



## ***Cooperation with the industry***

***Country: Denmark***

***WP 4 – Task 4.2 / D 4.2***

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CoolHeating website: [www.coolheating.eu](http://www.coolheating.eu)

This report provides an overview of the Danish district heating industry including profiles of companies. The Danish district heating industry is organised in different associations, two focusing on export of district heating technology; FleksEnergi and DBDH.

**FleksEnergi, [www.fleksenergi.dk](http://www.fleksenergi.dk)**

District Heating Cluster in North Denmark. FleksEnergi is a partnership between the City of Aalborg, the North Denmark Region, Aalborg University, district heating plants, and local companies within district heating. Our common objective, to phase out fossil fuels in favour of sustainable energy sources, not only accommodates the region's collective, ambitious environmental goals, but it has also sparked a green district heating industry with enormous potential.

Company profiles can be downloaded from <http://fleksenergi.dk/medlemmer/>, also available in the following section.

A brochure describing different district heating plants can be downloaded from <http://fleksenergi.dk/en-2/>

**DBDH (Danish Board of District Heating), [www.dbdh.dk](http://www.dbdh.dk)**


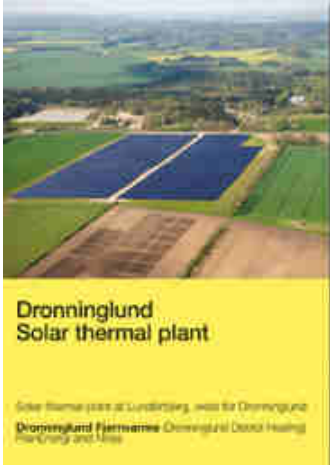
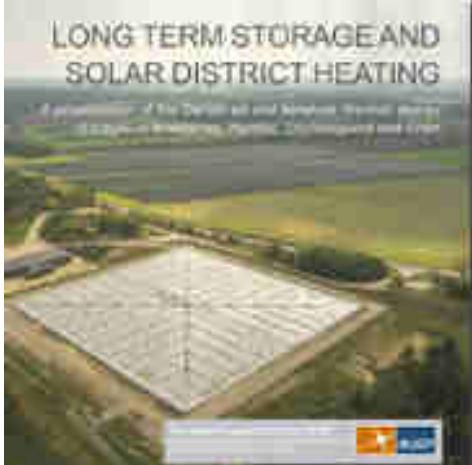
DBDH's mission is to promote district energy for a sustainable city transformation. DBDH represents the leading actors of the district energy sector, and identify, inform and facilitate partnerships between its members and partners in more than 50 countries. Through co-operation, DBDH strengthens the export of Danish technology and knowledge.

Members of DBDH comprise consulting engineers, equipment and turnkey suppliers and district heating utilities.

Company profiles are available from <http://dbdh.dk/our-members/>  
Detailed profiles from selected companies will be included later.

The magazine Hot Cool and other publications are available from <http://dbdh.dk/hot-cool-magazine/>

## Your partner to build small district heating systems

<p>Company name:</p> <p><b>PlanEnergi</b></p>	
<p>Fields of our activities for small district heating:</p> <p>We offer advice in all phases of establishment of district heating:</p> <ul style="list-style-type: none"> <li>• Master plan for a transition to renewable energy sources and conversion of individual supply</li> <li>• Regulatory Treatment – project, district plan, EIA, application</li> <li>• Tender</li> <li>• Contract writing</li> <li>• Supervision</li> <li>• Construction management</li> <li>• Test of fixed service</li> </ul>	
<p>References:</p> <p><a href="http://planenergi.eu/activities/fjernvarme/">http://planenergi.eu/activities/fjernvarme/</a></p> <p><a href="http://planenergi.dk/arbejdsmraader/fjernvarme/">http://planenergi.dk/arbejdsmraader/fjernvarme/</a></p>	
 <p><b>Dronninglund Solar thermal plant</b></p> <p><small>Solar thermal plant at Lundbyvej, west for Dronninglund</small></p> <p><b>Dronninglund Fjernvarme</b> Dronninglund District Heating PlanVarmg and Mass</p> <p><a href="https://issuu.com/planenergi.dk/docs/brochure_dronninglund_2015_booklet">https://issuu.com/planenergi.dk/docs/brochure_dronninglund_2015_booklet</a></p>	 <p><b>LONG TERM STORAGE AND SOLAR DISTRICT HEATING</b></p> <p><small>A presentation of the Danish solar and thermal storage project</small></p> <p><b>Solar Thermal Storage and District Heating</b></p> <p><a href="https://issuu.com/planenergi.dk/docs/sol_til_fjernvarme_brochure_oplag_2">https://issuu.com/planenergi.dk/docs/sol_til_fjernvarme_brochure_oplag_2</a></p>
<p>General fields of our activities:</p> <p>PlanEnergi offers consulting in all phases of development of renewable energy projects, including planning, design and implementation.</p> <p>We offer expert advice in:</p> <ul style="list-style-type: none"> <li>- Strategic energy planning for regions and municipalities</li> <li>- District heating, including solar heating</li> </ul>	

- Wind energy
- Biogas

Design, implementation and supervision in the construction phase

Through on-going expansion and growth, PlanEnergi now has a multi-skilled staff with in-depth expertise and hands-on experience concerning renewable energy and energy efficiency. Due to its impressive profile, PlanEnergi is among the leading firms which offer comprehensive advice in energy supply and energy planning.

For anyone in the private or public sector wishing to establish a sustainable energy supply in Denmark or elsewhere, PlanEnergi is the obvious partner.

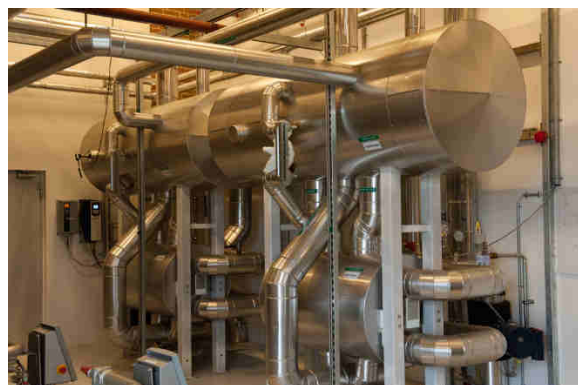
General description of our company:

PlanEnergi was established in 1983 and operates as an independent consultancy, organized as non-profit. We are more than 30 employees in three offices in Denmark: Skørping, Aarhus and Copenhagen.



