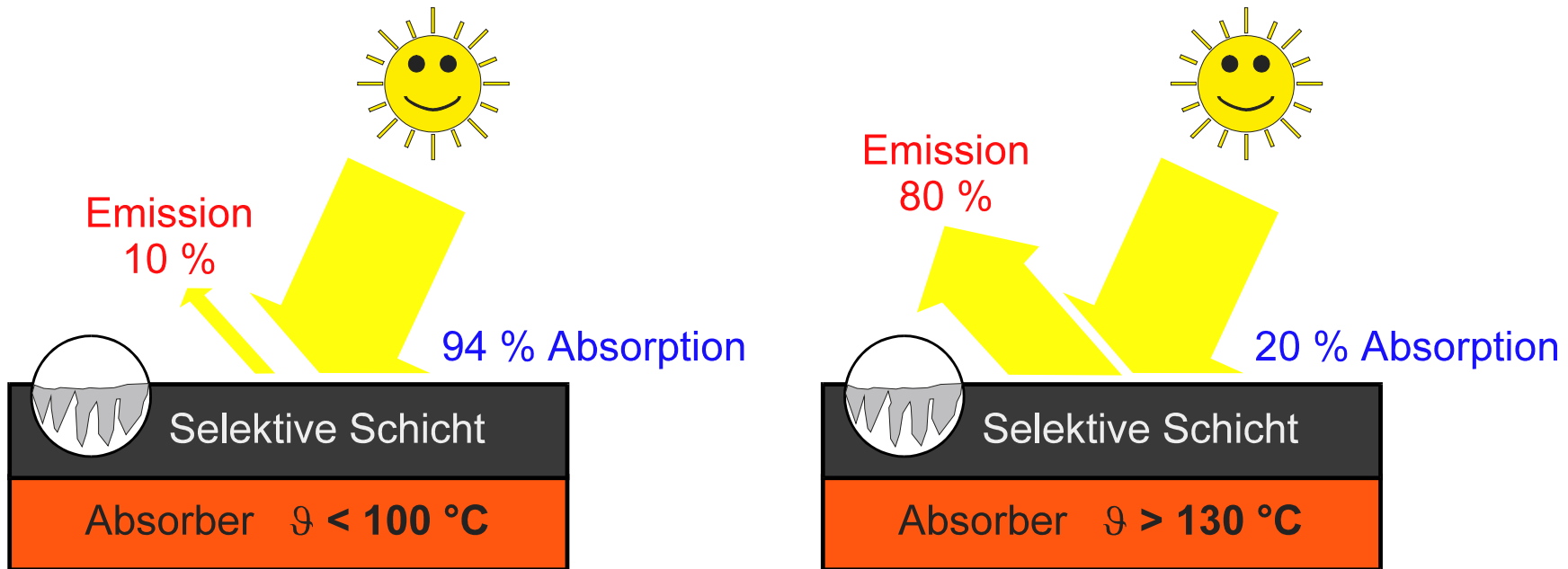
# Cost reduction along the value chain: Which perspective in the research and product development?

