



Company Presentation



Company Overview



History

Industrial Solar is a leading solution provider for energy projects with references around the world. It was founded in 2008 in the environment of the renown Fraunhofer Institute for Solar Energy Systems (ISE) to realize solar thermal projects based on its innovative Fresnel collector.

Today

Today Industrial Solar is the world leader in Fresnel projects for industrial energy supply and delivers comprehensive and customized energy solutions based on different technologies.

Mission

Based on a comprehensive analysis we identify, design and implement the most economic renewable energy technology onsite

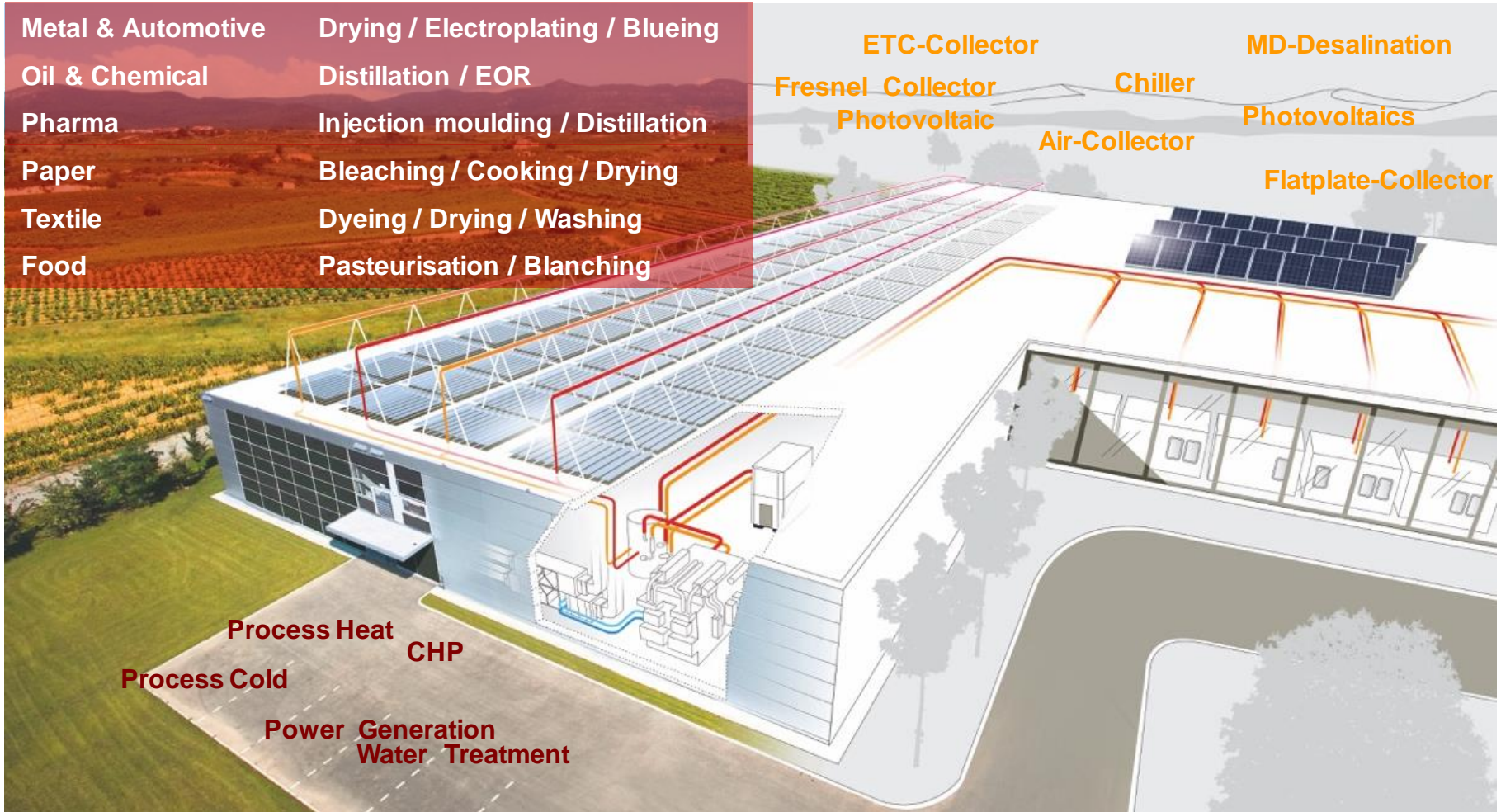
Turnkey-Solutions for the Industry based on a comprehensive analysis