Solar district heating and pit thermal energy storage (seasonal) in Marstal, Denmark

<http://www.solarmarstal.dk/english>



Electrical ground water heat pump in Rye, Denmark.

Contact:

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## FleksEnergi

District Heating Cluster in North Denmark

North Denmark is a dynamic lab for developing new innovative solutions within district heating, and FleksEnergi is the cluster that facilitates new partnerships between members.

### GET CONNECTED

Through FleksEnergi, you will be connected to not only a large number of world-class experts within district heating but you will also have access to extensive intelligence and practical experience within the field of energy systems. FleksEnergi is a unique constellation where scientists, businesses and district heating plants come together and develop the district heating systems of tomorrow.

### EXPERTISE ACROSS BORDERS

To the advantage of district heating systems beyond the borders of Denmark, the members of FleksEnergi are ready to share their know-how and to implement state-of-the-art solutions abroad as well. In other words, our expertise is available to you.

### A SHARED GOAL

FleksEnergi is a partnership between the City of Aalborg, the North Denmark Region, Aalborg University, district heating plants and local companies within district heating. Our common objective, to phase out fossil fuels in favour of sustainable energy sources, not only accommodates the region's collective, ambitious environmental goals, but it has also sparked a green district heating industry with enormous potential.



## Contact FleksEnergi

### FleksEnergi

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[www.fleksenergi.dk](http://www.fleksenergi.dk)

THE EUROPEAN UNION  
The European Regional  
Development Fund



Investing in your future







## Aalborg CSP A/S

District heating with concentrated solar power (CSP)



### WHO IS AALBORG CSP?

With more than 25 years of thermal-engineering experience and a global leadership in concentrated solar power (CSP) systems and technologies, Aalborg CSP was the first company to bring CSP technology to Denmark. Based on the company's value-adding engineering approach to design technologies that excel in operation, Aalborg CSP has developed an innovative solar-thermal system to generate hot water for district heating purposes with the highest efficiency in the Nordic climate.

### CSP FOR DISTRICT HEATING

The CSP technology applies sun-tracking, U-shaped mirrors, called parabolic troughs, to maximise the sun's energy and consequently the efficiency of heat production. The sun rays are captured and reflected onto a receiver pipe filled with water and located in the central point of the troughs. Here the concentration and a significant better utilisation of the sun's energy is obtained enabling high-temperature water generation. This simple but superior solar thermal technology has been verified by the Technical University of Denmark (DTU).

As turnkey supplier of CSP district heating systems, Aalborg CSP provides custom-designed solutions that meet individual project requirements. From engineering work to component or complete system deliveries, Aalborg CSP is a world-class thermal engineer partner in realising all types of customer inquiries.



### CONTACT INFORMATION


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**AALBORG CSP**  
- your green thermal energy partner

Find out more at [www.aalborgcsp.com](http://www.aalborgcsp.com)



## Your partner to build small district heating systems

Company name: <b>Absolicon Solar Collector AB</b>	 <b>ABSOLICON</b> SOLAR COLLECTOR AB
Fields of our activities for small district heating: <ul style="list-style-type: none"> <li>- High quality parabolic trough collectors (PTC) with single-axis tracking</li> <li>- Solar substations for our collectors</li> </ul>	
References: We have successfully installed collector fields in 3 different continents and some of the installations are listed below: <ul style="list-style-type: none"> <li>• Hemab, 400 m<sup>2</sup> PVT. Secondary loop installation (turnkey: Collectors + substation)</li> <li>• Hemab 44 m<sup>2</sup>. Primary loop installation, up to 160 °C, (turnkey: Collectors + substation)</li> <li>• GB School, 270 m<sup>2</sup>. Primary loop installation (Turnkey: Collectors + substation)</li> </ul>	
General fields of our activities: <ul style="list-style-type: none"> <li>- Developing and manufacturing high quality parabolic trough collectors, which can be integrated in several types of industries.</li> <li>- Currently building two production lines for mass-production of PTC (One in China, one in Sweden)</li> </ul>	
General description of our company:  Absolicon is a Swedish company situated in the north of Sweden with over 20 years of experience in manufacturing concentrating solar collectors. Our collectors proven to have a high efficiency curve for a wide temperature range and our collectors have already been installed in several industries around the world including district heating systems in Sweden. The collectors can either be mounted on roofs or the ground.  If our collectors can deliver heat to district heating systems in the north of Sweden, image what they can do in your country!	





Roof mounted field with a primary loop connection, in Smedjebacken, Sweden. 200 m<sup>2</sup>



Ground mounted field with a secondary loop connection, in Härnösand, Sweden. 200 m<sup>2</sup>

### Contact details

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Website: [www.absolicon.com](http://www.absolicon.com)





## Adding ApS

Engineering



### SHORT INTRODUCTION TO ADDING

Adding is an engineering company that performs electrical-, mechanical- and process technical works. We are specialists in process engineering, energy plants and systems and production techniques. Furthermore, we work as project managers on all levels.

### WHAT DOES ADDING OFFER?

We love a good challenge, but we also know what our abilities are. Our services can be divided into the following areas:

- » **Project Management**
- » **Electrical Engineering**
- » **Mechanical Engineering**
- » **Process Engineering**

Adding makes project management on sites in Jordan, Switzerland, Denmark, Singapore, Russia and many other countries. We make engineering on thermal and solar power plants, high pressure boilers, district heating systems, refineries, FPSO vessels, ships, burners, control systems, process instrumentation, electrical and mechanical systems, pumps, fans, etc. etc.



### CONTACT INFORMATION

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## Arcon Solar

We combine world-class technology with smart solutions



### SHORT INTRODUCTION TO ARCON SOLAR

As marked leader we hold more than 25 years of experience building large solar thermal systems in Denmark and Europe. Our HT solar collectors are optimized for large-scale installations and have the highest yields available - an advantage for the environment and our customers. At ARCON Solar we constantly develop our product line and we strive to meet our customer's requirements by offering:

- » **Profound knowledge and experience in system integration and engineering, short lead times in production and quick installation**
- » **High temperature solar collector fields optimized to in-line use (HT-HEATboost) as well as solar energy storage (HT-HEATstore)**
- » **Innovative and elegant steel foundation mounting solutions**

### WHAT DOES ARCON SOLAR OFFER?

With our in-house engineering capacity, we hold the expertise to configure and design systems meeting individual requirements. We know what matters - since 15 of the world's 25 largest flat plate solar heating plants have been produced by ARCON Solar.