Cost reduction potential – **and effect on system price**



# Cost reduction along the value chain: Which perspective in the research and product development?

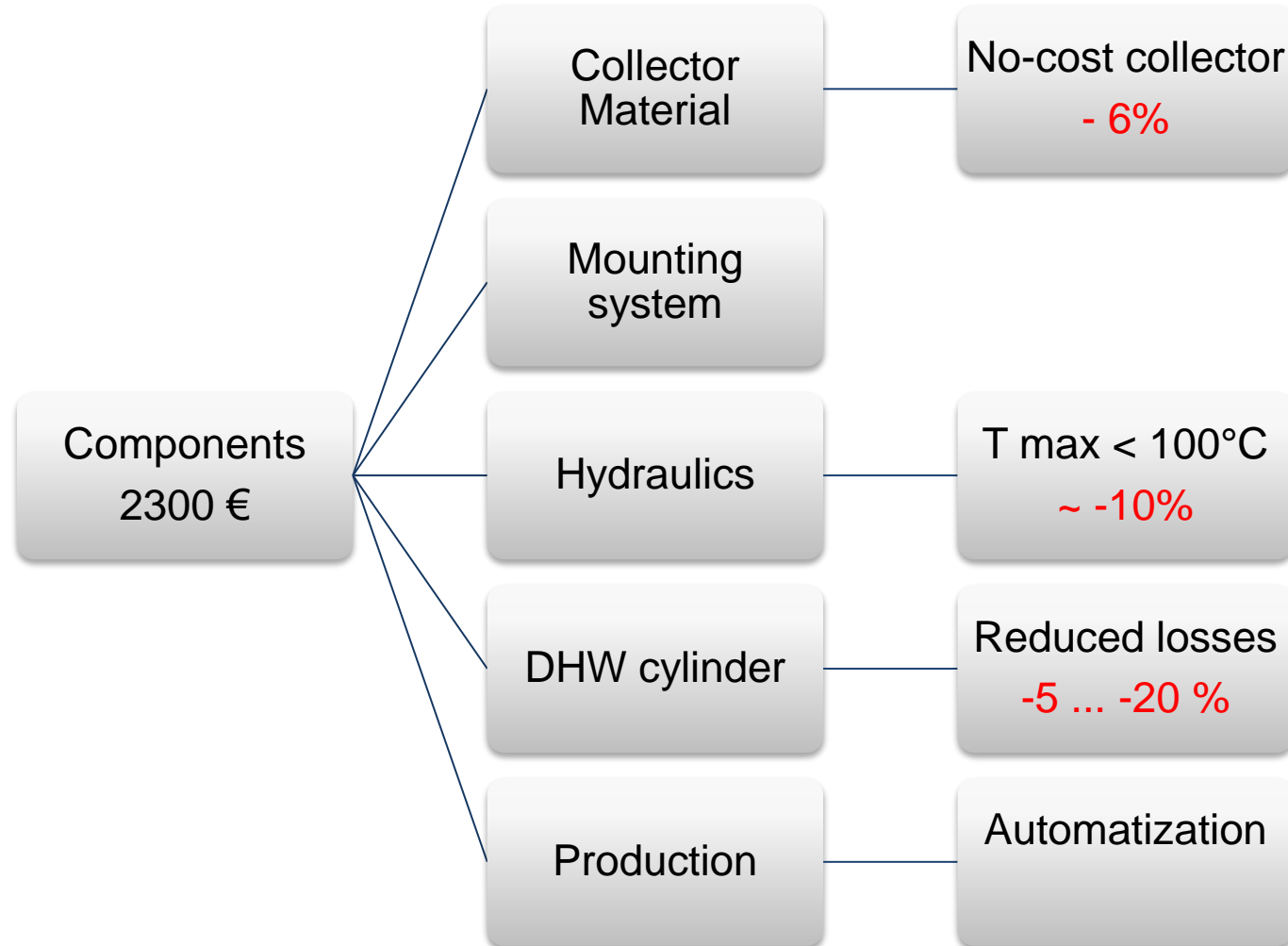
Cost reduction potential – and effect on system price



- + no vapor production in stagnation
- + low temperature impact on fluid
- + temperature in solar circuit  $< 100\text{ }^\circ\text{C}$

