

SAVOSOLAR



Solar thermal technology taken to the next level



Savosolar
2 January 2016

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Savo-Solar was founded in 2009

Awarded the Intersolar Award in 2011

The most efficient solar thermal collectors in the world, acknowledged internationally

Listed on Nasdaq First North Sweden & Finland

First million euro projects signed in 2014

3 million euros in projects currently being delivered to the district heating market in Denmark

Savo-Solar's positive track record

- Developed innovative collectors which are the most efficient in the world
 - Producing competitive energy without aid of subsidies
- Deliveries in 17 countries on 4 continents
- First ever foreign company to successfully enter the Danish District Heating market
 - First delivery 1,6 M€ installed and in operation, order backlog of 3 M€ for H1/2016
 - Invitation to participate in 6 more tenders in Jan/Feb, all delivery in 2016
 - Only two competitors
- Over 50% growth every year after starting the sales
 - Turnover 2014 over 1 M€, latest forecast for 2015 is 2 - 2,5 M€
 - Targeting over 20 M€ turnover by 2019



An aerial photograph of a large-scale solar farm. The solar panels are arranged in a large rectangular grid in the center-right of the image. To the left, there is a long, low-profile building with a dark roof, possibly a control center or administrative building. A road runs parallel to the solar farm. The surrounding area is a mix of green fields and some industrial structures in the background.

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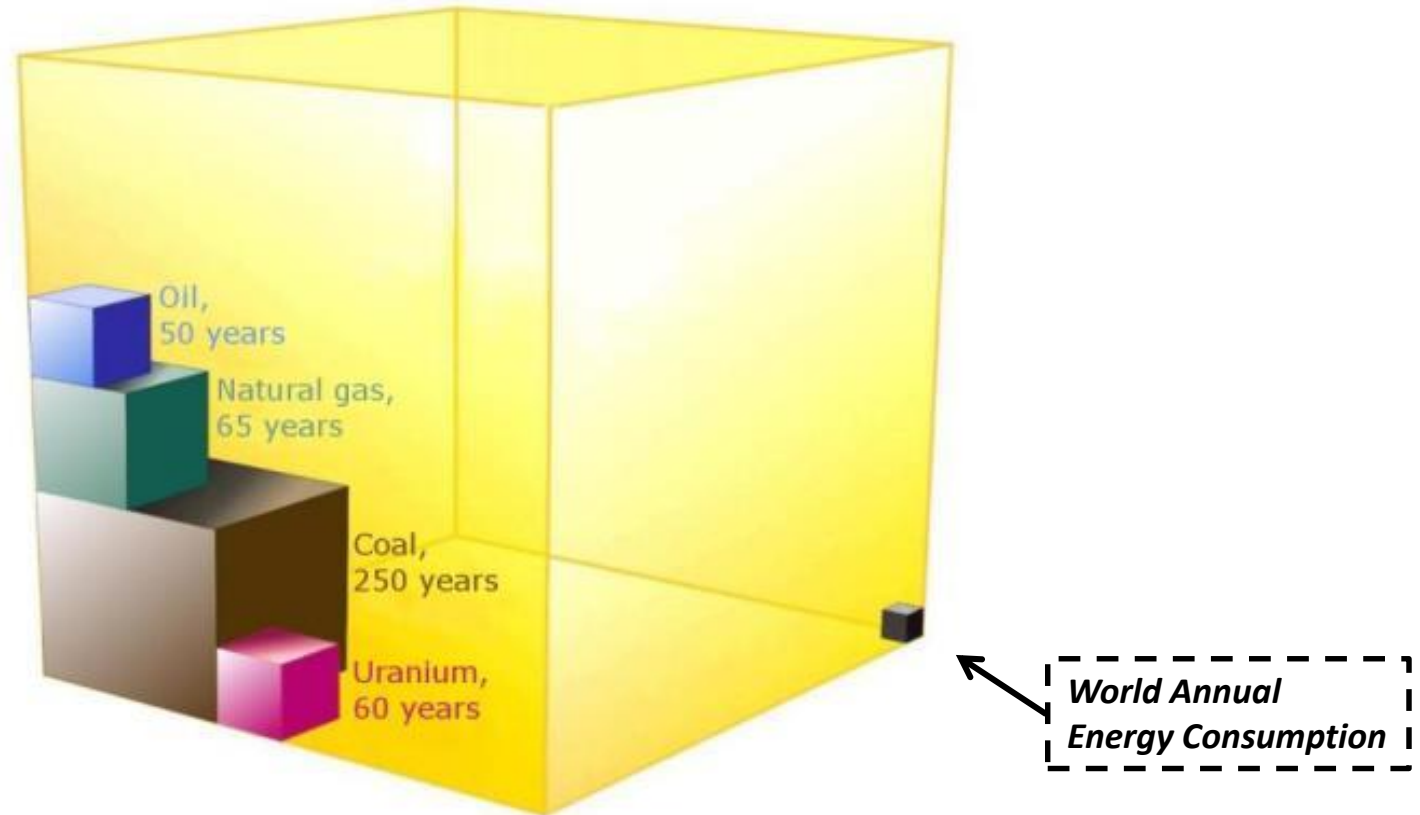
Solar thermal technology taken to the next level

