
Cost Reduction by Standardization

TASK 54

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General information

Development focus

- Standardised components and interfaces for solar thermal systems

Development goals

- Reduction of system investment costs
(less expensive components)
- Reduction of installation costs
(easier installation)
- Reduction of system maintenance costs
(error free installation)
- Overall reduction of LCoHs

Standards in every day live



Standardisation can make
life easier and cheaper

Standards for solar thermal?!

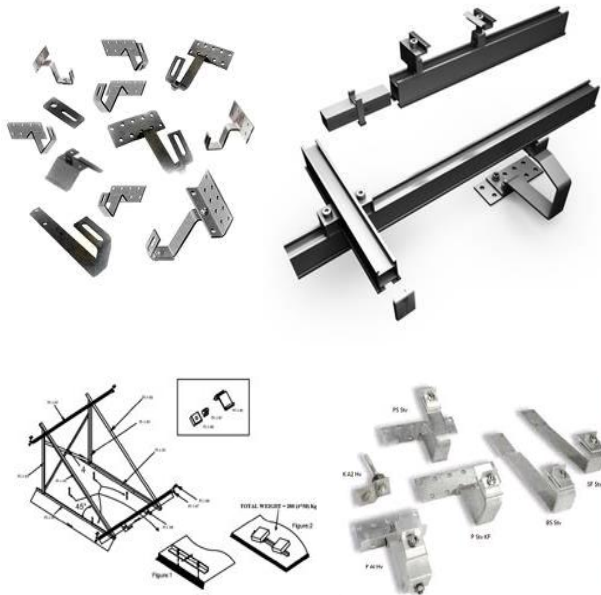


Collector

- different sizes/dimensions even if gross area is the same
- different connections
- different location for temperature sensor
- different interface to mounting system
- etc.

Mounting system

- different roof hocks
- different mounting rails
- different clamps
- etc.



Standards for solar thermal?!



Hot water storage

- different dimensions even if volume is the same
- different connections
- different location for temperature sensor
- etc.

Other componets

- same situation

Standardisation for solar thermal needed!