### REFERENCE: GRENAA DISTRICT HEATING - DK

In March 2014 a solar thermal collector field totalling 12.096 m<sup>2</sup> was installed at Grenaa Varmevaerk (Grenaa Heating station) in East Jutland, as a Turnkey project from ARCON. The huge installation comprises 4 different ARCON HT collector types. The mix of collector types in the field design will ensure an optimized flow throughout the field.



#### CONTACT INFORMATION


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Find out more at [www.arcon.dk](http://www.arcon.dk)



## Your partner to build small district heating systems

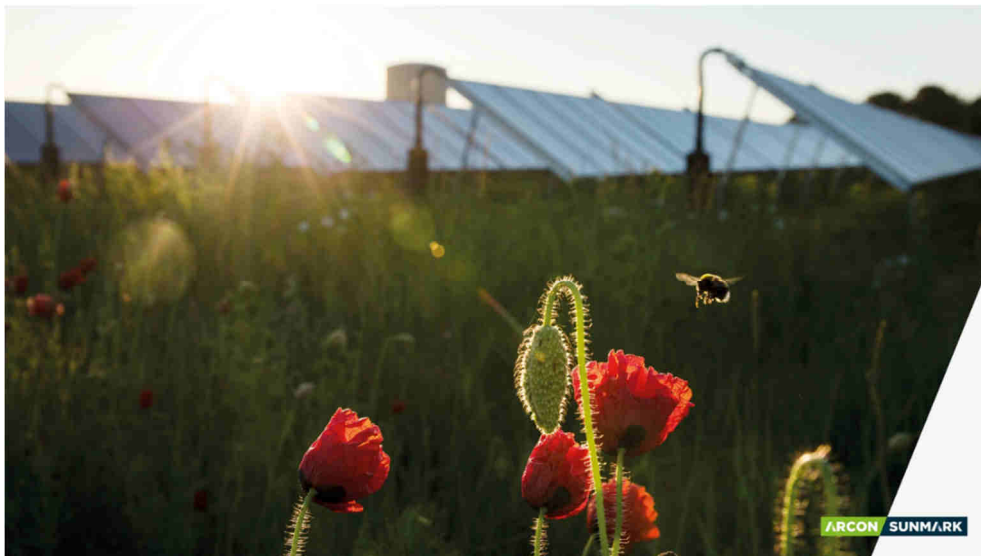
Company name: <b>Arcon-Sunmark GmbH</b>				
<b>Fields of our activities for small district heating:</b> <i>Arcon-Sunmark is a merger between two of the world’s leading companies within large-scale solar heating – ARCON Solar and Sunmark.</i>				
<b><u>Arcon-Sunmark supplies Turn Key Large Scale Solar Thermal Solutions.</u></b>				
<i>As it takes more than effective collectors to establish a solar heating plant. We are the experts, and we can assist in all project stages. From consideration, planning, decision making and approval, financing, authority approval, earthworks and installation, to testing and commissioning. And of course we will follow up and perform service checks including onsite inspections to ensure optimum system operation. Together we can tailor the best solution – individualized to fit your specific needs.</i>				
<b>References:</b> <i>Arcon-Sunmark is behind the largest solar thermal installation for industrial process heating and District Heating. In addition, we have installed more than 80% of the largest plants in Europe. The number of projects above 1000 SQM is &gt; 100. Total more than 1.1 MIO m² installed capacity and 800 MW.</i>				
<b>Rank</b>	<b>Place</b>	<b>Country</b>	<b>Typ</b>	<b>Aperture size (m²)</b>
(1)	Silkeborg (im Bau, Ende 16)	Danmark	SDH	156.694 (110 MWp)
2	Vojens	Danmark	SDH	69.991 (49 MWp)
3	Gram	Danmark	SDH	44.836 (31 MWp)
4	Minera Gaby/Codelco	Chile	SHIP	39.300 (27 MWp)
5	Dronninglund	Danmark	SDH	37.500 (26 MWp)
<p>We are as solid and future-proof as can be. Arcon-Sunmark is owned by VKR Holding. In total, VKR Holding’s companies employ some 13,500 people in more than 40 countries. VKR Holding owns companies which bring daylight, fresh air and a better environment into people’s everyday lives. We always choose the most solid and reliable partners</p>				
<b>General fields of our activities:</b> <i>Arcon-Sunmark is a Danish company with a global footprint. Denmark has always been a frontrunner when it comes to sustainable energy, and we lead the way in solar thermal installations. We will never compromise on quality.</i>				



*Design, development and a large part of our production is based in Denmark. However, with our modern production facilities in Vietnam, we have gained a logistic advantage and an international presence being closer to the market, wherever our customers reside. Shorter transportation of heavy equipment and materials combined with quicker service are just a few of the benefits towards the environment and our international customers.*

**General description of our company:**

*Arcon-Sunmark is a merger between two of the world's leading companies within large-scale solar heating – ARCON Solar and Sunmark. ARCON Solar was established in 1974 in Skørping, Denmark and was a pioneer in the large-scale solar thermal industry, with a special focus on solutions for district heating. ARCON Solar has installed the largest large-scale solar thermal systems in Europe. Based on more than 25 years of experience and know-how, Sunmark was established in 2008 on the isle of Ærø, Denmark. Sunmark established highly specialized production facilities both in Denmark and in Asia, and installed more than 200,000 m<sup>2</sup> of solar heating plants, including the world's largest solar plant for the mining industry in Chile. In 2015 the two companies joined forces to establish the world's leading company in this line of business.*



**Contact:**

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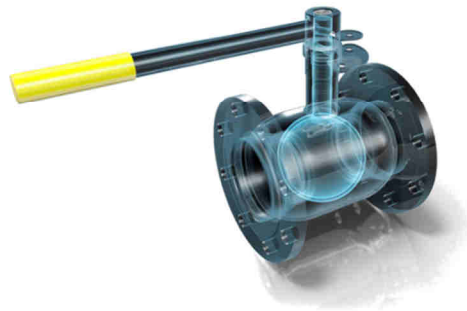
Website: [www.arcon-sunmark.com](http://www.arcon-sunmark.com)