Mission

Accelerating the solar economy through the leading technology for competitive energy

Solar Energy - Unlimited Potential

Annual Solar Energy Yield



- European solar thermal market size in 2013 was €2,3 bn
- Long term expected growth 15% per year

Photovoltaic vs. Solar Thermal / Power vs. Heat

Photovoltaics (PV)

Silicon
Monocrystal



Silicon
Polycrystal

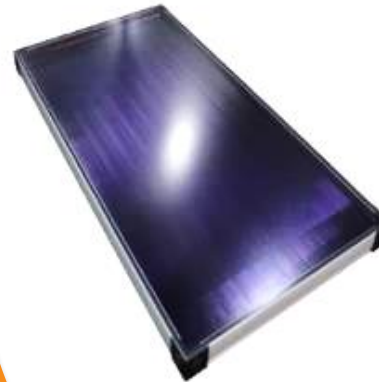


Thin Films



Solar Thermal

Flat Plate Collector



Vacuum Tube Collector



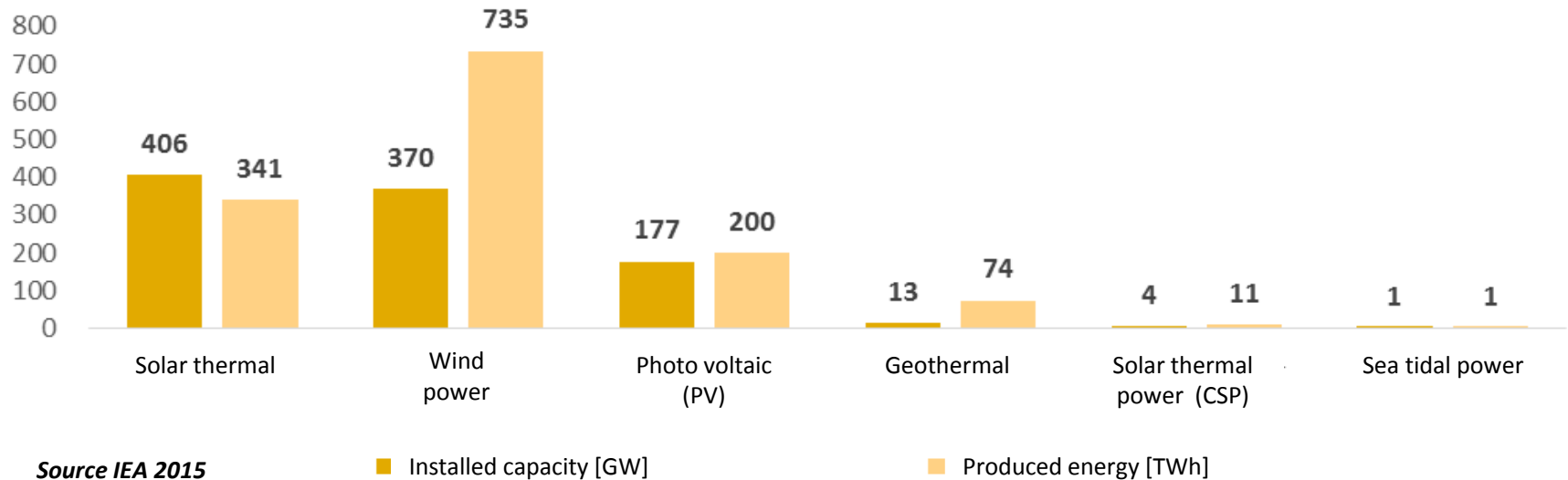
Savosolar offering

	Photovoltaics	Solar Thermal
Efficiency	8-20 %	35-85 %
Installed Global Capacity (2014)	177 GW	406 GW _{th}
Annual Global Yield (2014)	200 TWh	341 TWh
Markets	40 000 MW/year	70 000 MW _{th} /year
Annual Market Growth	20-100 %	10-25 %