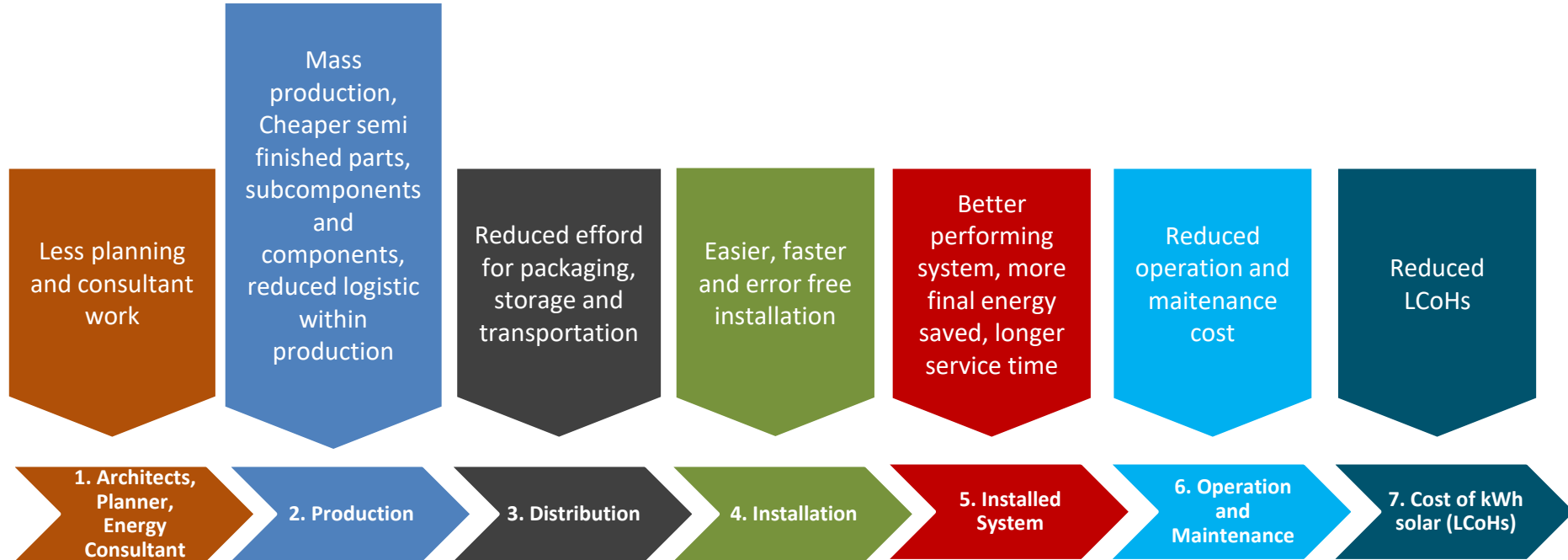
Benefits of standards for solar thermal

- Cheaper semi finished parts, subcomponents and components
➡ reduction of investments costs
- Cheaper and error free installation
➡ reduction of investments costs
➡ reduction of maintenance costs
➡ extension of life time of the system
- Better performing systems
➡ increase of saved final energy