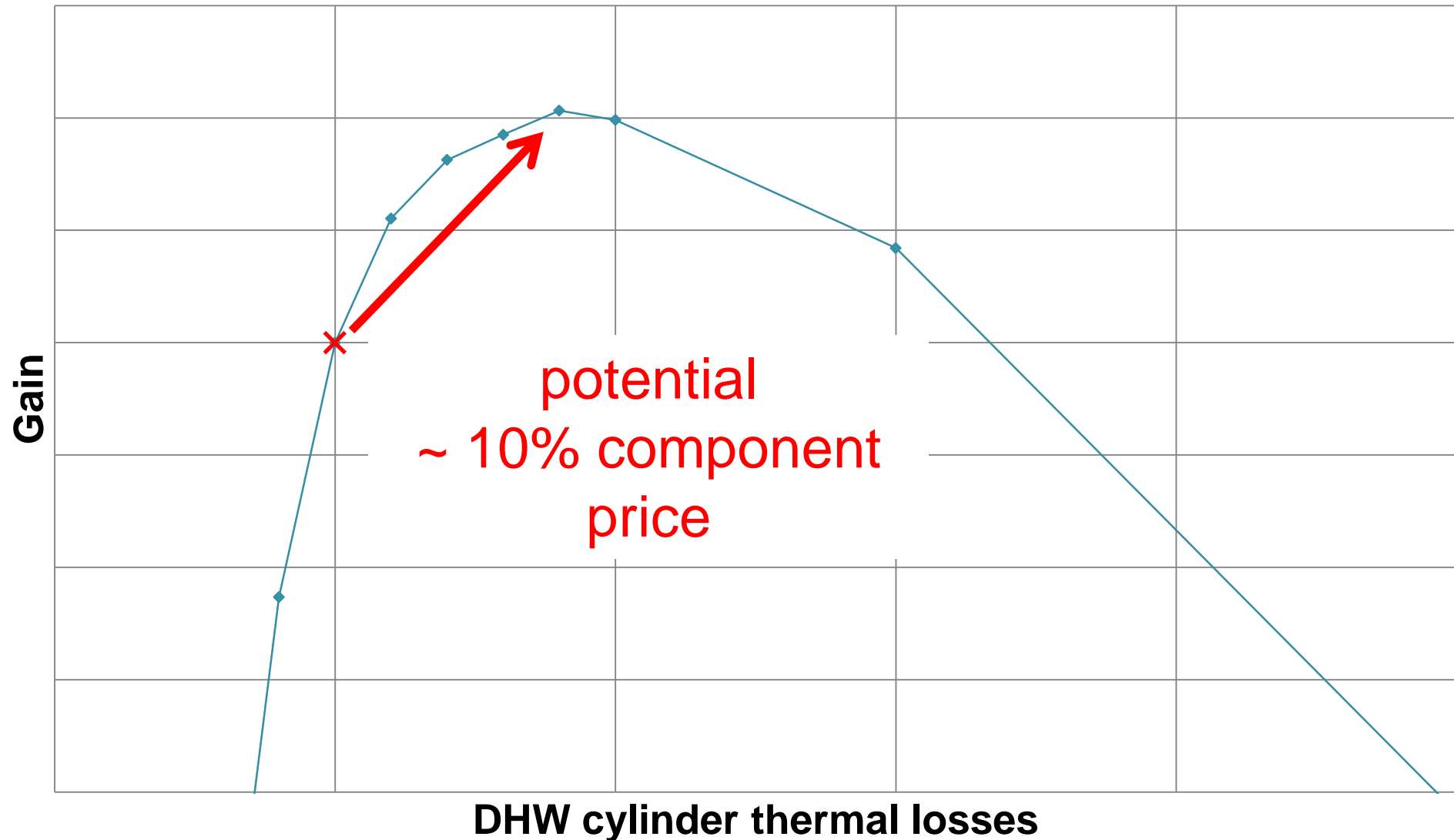
# Cost reduction along the value chain: Which perspective in the research and product development?