- Photovoltaic is heavily subsidised and have EU protection customs duties
- Solar Thermal is lightly subsidised and have no EU customs duties

Solar thermal energy has the greatest potential of all renewable energy sources

Example: Germany changed focus
Energiewende => Wärmewende



Targeting the correct markets

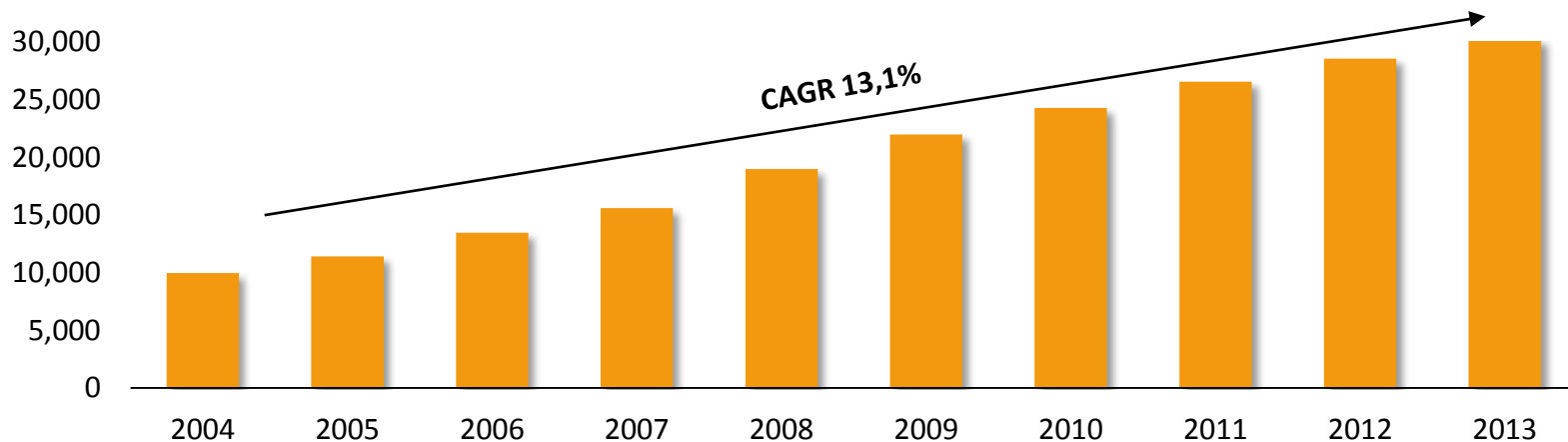
Markets

- 50 % of the world energy is used for heating and cooling
- Total solar thermal heating systems annual markets globally > € 7 billion
- European annual markets € 2 billion

Growth segments

- Solar district heating systems
- Industrial process heating and cooling
 - Especially mining sector
- Multi-family house energy renovation
- PVT = photovoltaic + thermal

Solar Thermal Market in EU28 (MW_{th})



Case: Denmark is showing the way

Denmark is leading within energy profitability

- 2001 subsidies stopped for large scale solar thermal energy
- The world leader in solar district heating
- Market potential until 2030 € 1,3 billion

A market with huge growth

- Installed fields from 2012 to 2015
210,000 m² => 628,000 m²
- By end of 2016 => **1,100,000 m²**
- Future => **250,000 – 500,000 m² /a**
- Only **two competitors** so far



Heating Plan Denmark 2010

2010-2020:

- Expansion to **4 million m²** large scale

2020-2030:

- Expansion to **8+ million m²** large scale

Savosolar Product Excellence

Product status

- **Supplier of the world's most efficient solar thermal collectors**
- Innovative technology leader
- Heavy investments in product development
- 7 patents pending to secure critical product features

