

APOLLON

WP6: environmental and economic assessment

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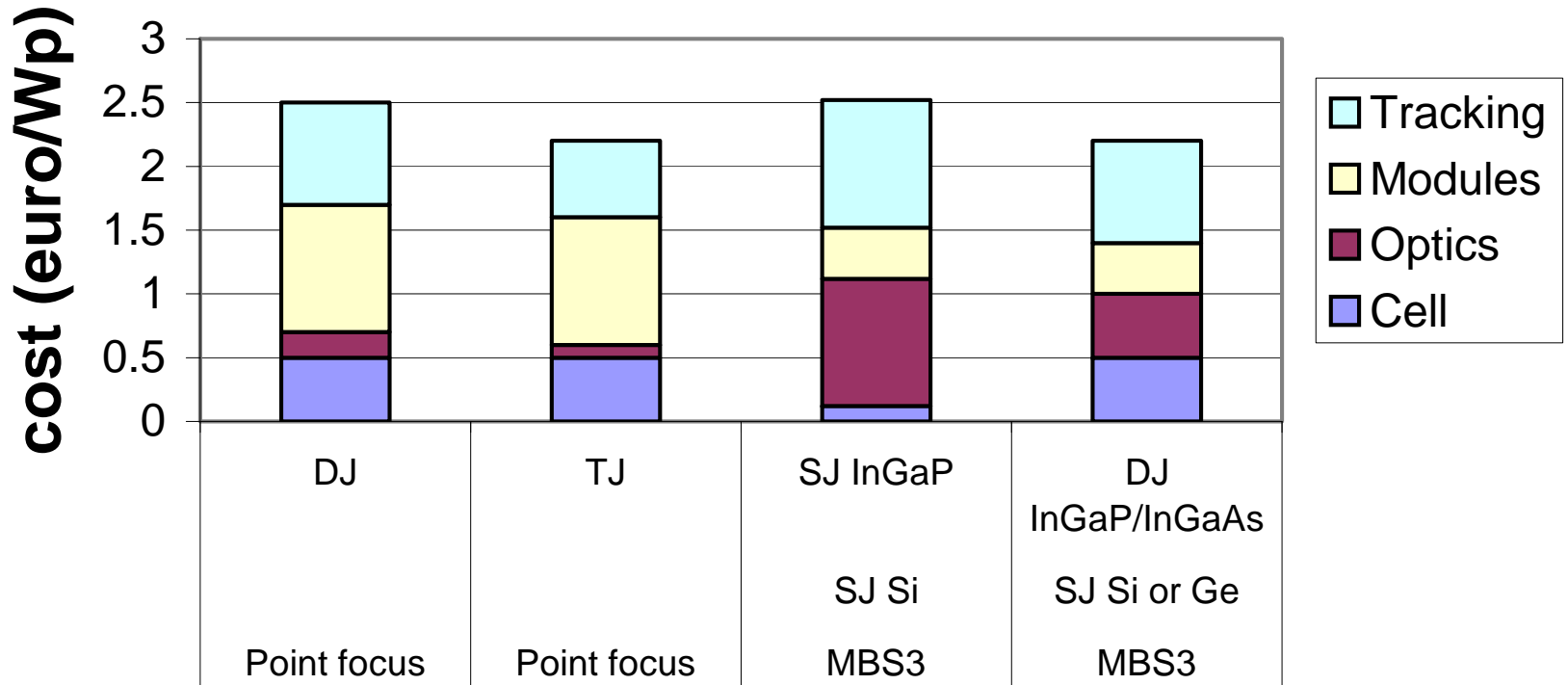
WP6: environmental and economic assessment

- Objectives:
 - environmental + economic life-cycle assessment of existing, improved and 2nd generation CPV technologies
 - indicate improvement options
 - environmental benchmarking with other PV & energy options