Cost reduction potential – **and effect on system price**



# Cost reduction along the value chain: Which perspective in the research and product development?

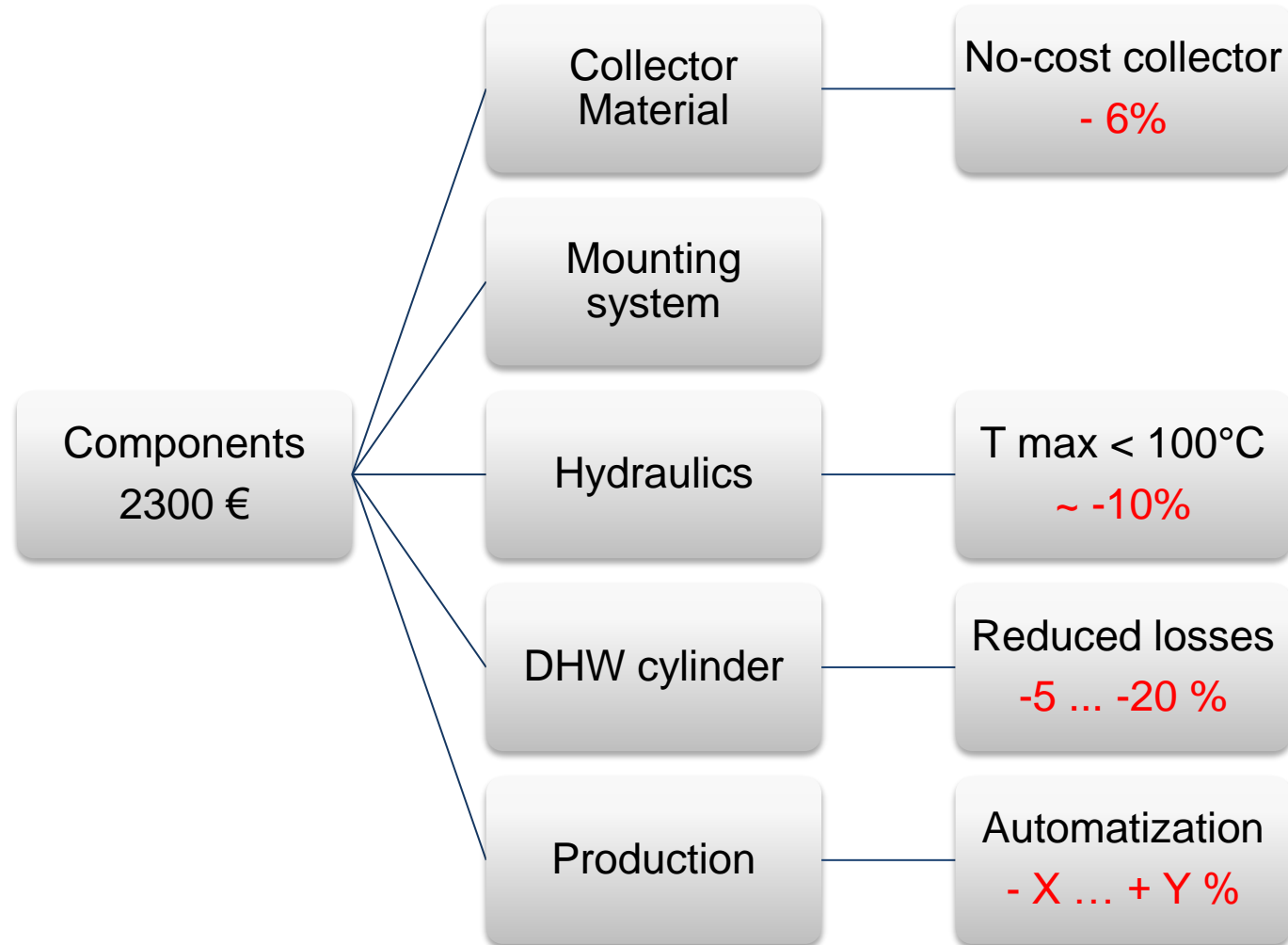
Cost reduction potential – and effect on system price