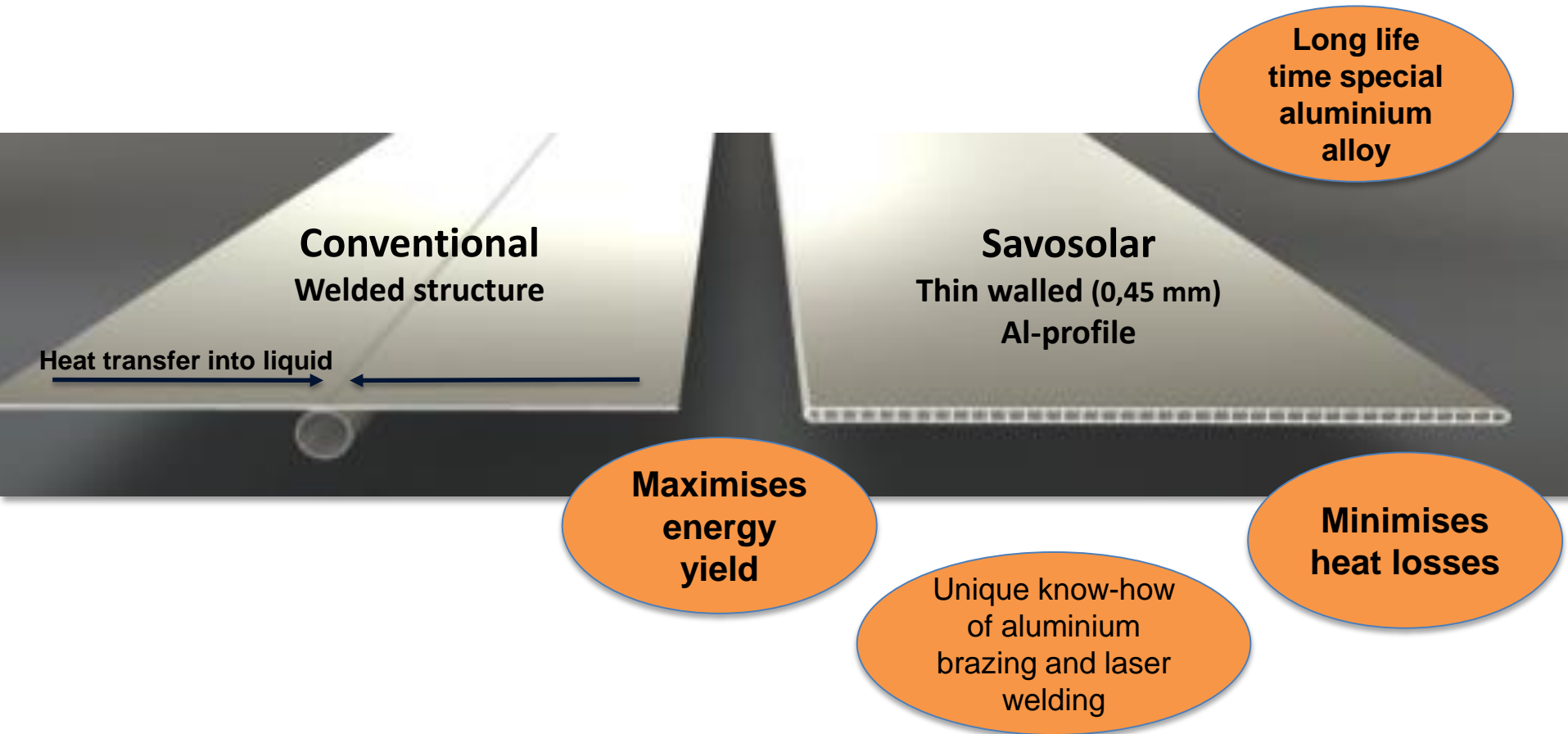
Core product features:

- **Highest efficiency and energy density**
- High quality & durability
- Leading technology
- Reliable energy production
- Competitive pricing