WP6: environmental and economic assessment

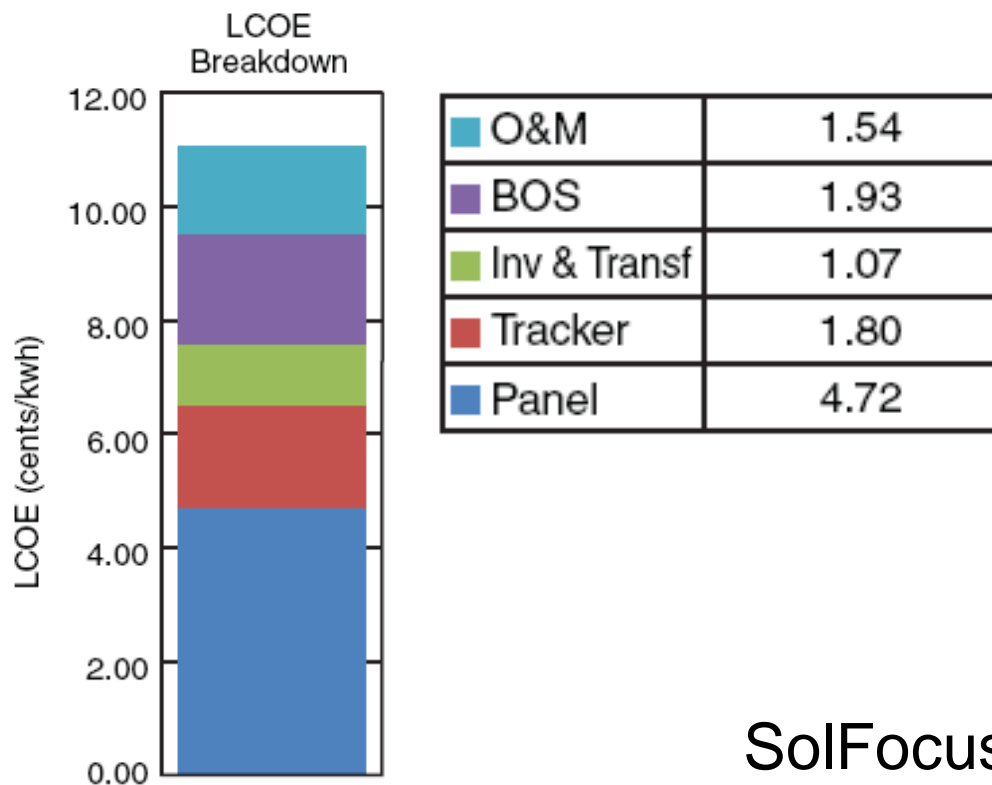
- **Task 1: data collection**
 - literature review
 - data collection from partners
- **Task 2: environmental and economic assessment**
 - energy payback time
 - environmental impact / kWh produced
 - cost / kWh produced
 - improvement options
 - benchmarking