INDUSTRIAL SOLAR
renewables onsite

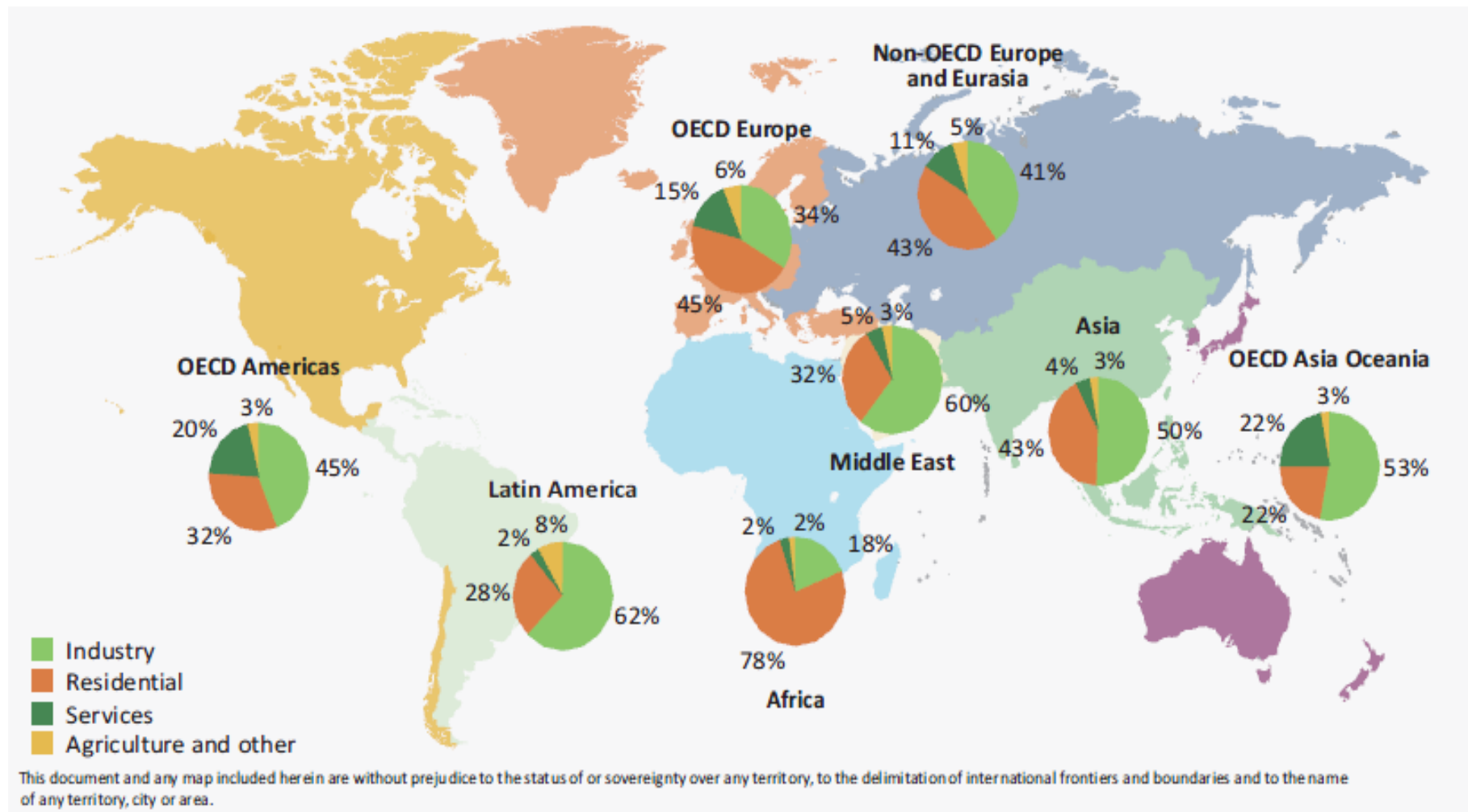
Metal & Automotive	Drying / Electroplating / Blueing
Oil & Chemical	Distillation / EOR
Pharma	Injection moulding / Distillation
Paper	Bleaching / Cooking / Drying
Textile	Dyeing / Drying / Washing
Food	Pasteurisation / Blanching