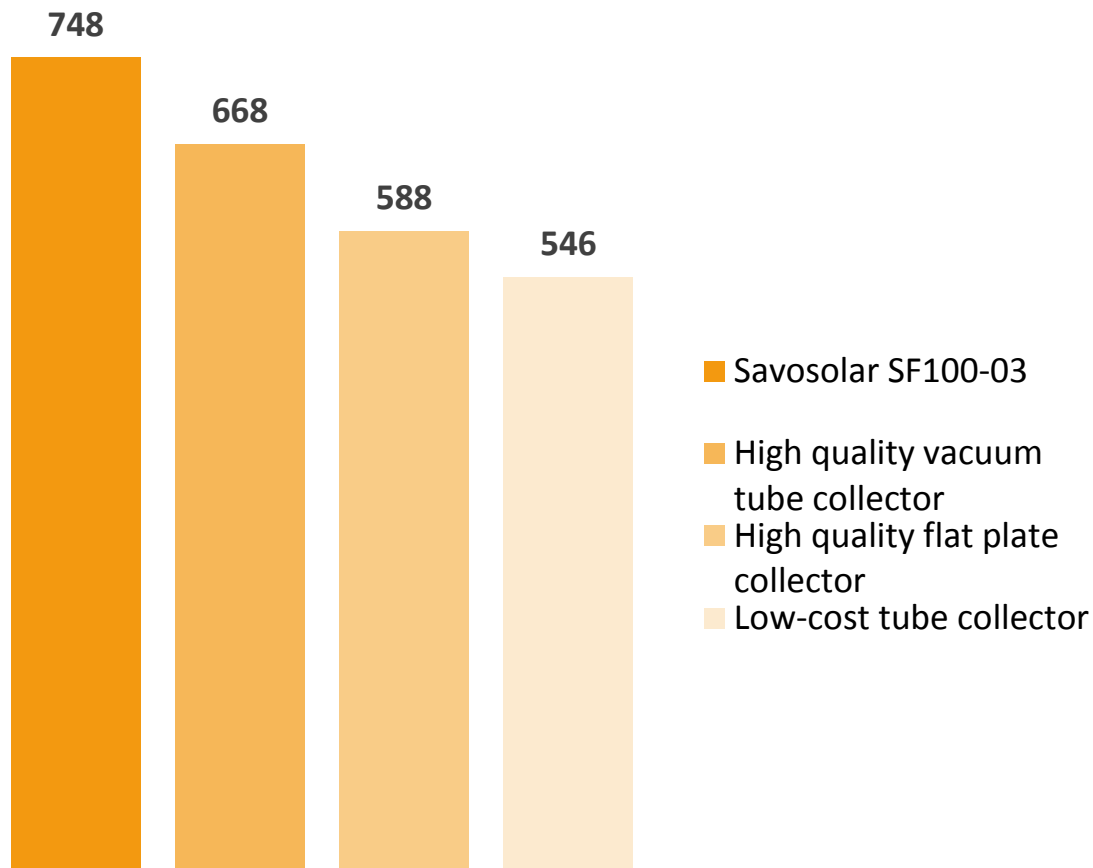


Unique Technological Advantage

- Highly efficient optical nano-coating on absorber
- Unique coating process enables the use of direct flow absorber design = best heat exchange products