APOLLON target: module cost < 2 €/Wp



Task 1: data collection

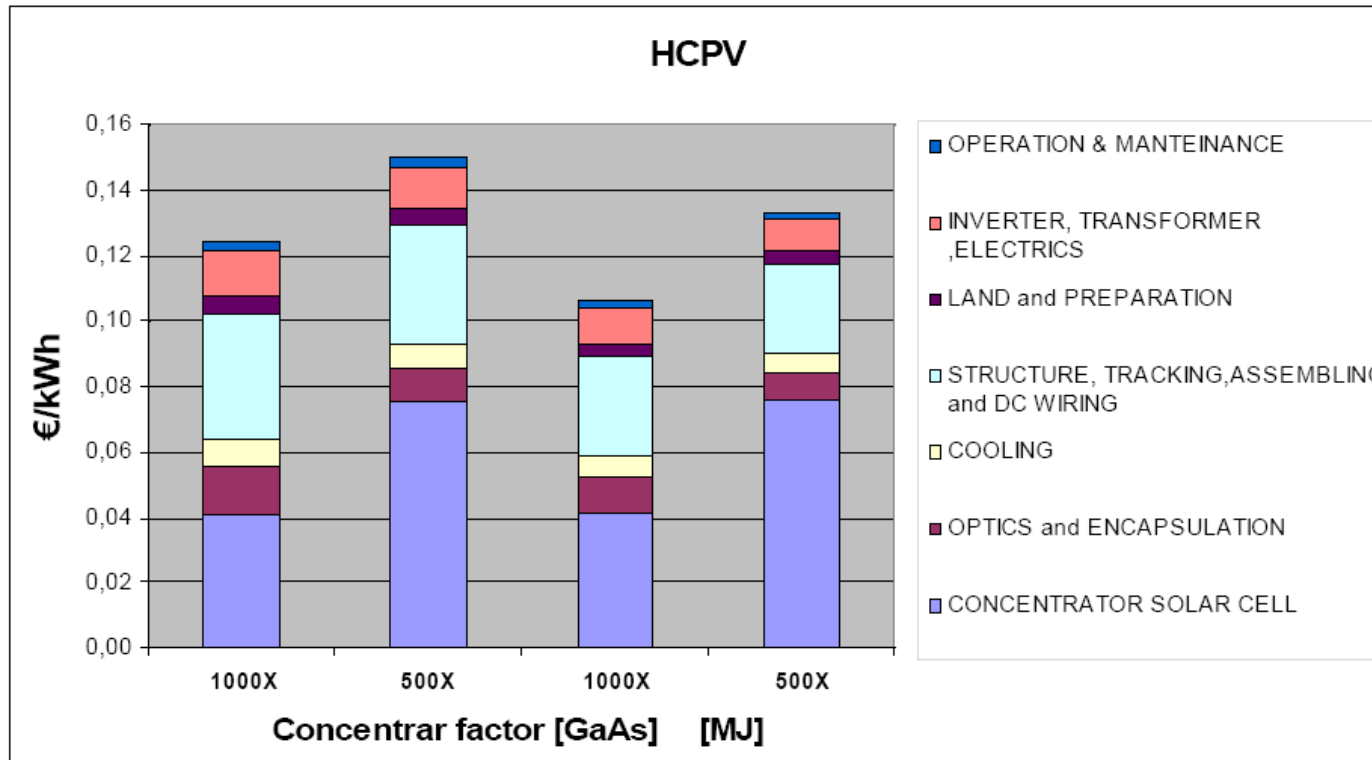
LCC literature review



SolFocus (Valencia, 2008)