ETC-Collector
Fresnel Collector
Photovoltaic
Chiller
Air-Collector
MD-Desalination
Photovoltaics
Flatplate-Collector

Process Heat
Process Cold
CHP
Power Generation
Water Treatment

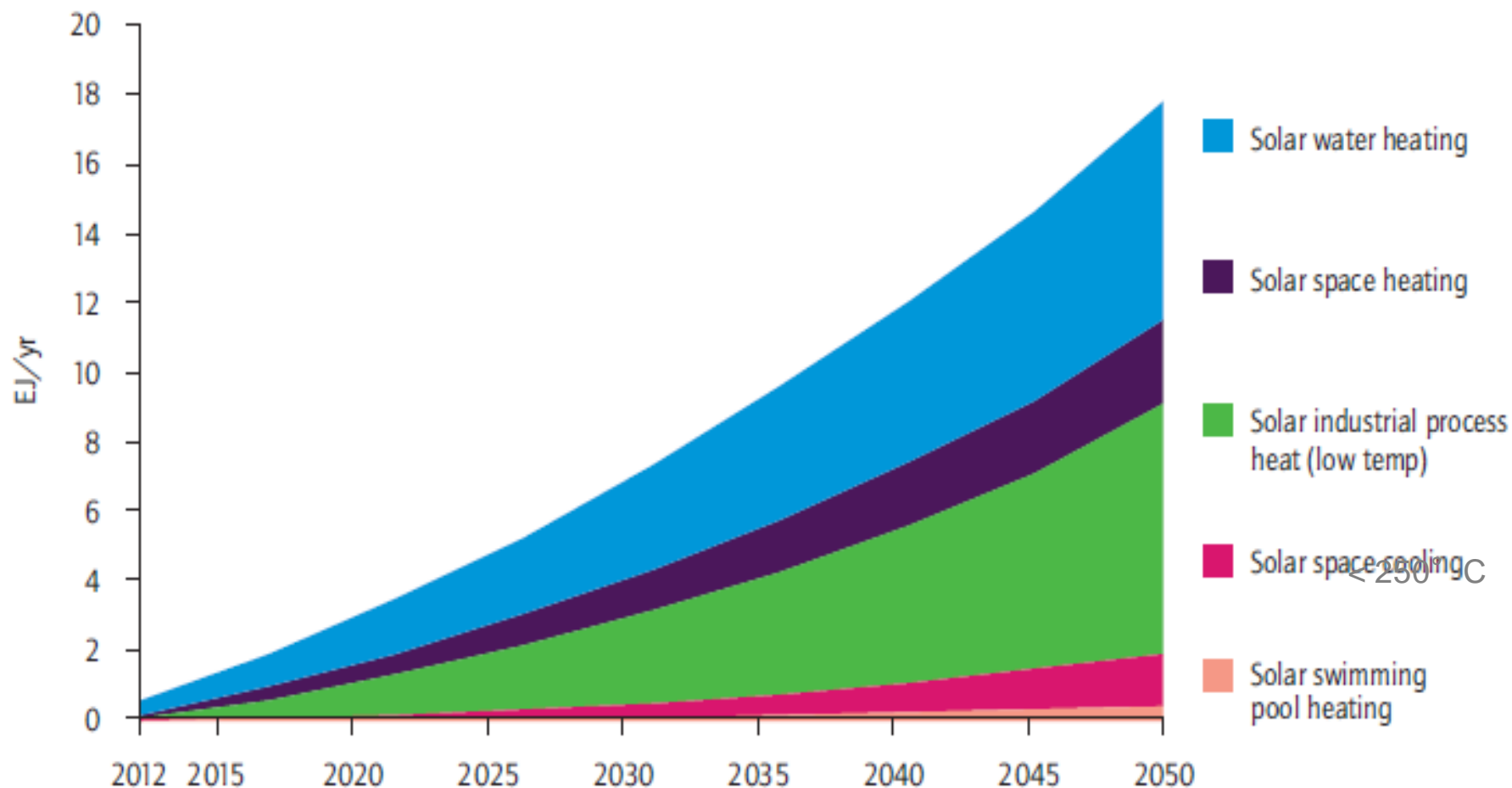