SAVOSOLAR - The Most Efficient Collector



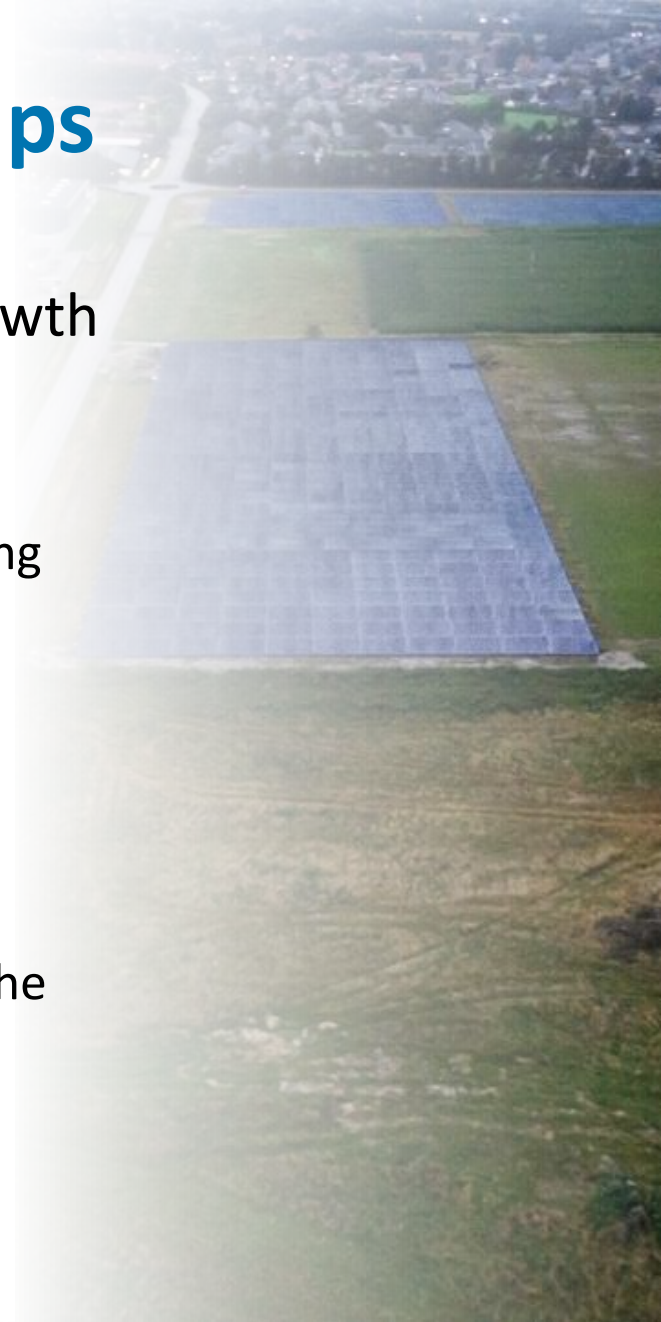
Annual yield in Sweden kWh/m²

- Comparison made by the calculation template from European Solar Thermal Industry Foundation (ESTIF) with publicly available collectors' technical specifications, Savosolar 2 m² MPE collector used in this comparison



Huge potential in target groups

- Focus on segments with huge and fast growth potential
 - Solar district heating
 - Industrial systems for process heating and cooling
- Concentrates on large installations, more than 500 m²
 - The segment of the solar thermal market with the strongest growth and limited competition