Example from SCHEFF-Project: solar DHW systems for small apartments

# Cost reduction along the value chain: Which perspective in the research and product development?

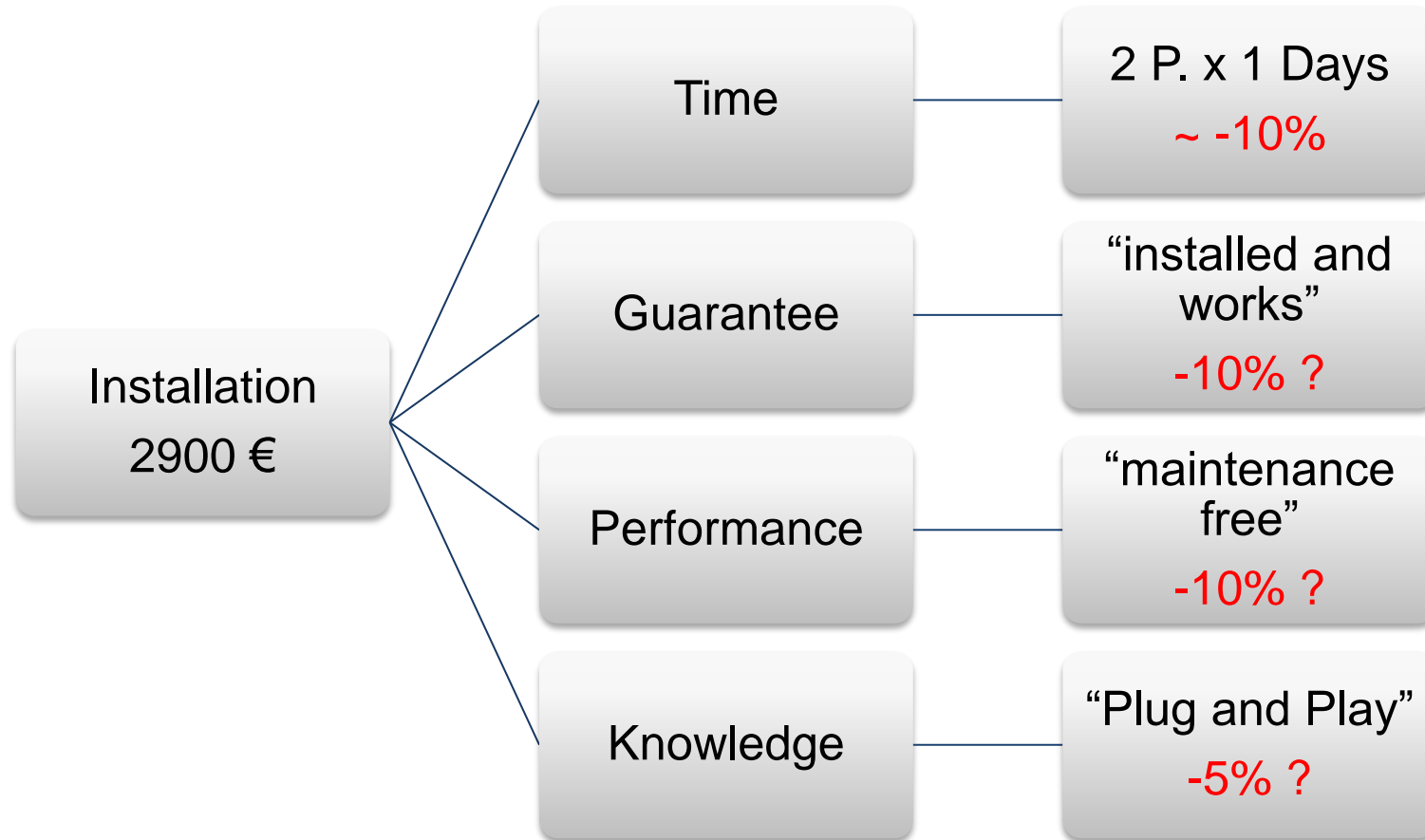
Cost reduction potential – **and effect on system price**