Market – Global Heat Demand



Note: Figure based on 2009 data
Source: Energy Technology Perspectives 2012

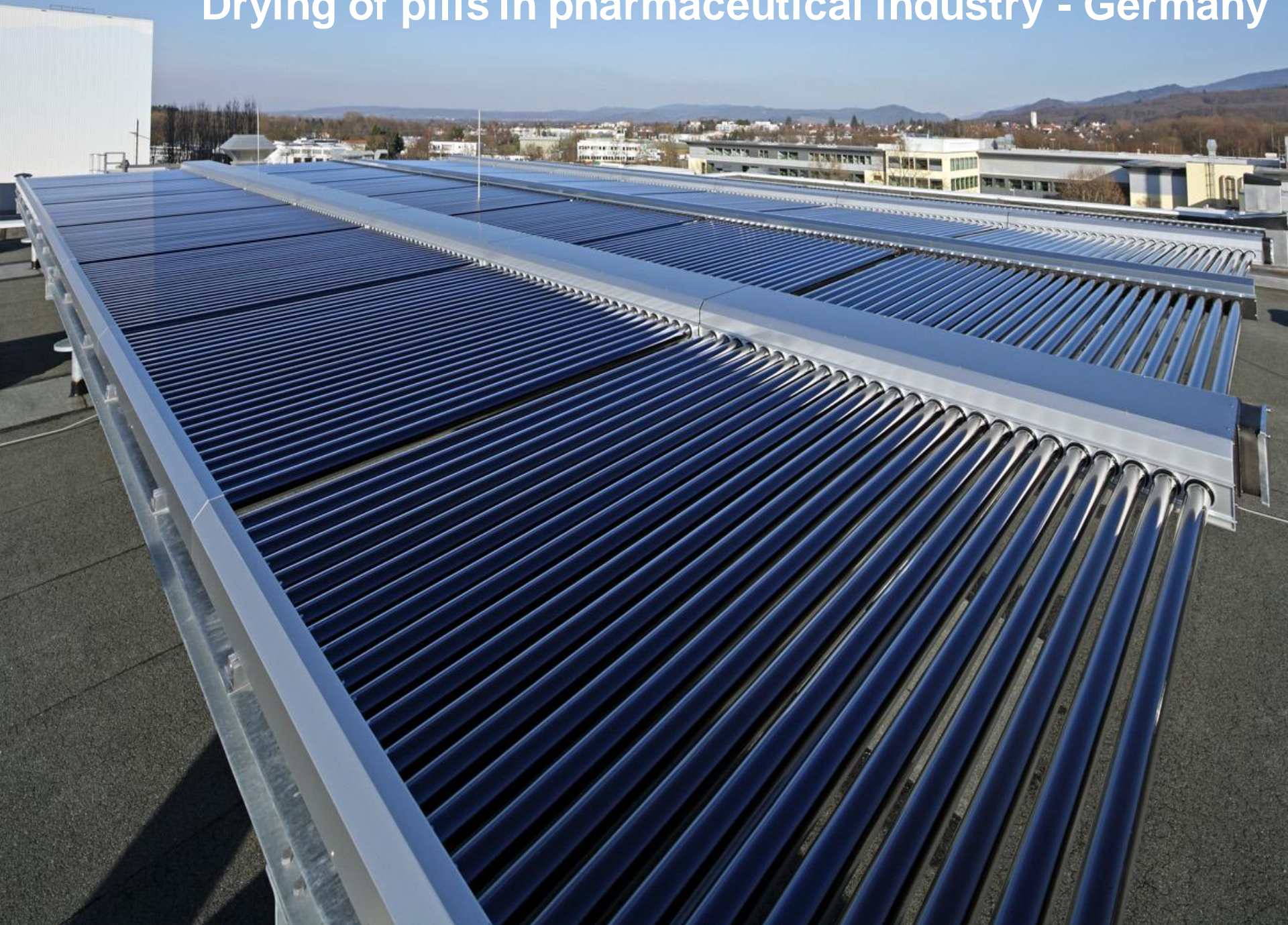
IEA Roadmap SHC by Sector (SHC - solar heating and cooling in EJ/yr)