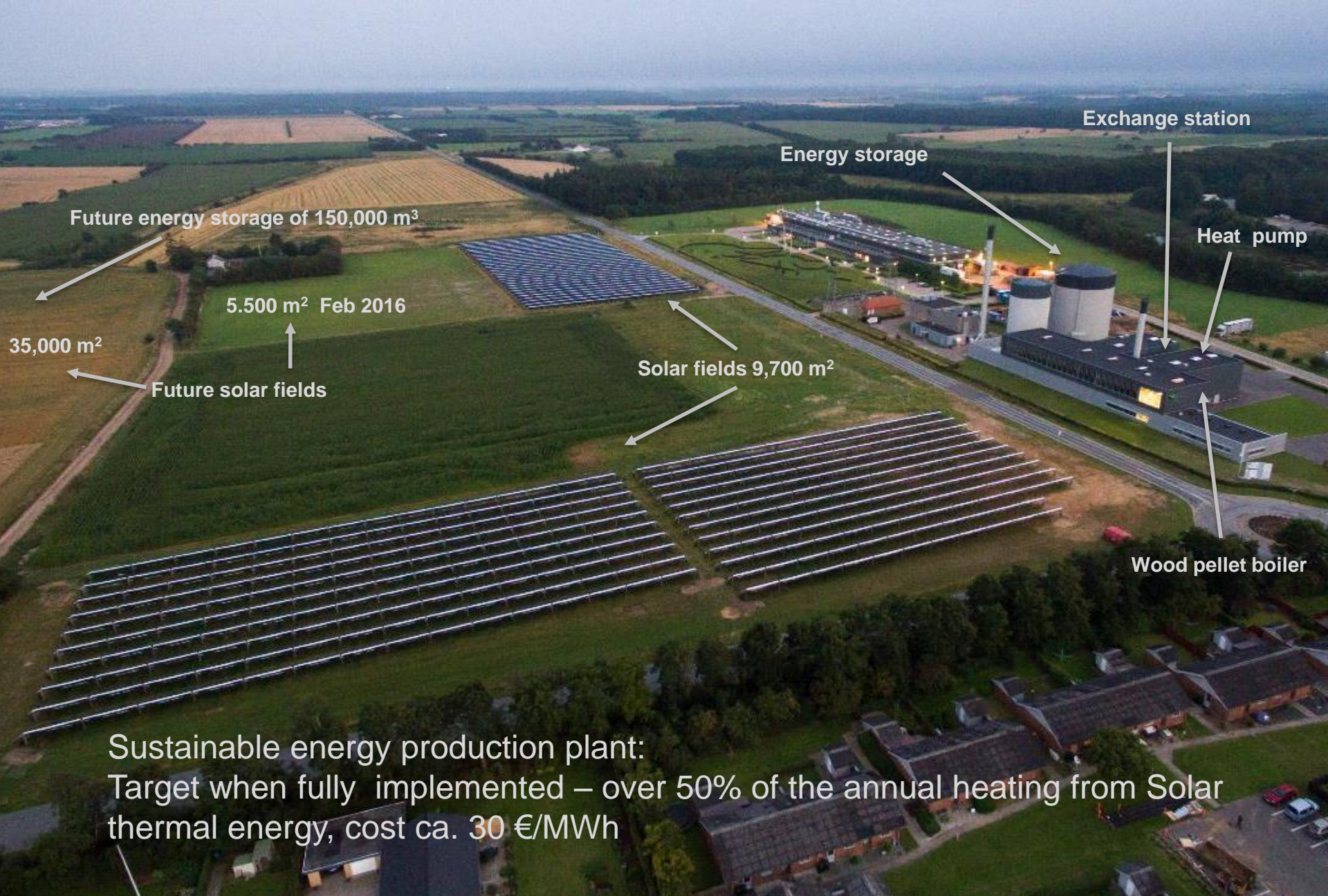


Process heating

Strong position in the growing district heating market

- Two new agreements totaling € 3.0 million to be delivered by the end of April 2016
 - Løgumkloster Fjernvarme (€ 1.0 million)
 - Jelling Varmeværk (€ 2.0 million)
- Upcoming eight tenders in December – January, all 2016 deliveries
 - Value € 16 million / 90,000 m²
- Savosolar is pursuing 1-2 more orders during the next few months to be delivered in 2016
 - Expected total value € 2-4 million
- Danish model copied in, inter alia, Germany, France, Austria, Sweden
 - ⇒ similar growth expected
 - 500,000 m² field planned to be built in Graz, Austria in 2017





Exchange station

Energy storage

Heat pump

Future energy storage of 150,000 m³

5.500 m² Feb 2016

Solar fields 9,700 m²

Future solar fields

35,000 m²

Wood pellet boiler

Sustainable energy production plant:
Target when fully implemented – over 50% of the annual heating from Solar thermal energy, cost ca. 30 €/MWh

Vision

Be the first-choice supplier to high performance solar installations on a global scale

Short and long term goals

- Continue to be the innovative technology leader in the field
- Increase the annual production capacity to about 200,000 m²
- Expand outside Europe
- Double the sales revenue annually for the coming few years and reach EUR 20 million by 2019
- Through investments in production optimization and market penetration reach critical mass and make the company profitable



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Plan for the growth and profitability

1

EUR 2 million
Investments in capacity
and efficiency
2015-2016

2

EUR 1 million investment
in market development

3

Invest 3-5% of its
revenue in product
development

Higher capacity and efficiency => much reduced cost of product



Increasing revenue to EUR 20 – 40 million

Working capital to execute the potential large orders

World Class Team



Jari Varjotie, *
CEO, M.Sc.
Over 25 years top mgmt international experience in different industries



Kaj Pischow *
CTO, founder
35 years experience in the development of new technologies, a coating technologies specialist



Patrick Jansson*
Sales & MD of Savosolar ApS, M.Sc.
B2B sales and business development experience from over 20 countries.



Seppo Ypyä*
Finance, MBA
Several top management positions in industrial enterprises and bank sector



Rosa Aimo *
Admin., B.Sc. founder
Over 15 years experience in R&D, has lived in China and built operations there

Technology advisors



Paola Santilli, *
Operations, M.Sc.
Previously worked in Siemens Archimedes high temperature coatings



Ilkka Arha, *
Sales, B.Sc. Long experience in B2B international sales and operations, has lived in Korea, MENA, Hungary



Torben Frederiksen
Development Mgr. B.Sc.
Years of experience in large area solar thermal systems in Denmark and globally



Luis Rebouta,
Researcher, PhD.
Professor in Minho University, Portugal. Has operated a factory in Brazil.



Martin Andritschky
Researcher, PhD. Professor in Minho University. Built and run factories in Dallas, Brazil and Mikkeli

Why to invest in Savosolar

- The leading technology and the most efficient collectors on the market – clean energy without aid of subsidies
- Has penetrated the Danish district heating market with EUR 3 million orders
- Multiple tenders in Denmark in the coming months and expanding geographically
- One of four companies in high efficiency market going for solid no. 2 position
- Further investments to increase capacity and to utilize market opportunities, hence reach critical mass



The sun rises in the North!

SAVOSOLAR - solar thermal technology taken to the next level

Thank you!

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