## Your partner to build small district heating systems

<p>Company name:  <b>BROEN S.A.</b>  <b>PIESZYCKA STR. 10</b>  <b>58-200 DZIERŻONIÓW</b>  <b>POLAND</b></p>	
<p>Fields of our activities for small district heating:</p> <ul style="list-style-type: none"> <li>- <i>steel ball valves designed for district heating, cooling and gas installation,</i></li> <li>- <i>steel ball valves for pre-insulation</i></li> <li>- <i>steel ball valves for steam</i></li> <li>- <i>butterfly valves for district heating and cooling systems</i></li> </ul>	
<p>References:</p> <p><i>Our ball valves are installed in :</i></p> <ul style="list-style-type: none"> <li>- <i>Belgrade Power Plant district heating, Belgrad Serbia ( 2010-2016)</i></li> <li>- <i>HEP Toplinarstvo district heating, Zagreb Croatia ( 2014-2016 )</i></li> </ul>	
<p>General fields of our activities:</p> <ul style="list-style-type: none"> <li>- <i>Steel ball valves and butterfly valves for:</i> <ul style="list-style-type: none"> <li>• <i>district heating systems</i></li> <li>• <i>energetic systems,</i></li> <li>• <i>machine oil and gas installations,</i></li> <li>• <i>corrosive media installations</i></li> <li>• <i>steam pipelines and installations</i></li> </ul> </li> </ul>	
<p>General description of our company:</p> <p><i>BROEN S.A. is member of BROEN Group, with headquarter in Assens Denmark. Currently, the company has its headquarters and production facilities in Dzierżoniów Poland</i></p> <p><i>BROEN SA history dates back to 1993, when valves at diameters between DN 15 and DN 100 began to be manufactured, and company was working under name DZT S.A.</i></p> <p><i>Ball valves manufactured by our company are applied in heat engineering, air conditioning, and gas installations, as well as in other industrial systems. We manufacture valves at diameters of DN 10 to DN 1000 in three basic versions: to be welded, with flanges and threaded.</i></p> <p><i>We also offer products manufactured by other companies belonging to BROEN Group.</i></p>	





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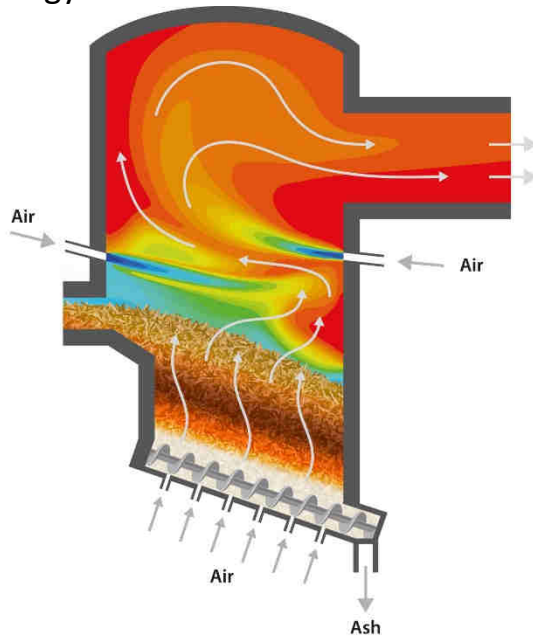
Website: [www.broen.pl](http://www.broen.pl)



## Your partner to build small district heating systems

<p>Company name: <b>Dall Energy</b></p>	 <p><b>Dall Energy</b> <i>New biomass technologies</i></p>
<p>Fields of our activities for small district heating:</p> <p>Dall Energy engineer and implement new biomass technologies</p> <p>Our biomass solutions are designed to meet the demands of customers:</p> <ul style="list-style-type: none"> <li>• fuel flexibility</li> <li>• low emissions</li> <li>• high turndown ratio</li> <li>• high efficiency</li> <li>• simple operation</li> <li>• low maintenance costs</li> </ul> <p>Due to the unique results, we have won several innovation awards, including The “European inventor award”</p>	
<p>References:</p> <p><i>2 MW plant in USA (industri)</i></p> <p><i>8 MW plant in Denmark (Bogense)</i></p> <p><i>9 MW plant in Denmark (Sønderborg)</i></p>	
<p>General fields of our activities:</p> <ul style="list-style-type: none"> <li>- Low emission – Fuel flexible biomass Furnace</li> </ul>	

### Dall Energy Multifuel furnace:



### General description of our company:

The vision of Dall Energy is to develop and provide new and improved energy technologies to the global market.

Our team consist of ingeneers, technicians, sales people and project manager, who all have more than 15 years of experience

### Contact:

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## Your partner to build small district heating systems

<p>Company name: <b>Danfoss A.S.</b></p>	<p>ENGINEERING TOMORROW</p> 
<p>Fields of our activities for small district heating:</p> <ul style="list-style-type: none"> <li>• Large welded substations</li> <li>• Small substations</li> <li>• Flat substations</li> <li>• Domestic hot water systems</li> <li>• Electronic Controllers &amp; SCADA</li> <li>• Pressure Independent Flow &amp; Temperature Controls</li> <li>• Balancing &amp; Control Valves</li> <li>• Shut-off ball and butterfly valves</li> <li>• Micro-Plate heat exchangers brazed and gasketed</li> </ul>	
<p>References:</p> <ul style="list-style-type: none"> <li>• Installed base of 5+ million DEN components and systems in running customer applications</li> <li>• Availability of sales engineers and reps close to our customers – more than 100 sales companies in 47 countries</li> <li>• Working closely together with: <ul style="list-style-type: none"> <li>- Cities, municipalities, decision-makers</li> <li>- District Heating Utilities</li> <li>- Contractors/installers, wholesalers and OEM</li> </ul> </li> </ul>	
<p>General fields of our activities:</p> <ul style="list-style-type: none"> <li>• We offer solutions within the control and transfer of heat in district heating and cooling applications.</li> <li>• End-to-end solution provider</li> <li>• Expert advisor on energy efficiency and complete energy management</li> </ul>	

- Customers' application or building type is key to our recommendations.
- We can support during the design, specification, and documentation stages, as well as providing ongoing technical support after commissioning.
- In fact, Danfoss is now the world's biggest and most trusted supplier of complete advanced substations, heat exchangers and automatic controls.