Solar Cooling of Data Center - South Africa



Drying of pills in pharmaceutical industry - Germany



Technologies and Options of RE

Application

Solution / Products

Selection Criteria

Process Heat



Fresnel



ETC-Collector

Process Cold



Air-Collector



Chiller

Power Generation



Photovoltaic



CHP

Large Scale CSP



Fresnel



PTR

Energy Monitoring
& Management



Enit-Agent



Enit-Agent

- Process Temperature
- Heat Transfer Fluid (Steam/Water/Oil)
- Local Energy Costs
- Available Area (Roof/Ground)
- Roof Load
- Irradiation DNI, GHI
- Solar Fraction Target
- Storage
- Air-Volume
- Delta-T
- Grid-Connection
- Gas-Pipeline-Connection
- Diesel-Generator onsite
- Power Shortages
- Load-Profile
- Meters
- Financing Options

Outlook



Market

- Industrial Solar received requests over the last years of 1.900 MWth
- Sustainability becomes part of shareholder value management
- Payback-time expectation moves from 2-3 years to 4-7 years
- High fossil fuel subsidies will be continuously reduced the coming years
- Potential obligations to use RE
- Carbon Tax / Emission Certificate restart under discussion

Technology

- Systems can deliver expected performance
- Priority on a proper system engineering
- Focus on high quality components and installation
- System costs will decrease continuously

➤ Renewables ONSITE gains more and more momentum

Thank you for your attention!

INDUSTRIAL SOLAR
renewables onsite



Freiburg / Germany



Bietigheim / Germany



Doha / Qatar



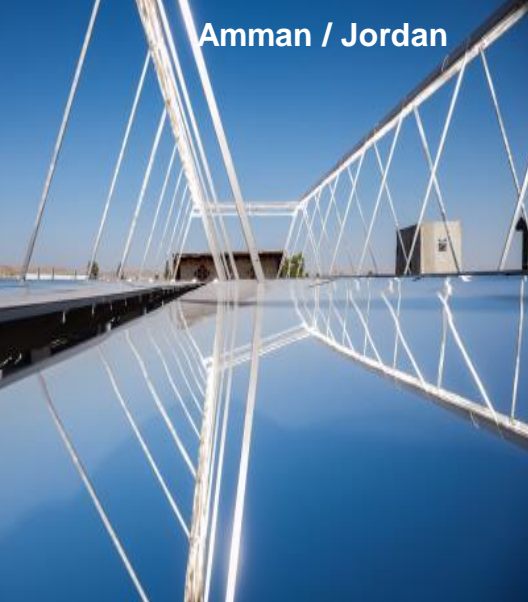
Gran Canaria / Spain



Freiburg/ Germany



Johannesburg / South Africa



Amman / Jordan



Bötzingen / Germany