Task 1: data collection

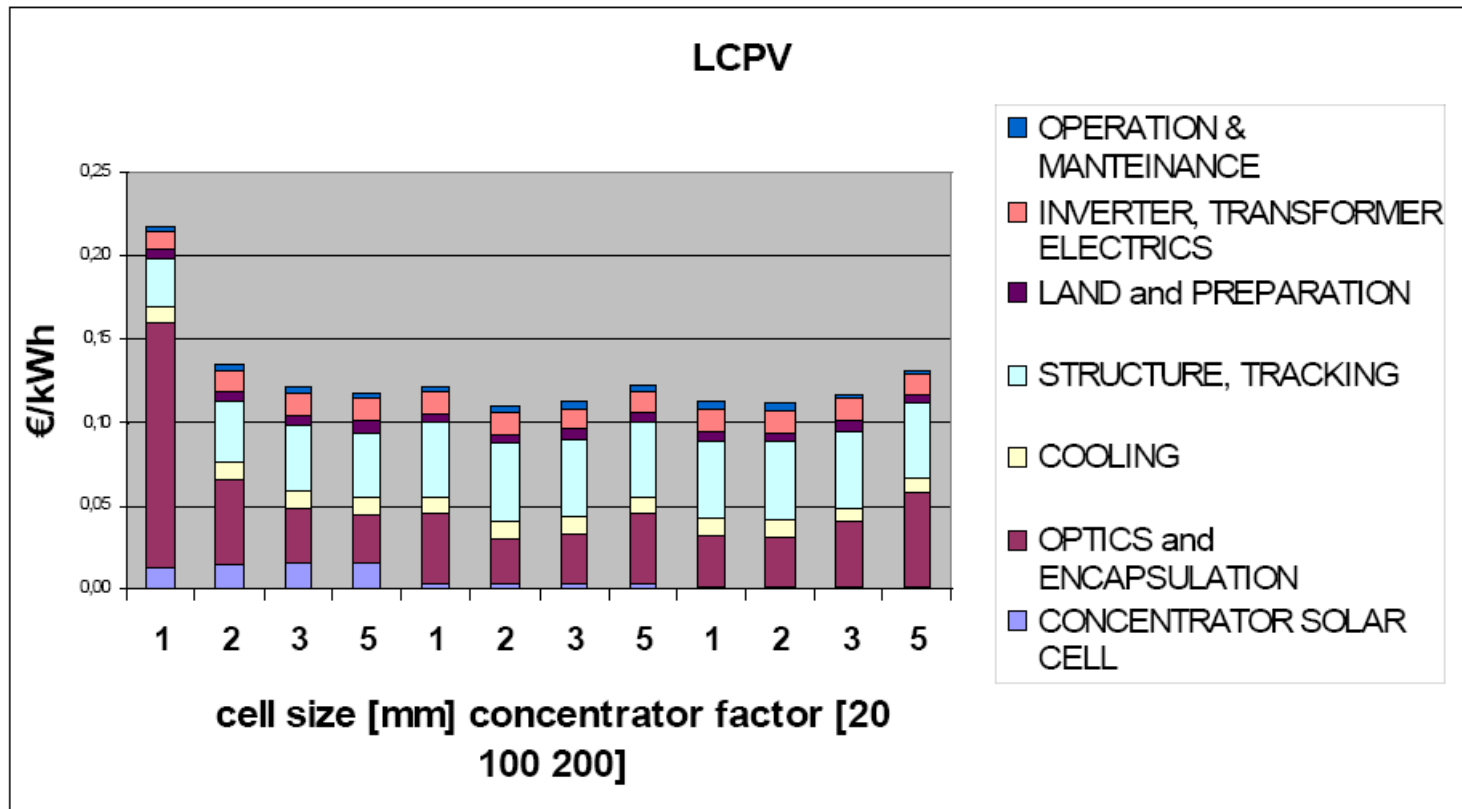
LCC literature review



Integrare (2007)