**Potential 20 ... 35 %**

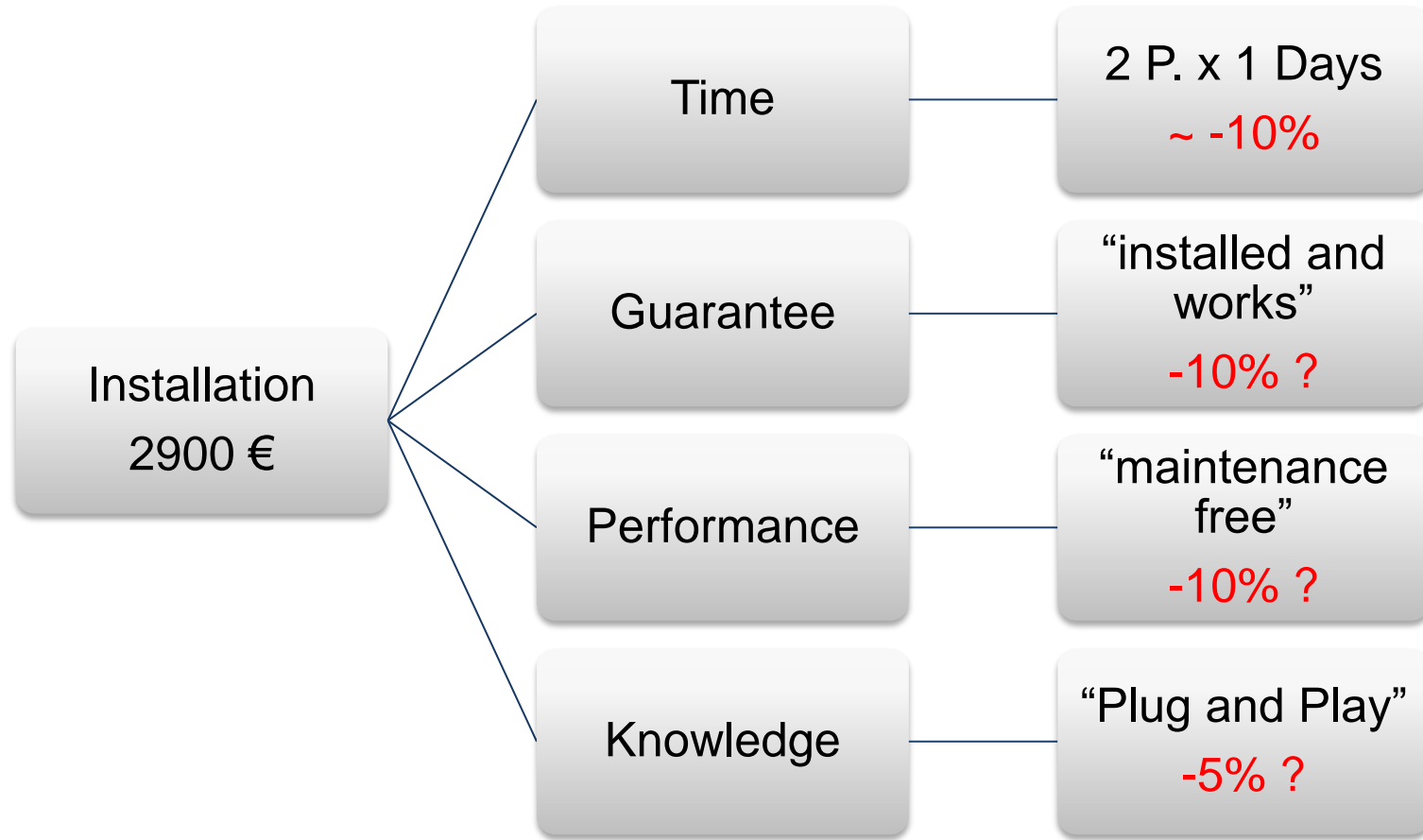
# Cost reduction along the value chain: Which perspective in the research and product development?

Cost reduction potential – and effect on system price



# Cost reduction along the value chain: Which perspective in the research and product development?

Cost reduction potential – **and effect on system price**



**Potential 10 ... 35 %**

# Cost reduction along the value chain: Which perspective in the research and product development?

## Conclusion

### Research

- Low stagnation temperature needed for further cost reduction
- Reduce thermal losses in the system
- Electronic Controller checks system performance

### Product development

- Maintenance free components
- Guarantee of function – no repeated visits required
- Easy to install systems
  - Mechanics
  - Hydraulics
  - Electronics