General description of our company:

- Danfoss works with energy efficiency since 1933 to enable the world of tomorrow to do more with less. It meets the growing need for infrastructure, food supply, energy efficiency and climate-friendly solutions. The products and services are used in areas such as refrigeration, air conditioning, heating, motor control and mobile machinery. Danfoss is also active in the field of renewable energy as well as district heating infrastructure for cities and urban communities. Today Danfoss is a world-leader, employing 24,000 employees and serving customers in more than 100 countries.

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 Phone: +45 2339 4992  
 Website: [www.heating.danfoss.com](http://www.heating.danfoss.com)



## Your partner to build small district heating systems

<p>Company name: <b>Danish Energy System</b></p>	
<p>Fields of our activities for small district heating:</p> <ul style="list-style-type: none"> <li>- <i>Biomass fired Boilers, Straw, Woodchips, other similar agriculture waste</i></li> </ul>	
<p>References:</p> <p><i>Please ask for it, our company have provided, Biomass fired boilers, worldwide, are one of the mayor suppliers in Denmark. But we work worldwide, giving an economical and reliable solution</i></p>	
<p>General fields of our activities:</p> <ul style="list-style-type: none"> <li>- Design and calculation of biomass fired Boilers / Power plants, suppliers of components, to Biomass fired systems</li> </ul>	
<p>General description of our company:</p> <p>Danish Energy System was founded 1978, became 1996 part of OSCHATZ, Engineering company, with a major experience in Biomass fired Boiler plants, Situated in Denmark, has produced more than 200 Biomass fired heat and power plants</p>	
<p>Contact: Danish Energy System Contact person: Michael Poulsen Address: Christianshusvej 183 Country: Denmark E-Mail: <a href="mailto:des@des-dk.com">des@des-dk.com</a> / mpo@des-dk.com Phone: +45 3332 5633 / +45 31340 7675 Website: des-dk.com</p>	





## Dan-Iso A/S

Dan-Iso is a part of the good solution.



### SHORT INTRODUCTION TO DAN-ISO A/S

Dan-Iso manufactures insulation material from polyurethane (PUR and PIR). We produce quality products for technical insulation and are one of the leading manufacturers of PUR insulation shells in Europe. Dan-Iso's qualifications are based on more than 20 years of experience and a working force with considerable process knowledge.

### CUSTOMER GROUPS:

- » Technical insulation
- » District heating
- » Oil and offshore industries
- » Refrigeration industry
- » Industrial insulation

### COMPETENCES:

Dan-Iso offers an extensive product range and a broad customer segment. Dan-Iso takes on special cutting and gluing assignments. We have developed flexibility in connection with solving tasks and acquired positive experiences when it comes to cooperation with customers on product development. Recently, we have invested in a 5 axle CNC that has endless possibilities.

### REFERENCE:

Dan-Iso is one of Europe's leading specialists in technical insulation material of polyurethane and has cooperated with most district heating pipe producers in Europe.



### CONTACT INFORMATION

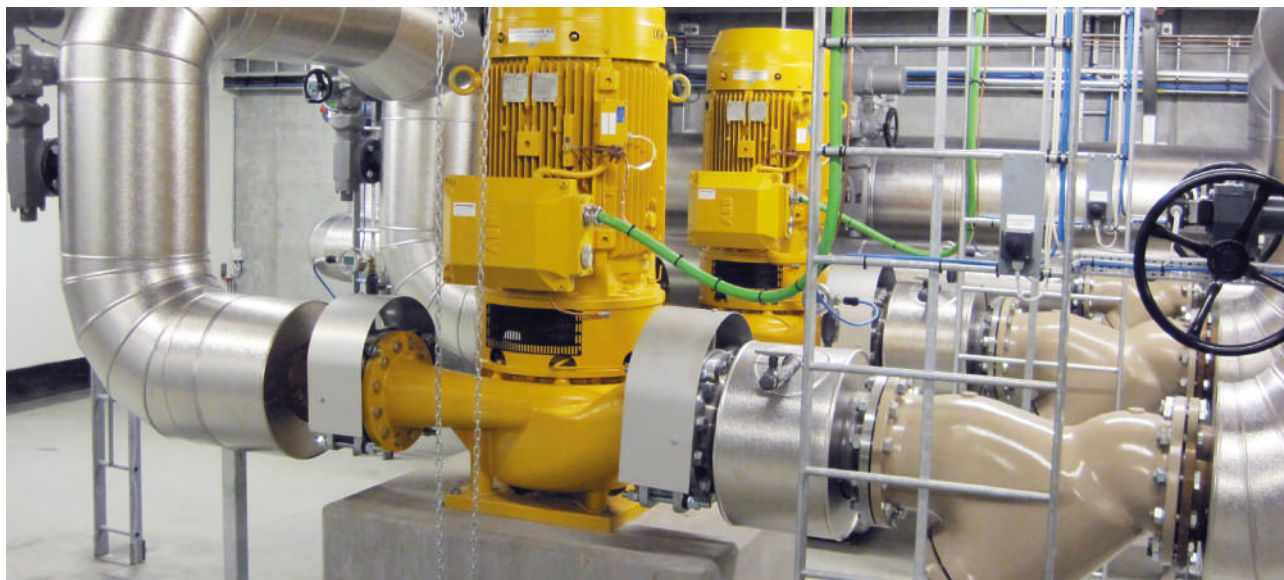
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## Desmi

- Proven Technology



### GLOBAL DEVELOPER OF PUMP SOLUTIONS:

DESMI is a global company specialised in the development and manufacture of pump solutions for marine, industry, oil spill combating, defence & fuel and utility both locally and globally.

### WHAT DOES DESMI OFFER?

DESMI offers pumps and pumping solutions for district heating. We deliver energy efficient pump solutions with low NPSH values to match sustainable energy, and we are market leader for pump solutions for district heating transmission pipelines, distribution networks and substations. All DESMI pumps have a long life cycle and are very maintenance friendly.