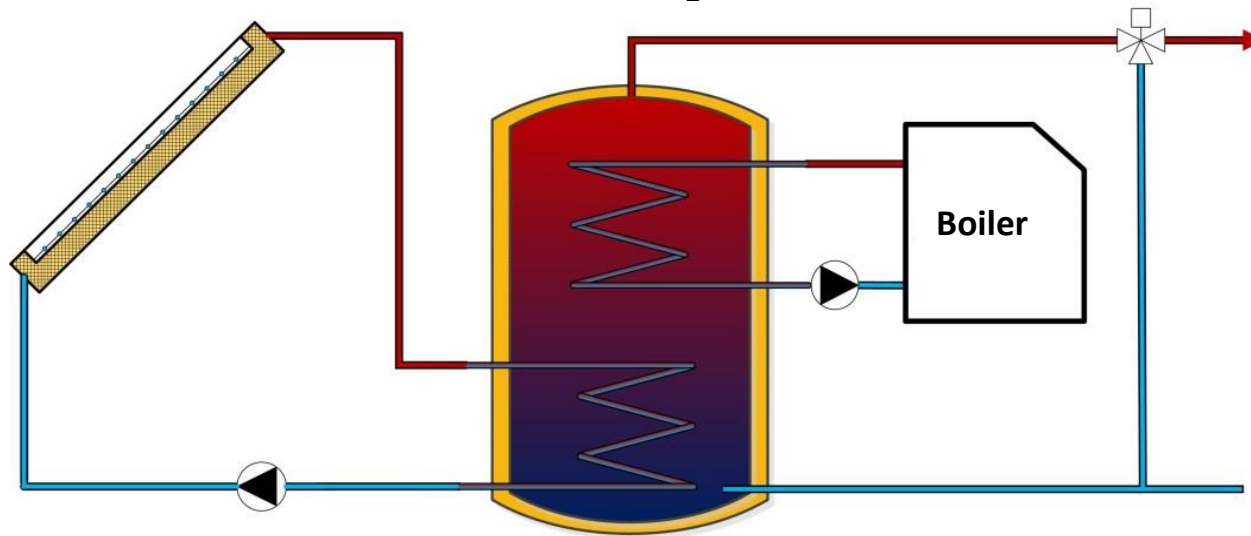
Standardisation

Impact on the Solar Thermal Value Chain



Standardisation

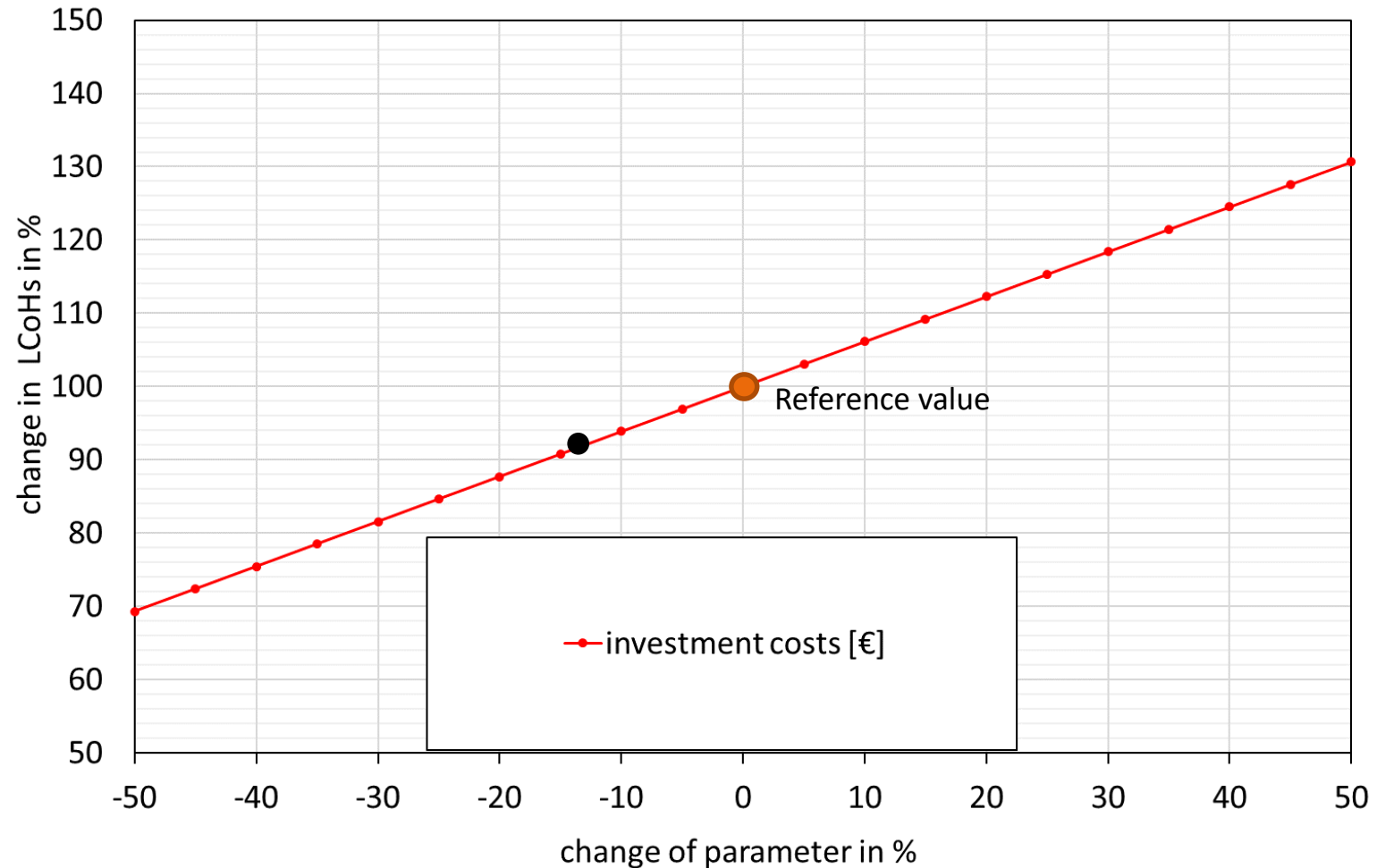
Impact on LCoHs of SDHW system



	value	reduction	new value
Investment components $I_{0,c}$ [€]	2600	- 10 %	2340
Investment installation $I_{0,i}$ [€]	1250	- 20 %	1000
O&M C_t [€/a]	117	- 26 %	87
Saved final energy E_t [kWh/a]	2226	+ 10 %	2449
service time t [a]	20	+ 10 %	22