Task 1: data collection

LCC literature review

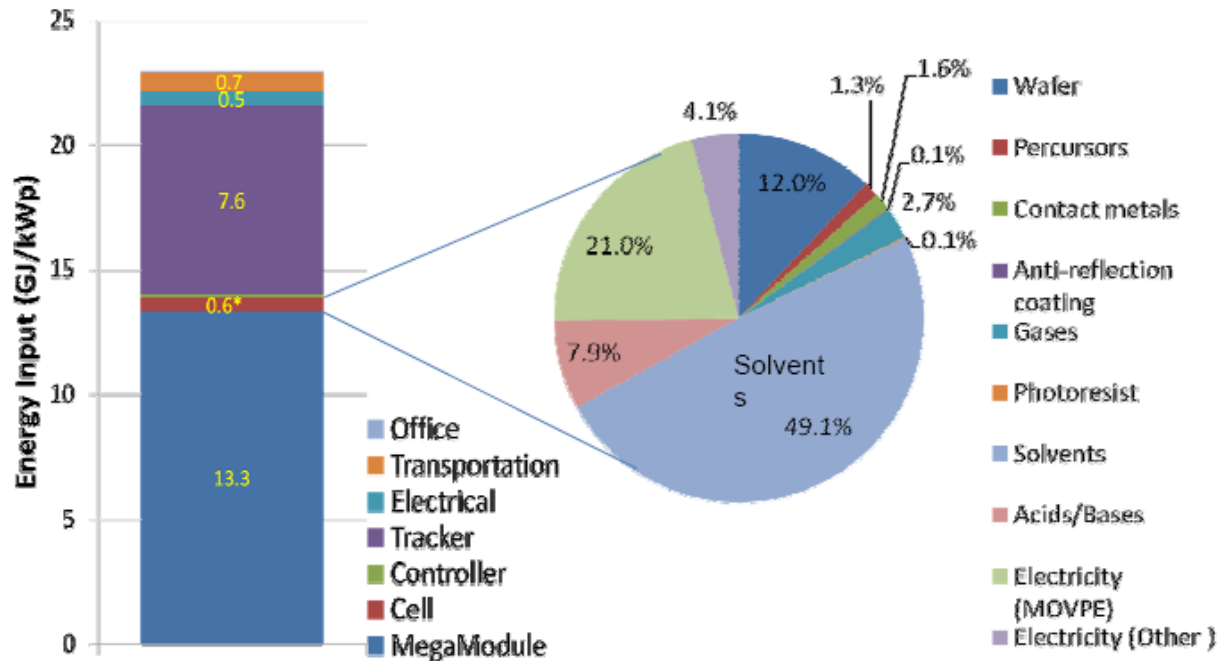


Integrare (2007)

Task 1: data collection

LCA literature review

Breakdown of Embodied Energy



Amonix HCPV with Spectrolab III-V Cell

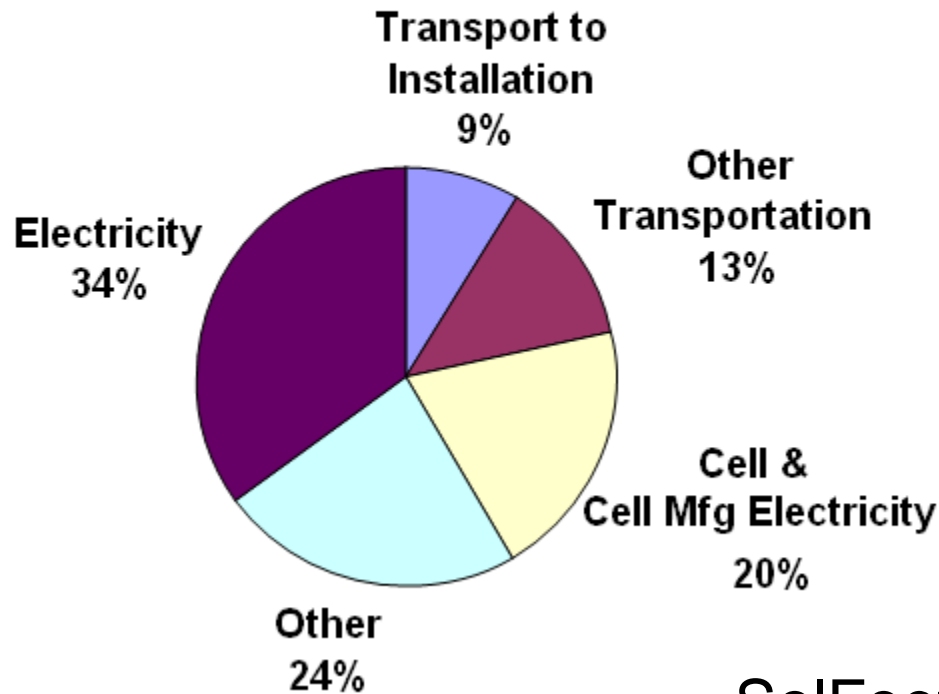
*0.1 using mono-crystalline Si Cell

preliminary analysis
Fthenakis, Kim (Valencia, 2008)

Task 1: data collection

LCA literature review

Energy Breakdown



preliminary analysis

use phase:
high water consumption for module cleaning

SolFocus (Valencia, 2008)

Task 1: data collection – data from partners

- Ge substrate – Umicore (not a partner)
- MOCVD – Aixtron, Cesi Ricerca, CNRS
- Solar cell – ENE, ENEA
- Si solar cell - Narec
- Solar cell assembling – SE SRTIIE, ENEA
- Optics – CRP, ENEA, UniFe
- CPV module – CPower, SolarTec, ENEA
- Tracking system - TECNALIA-RBTK
- Performance of CPV system – JRC, UCY, ENEL

Thank you for your attention

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- my papers:
<http://www.ecn.nl/publicaties/default.aspx?au=44649>