### REFERENCE: DISTRICT HEATING

- » **Denmark:** Aalborg District Heating Co. – Rørup Pumping Station – NSL300-415 centrifugal pumps, each with a capacity of 2,600 m<sup>3</sup>/h.
- » **Holland:** Nuon Energy Company (Vattenfall) – several pump supplies e.g. for WKC Almere Power plant.
- » **China:** Zunhua Power and Heating plant (160 km east of Beijing) -NSL300-525 pumps, each with a capacity of 1,250 m<sup>3</sup>/h at 110 mWC and 1742 rpm.
- » **Norway:** Lillestrøm. e.g. NSL 300-525 pumps.



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**DESMI**

Find out more at [www.desmi.com](http://www.desmi.com)



## Your partner to build small district heating systems

<p>Company name: <b>DESMI Pumping Technology A/S</b></p>	
<p>Fields of our activities for small district heating: <i>DESMI provides energy efficient pump solutions both for applications in the heat production plants as well as for the transmission and distribution network.</i></p> <p><i>The DESMI pump solutions are recognized as being highly energy efficient with low NSPH values. The pumps have a long life cycle and are very maintenance friendly.</i></p> <p><i>The DESMI centrifugal pump range comprise of:</i></p> <ul style="list-style-type: none"> <li>• <i>NSL in-line pumps for high pressure and high capacities.</i></li> <li>• <i>NSLV/H – end suction pumps for high pressure and medium/high capacities.</i></li> <li>• <i>DSL in-line pumps for moderate pressure and even larger capacities than NSL.</i></li> <li>• <i>ESL in-line pumps for lower pressure and capacities.</i></li> </ul> <p><i>We are able to supply flow capacities up to 5,400 m<sup>3</sup>/h, pressure ratings up to PN25 as well as temperature solutions below 150 degr. C.</i></p>	
<p>References:</p> <p><i>DESMI has e.g. supplied for these District Heating projects:</i></p> <ul style="list-style-type: none"> <li>• <i>Denmark – Aalborg District Heating Co. – Rærup Pumping Station – NSL300-415 centrifugal pumps, each with a capacity of 2,600 m<sup>3</sup>/h.</i></li> <li>• <i>Denmark – Vestforbrænding Copenhagen – many pump supplies over the years (e.g. NSL 250-415).</i></li> <li>• <i>Holland – Nuon Energy Company (Vattenfall) – several pump supplies e.g. for WKC Almere Power plant.</i></li> <li>• <i>China – Zunhua Power and Heating plant (160 km east of Beijing) - NSL300-525 pumps, each with a capacity of 1,250 m<sup>3</sup>/h at 110 mWC and 1742 rpm.</i></li> <li>• <i>China – Harbin Daoli District Heating Scheme – NSL &amp; DPV pumps</i></li> <li>• <i>Norway - Lillestrøm. e.g. NSL 300-525 pumps.</i></li> </ul>	



*DESMI has also supplied pump solutions for district heating projects in many other countries, e.g. Sweden, Iceland, Poland, the Baltic Republics, Hungary, the Czech Republic, Kazakhstan, Mongolia etc.*

General fields of our activities:

*The business areas covered within the utility segment include energy efficient pumps and pump solutions for:*

- *District Heating*
- *Combined Heat & Power Plants, Cogeneration/Tri-generation, Biomass Plants. Waste-to-Energy Plants etc.*
- *District Cooling*
- *Medium/Larger HVAC – chiller & cooling tower applications etc. (Airports, Datacenters, Skyscrapers, Hotels, Shopping Malls etc.)*
- *Power Generation (various types of power plant applications)*
- *Leisure Industry (larger municipal/private pools, aqua parks)*
- *Waste Water*
- *Fire Fighting - Sprinkler Systems*



Picture 1

Aalborg Fjernvarme

DESMI vertical in-line centrifugal pumps installed on district heating plant in Aalborg, Denmark

Picture 2

Zunhua Power Plant - Chinese Power & Heating

DESMI supplied four vertical in-line centrifugal pumps operated via frequency converters in replacement of the originally installed horizontal, fixed speed pumps.

General description of our company:

*DESMI is a global company specialising in the development and manufacture of pump solutions for marine, industry, oil spill combating, defence & fuel and utility both locally and globally. Our product range - supplemented with agency products from other leading world-class manufacturers - is complemented by related services such as the design and installation of pumping systems, oil spill recovery packages, and a first class after-sales*

*service which can include full technical support, commissioning and product training. DESMI equipment is sold to more than 100 countries via a network of subsidiaries and distributors on six continents.*

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## EMD International A/S

Software and consultancy



### SHORT INTRODUCTION TO EMD:

EMD International is a software and consultancy company with more than 20 years of experience in the design, planning and documentation of energy projects all over the world. The software developed by EMD International is widely recognized and continuously being upgraded to ensure that the software contains the latest knowledge and experience available.

### WHAT DOES EMD OFFER?

The Energy System Department at EMD International is specialized in modelling complex co- and trigeneration projects based on the energyPRO and energyTRADE software

- » **energyPRO** is a modelling tool for combined techno-economic analyses and optimization of energy plants
- » **energyTRADE** is a tool for planning of the daily operation and biddings of energy plants participating in one or more electricity markets

### REFERENCE:

The energyPRO software has been used in the planning of a geothermal district heating plant at Sønderborg Fjernvarme in combination with the existing waste incineration plant and thermal storage.

The energyTRADE software is being used by Verdo to plan the complex participation of a 50 MW-el biomass fired CHP-unit in both the Nord Pool Spot Market, the Tertiary reserve and the Primary reserve.