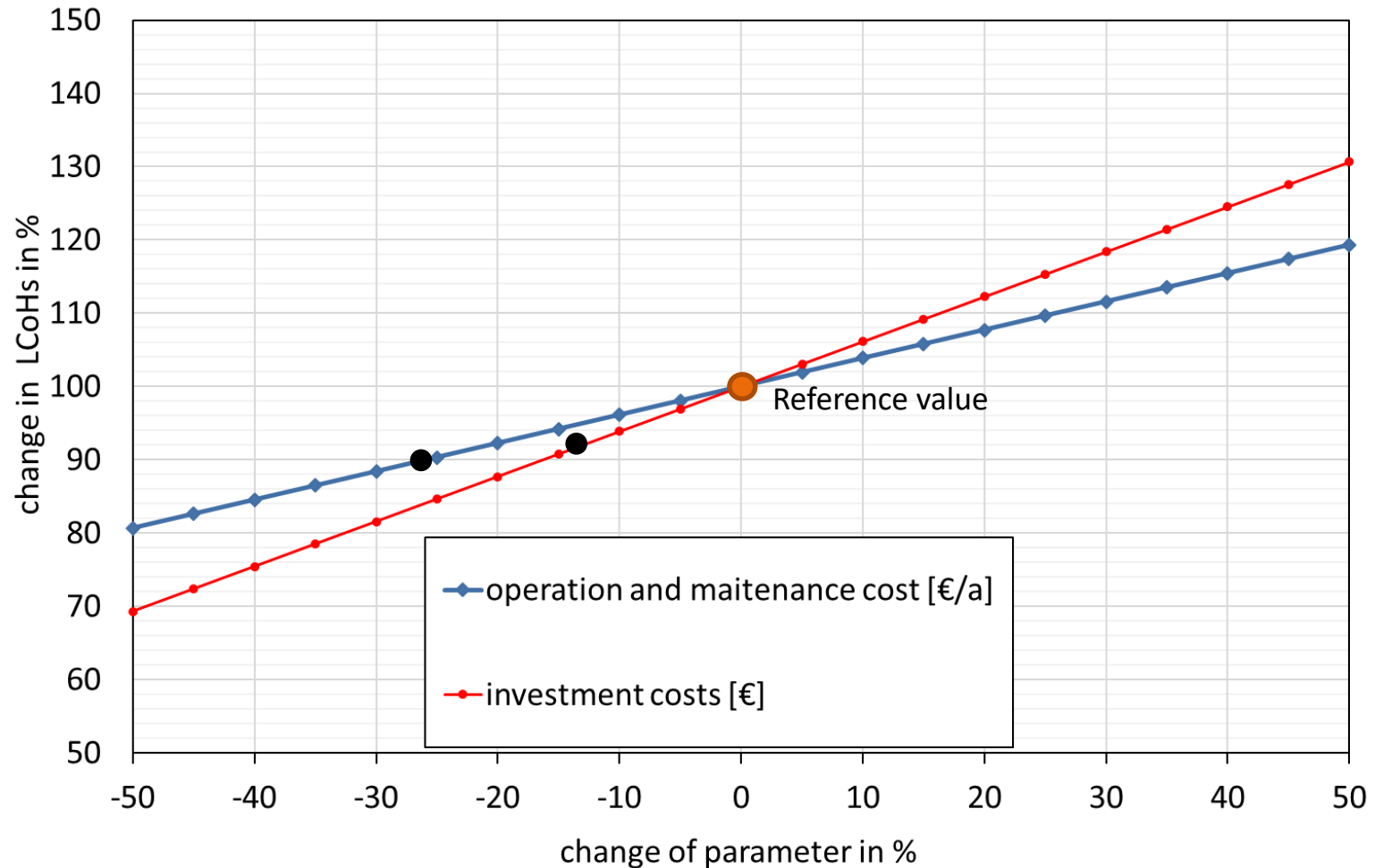
Standardisation

Impact on LCoHs of SDHW system



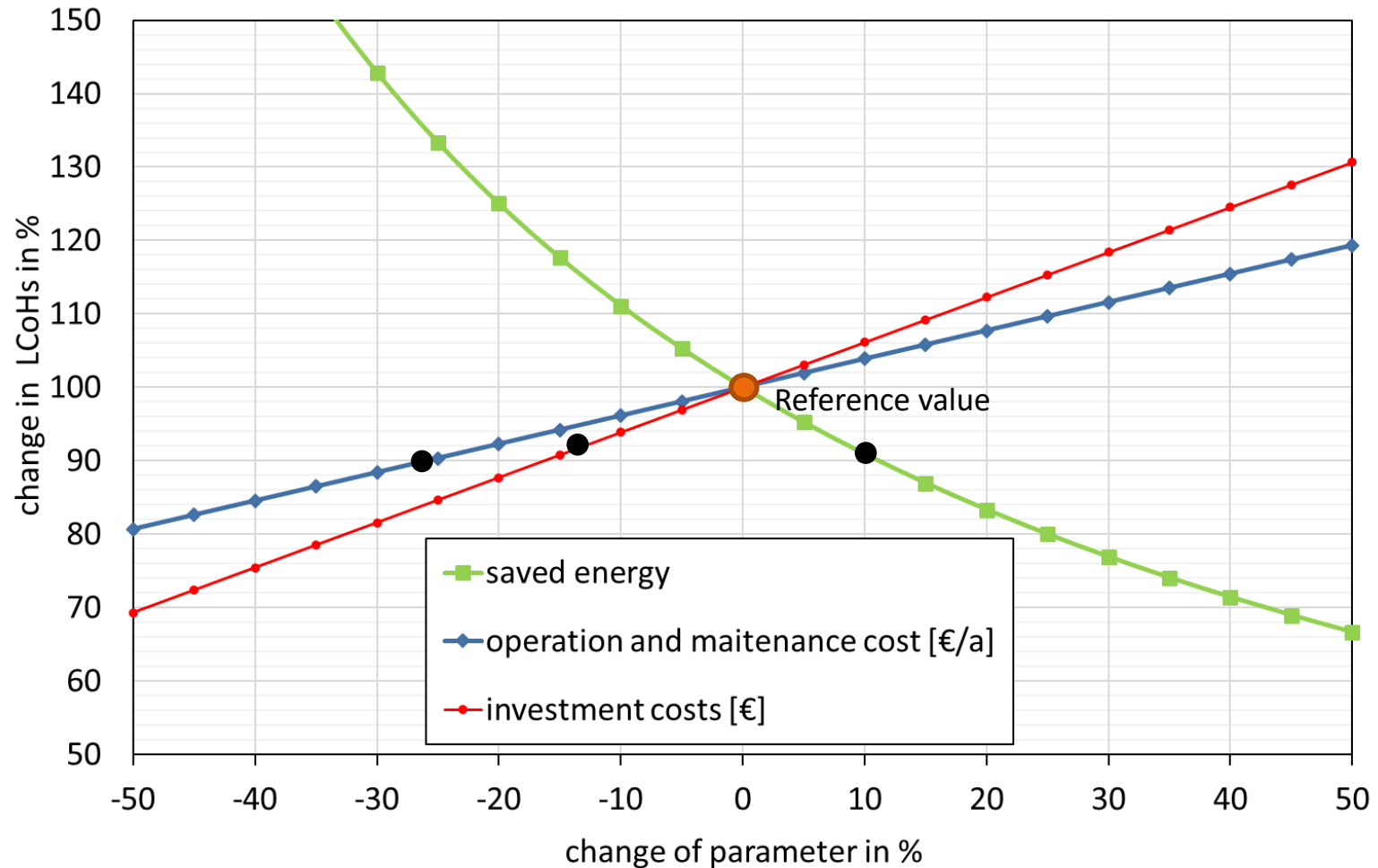
Standardisation

Impact on LCoHs of SDHW system



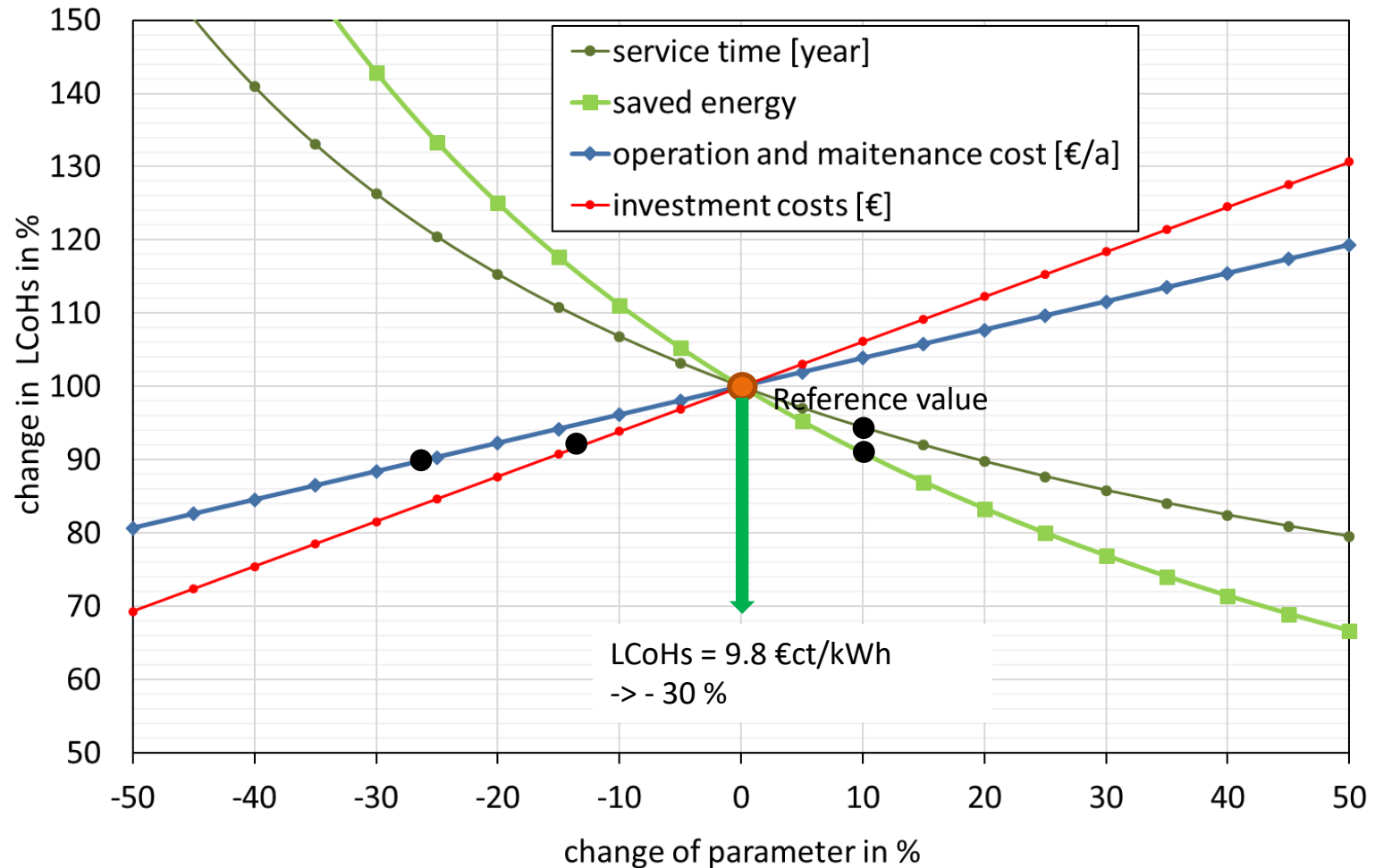
Standardisation

Impact on LCoHs of SDHW system



Standardisation

Impact on LCoHs of SDHW system



Cost Reduction by Standardisation

Summary

- Standardisation is required for solar thermal
- Standardisation leads to easier to install, more reliable and more efficient solar thermal systems
- Cost for kWh produced by solar in a standard SDHW system can be reduced by standardisation from 13.9 to 9.8 €ct
 - cost reduction of 30 %
 - cost now up to 13 % lower compared to conventional DHW system (11.4 €ct)

Thank you for your attention!

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