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**EMD International A/S**  
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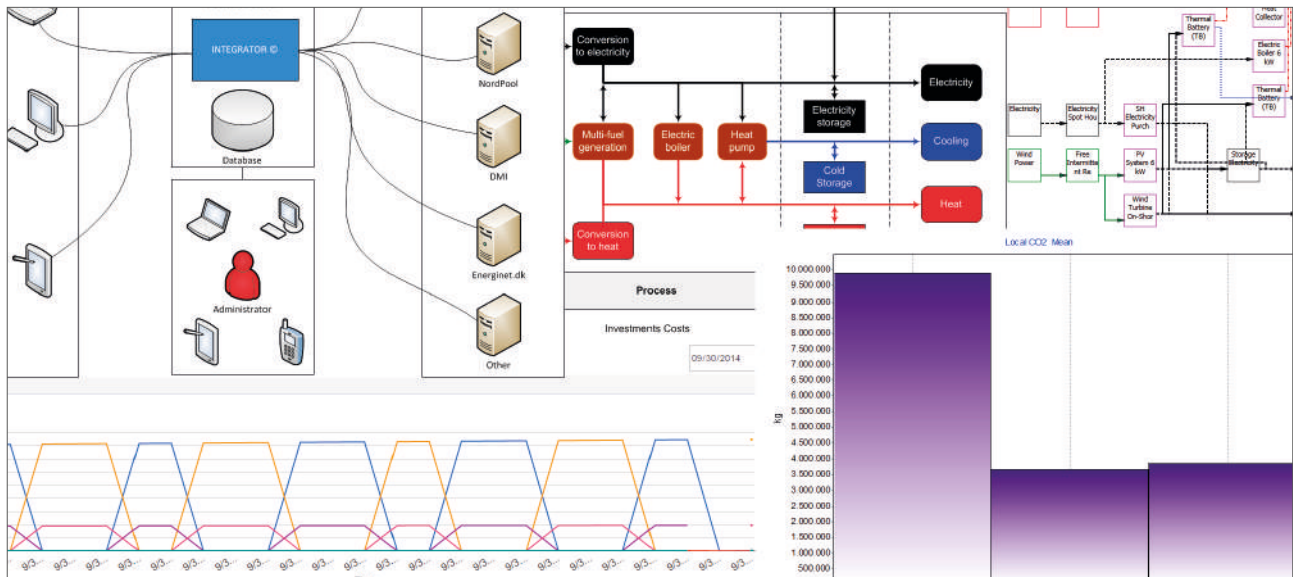
Find out more at [www.emd.dk](http://www.emd.dk)





## ENERGIANALYSE.DK

Sustainable Energy Smarts



ENERGIANALYSE.DK creates intelligent solutions that change the way sustainable energy is produced and consumed. We create powerful and interactive energy analytics that enable businesses, utilities, aggregators, and policy makers to make feasible and cost-effective decisions.

Our software products include:

- » **COMPOSE<sup>®</sup>** is a parametric linear programming model for designing and evaluating energy options within an energy-economy system. COMPOSE provides a rapid and powerful basis for comparative energy systems analyses that are consistent with the micro-economic reality of operational scheduling.
- » **INTEGRATOR<sup>®</sup>** is an online platform independent solution for serving users, aggregator and maintenance organizations, with powerful and interactive data analytics and optimization tools for everything related to production, operation, and consumption of energy.

Our solutions combine knowledge within the fields of techno-economics, operational scheduling, interactive software, renewable energy, smart energy systems, district heating and district cooling, Power-To-Heat and Power-To-Cooling, Power-To-Gas technology, compression heat pumps, electric boilers, thermal storages, and distributed generation systems.

At the same time, we believe that energy modeling without capacity building is no pretty model at all. Every client is unique and we are dedicated to analyzing energy systems in context, while producing value awareness and inclusive skills driven by case-in-demand.




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Find out more at [www.energianalyse.dk](http://www.energianalyse.dk)

## Your partner to build small district heating systems

Company name: <b>EUROWATER</b>	 PURE WATER TREATMENT
Fields of our activities for small district heating: <ul style="list-style-type: none"> <li>- <i>Manufacturer of water treatment solution with focus on minimizing use of chemicals as well as water/energy consumption. Besides manufacturing, we also offer installation, commissioning and after-sales-service with our competent teams.</i></li> <li>- <i>HQ and main factory in Denmark. Subsidiaries with sales/service in Austria, Germany (five locations), Slovakia, Czech Republic, Poland, Belgium, the Netherlands, Sweden, Norway etc.</i></li> </ul>	
References: <i>We have been involved with District Heating for many decades – hundreds of project references, including RWE, Fortum, Vattenfall and other leading energy/district heating companies in Europe. But also deliveries to municipal or private, smaller district heating companies.</i> <i>Just a few references as example:</i> <ul style="list-style-type: none"> <li>- <i>Denmark: Kyndby CHP Plant, DONG Energy. Boiler feed water application / Skanderborg District Heating Boiler Plant (20 MW) / Nordforbraending Waste-to-Energy Plant, Copenhagen.</i></li> <li>- <i>Germany: Stadtwerke Brandenburg / RWE Innogy, Hamburg-Lohbrügge / Vattenfall, Berlin-Märkisches Viertel / BTB Schöneweide, Berlin, CHP (BHKW).</i></li> </ul>	
General fields of our activities: <i>Our water treatment solutions i.e. include:</i> <ul style="list-style-type: none"> <li>- <i>Filtration</i></li> <li>- <i>Softening</i></li> <li>- <i>Demineralization</i></li> <li>- <i>Reverse osmosis</i></li> <li>- <i>EDI</i></li> <li>- <i>Nanofiltration</i></li> <li>- <i>UV Disinfection</i></li> <li>- <i>Automation</i></li> <li>- <i>Dosing/conditioning units</i></li> <li>- <i>Rental container plants</i></li> </ul>	

General description of our company:

*Privately held (independent) manufacturing company, established in 1936. Close to 400 employees around Europe, with approx. 50% located in headquarter and main factory in Denmark. Competent sales and service teams in many European countries.*

*Main business segment is district heating / heat and power plants – we also manufacture water treatment solutions for drinking water and a wide range of technical/industrial water.*



***Plug-and-play water treatment plant for biomass gasification plant***

*This plant is designed mainly for producing ultrapure make-up water for a high-pressure steam boiler. The plant is supplied to Göteborg Energi AB for the GoBiGas project, a 20 megawatt biomass gasification and methanation project in Gothenburg, Sweden.*

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## Your partner to build small district heating systems

<p>Company name:  <b>Grundfos Holding A/S</b></p>	
<p><b>Fields of our activities for small district heating:</b></p> <ul style="list-style-type: none"> <li>- <i>Pumps for any purpose</i></li> <li>- <i>Distributed pumping, essential for lowering temperatures in DH</i></li> <li>- <i>Temperature zoning with mixing loops, reducing heat losses to the minimum</i></li> <li>- <i>General controls</i></li> <li>- <i>Connectivity, e.g. making remote control of pumps possible</i></li> <li>- <i>Energy optimization services</i></li> <li>- <i>And more</i></li> </ul>	
<p><b>References:</b></p> <p>Two cases are attached.</p> <ul style="list-style-type: none"> <li>• Danish Verdo – 180 MW District Heating System <ul style="list-style-type: none"> <li>○ New pumps helping to lower temperatures from 95C to 78C, working more reliable and efficient than ever.</li> <li>○ Installations of more than 80 pumps, incl.g main pumps, water soot blower, cooling pump for spreader system, make up water pumps for network and boilers, fire pump, air-vent pump, lull-heat pumps, bio-oil pumps, water treatment system and DE-mister pumps.</li> </ul> </li> <li>• Modernising District Heating in China <ul style="list-style-type: none"> <li>○ Installation of modern pump technology from Grundfos helps Qingdao DH to save 600,000 kWh electricity per year</li> <li>○ State-of-the-art efficiency and reliability, but also Grundfos product and application training has contributed to the savings</li> </ul> </li> </ul>	
<p><b>General fields of our activities:</b></p> <p><i>On top of what is mentioned under small district heating, we produce and deliver:</i></p> <ul style="list-style-type: none"> <li>- Pumps and control for industrial processes</li> <li>- Pumps and control for water utility and waste water</li> <li>- Pumps and control for domestic, residential and commercial buildings</li> <li>- Pre-manufactured pump skids, e.g. HVAC and fire systems</li> </ul>	

**General description of our company:**

Grundfos was founded in 1945 and is a global leader in the pump industry. We employ 17,000 people and produce 16 million pumps annually that are being sold through offices in 45 countries.

Grundfos is a full-line supplier of pumps and pumping systems for district energy, buildings, industry and water utility.

Our concern for the environment is one of the driving forces in our focus on district energy. We are relentlessly ambitious in optimizing our pump solutions and we work with all levels of decision makers within district energy. We do so to develop the most reliable and energy efficient district energy solutions. This approach has proven to be successful, no matter where in the world we have been involved in the design process.

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## Inopower

Innovative Power Automation



### SHORT INTRODUCTION TO INOPOWER:

Inopower has since its establishment in 2002, been specialized in development of control systems for energy generation/distribution and district heating processes, in decentralized energy systems. Inopower's engineers are a dedicated work force with many years of experience in control systems development for energy and process control. Inopower is leading supplier of Power Grid balancing systems, dispatching and ancillary services in Denmark.

### WHAT DOES INOPOWER OFFER?

- » Engineering and planning of automation system for power
- » PLC & SCADA system for a wide range of applications
- » Grid balancing, communication and remote control system for the energy sector
- » Worldwide experience

### REFERENCE:

- » Control system for district heating powerplants in Denmark
- » Control system for district heating powerplants in Denmark
- » Generator protection and voltage regulation. On/Off shore; Statoil Norway
- » Gas-turbine control system (3->50MW); IER Dubai



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## Intego

Leading supplier of prefabricated technical shelters



### SHORT INTRODUCTION TO INTEGO:

Intego is a leading supplier of prefabricated technical shelters manufactured from rustic, durable and modern materials. We specialise in tailored solutions that meet the individual needs of our clients. Intego Shelters represent customised solutions that are based on standard modules. On account of this approach, we are able to deliver tailored solutions quickly and efficiently, matching any financial budget.

### WHAT DOES INTEGO OFFER?

Intego produces tailored technical shelters. We perform all phases of a project, from design, production and testing to delivery and on-site installation. Among other services, we provide supply companies with pumping stations, but also offer technical shelters and server rooms to a number of sectors and for a variety of purposes:

- » Rail sector
- » Telecom sector
- » Broadband sector
- » Server
- » Utility

### REFERENCE:

Intego fulfilled the role of full-line supplier as we produced and delivered two Intego Shelters to TREFOR Heating. Both shelters are customised specifically to the requirements listed by TREFOR Heating, and are therefore divided into two compartments, intended to separate the machine section from the electricity. The shelters were delivered on-site, ready to 'plug & play'. "Intego provided us with a complete, high-quality solution. Should the need for additional pumping stations arise, we will most certainly turn to Intego for assistance again." Ivan Sand, Chief Engineer at TREFOR Heating.

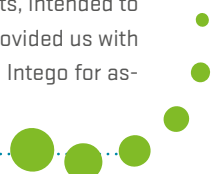


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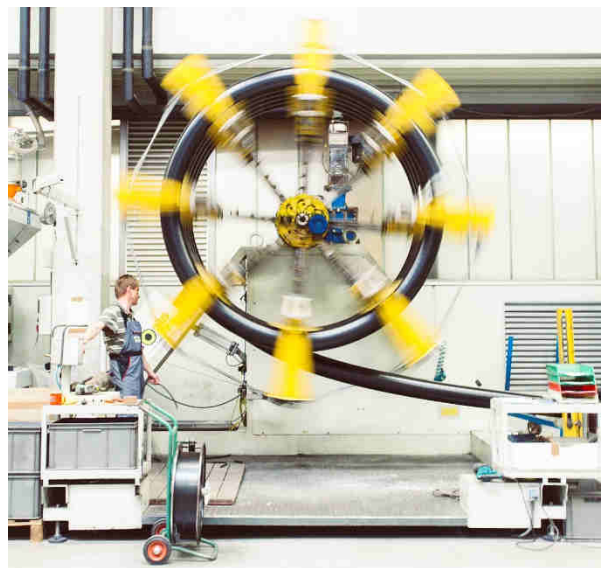




## Your partner to build small district heating systems

<p>Company name:</p> <p><b>Isoplus Fernwärmetechnik Ges.m.b.H</b></p>	
<p><b>Fields of our activities for small district heating:</b></p> <p>District heating systems</p> <ul style="list-style-type: none"> <li>- KMR pipes</li> <li>- PEX pipes</li> <li>- Jointing and installing</li> <li>- Alarm systems and service</li> </ul>	
<p><b>References:</b></p> <ul style="list-style-type: none"> <li>- Kuwait oil company</li> <li>- City of Rotterdam</li> <li>- City of Copenhagen</li> <li>- Transmission line Gratkorn- Graz</li> <li>- Transmission line Dürnröhr-St. Pölten</li> <li>- Further projects you will find on:  <a href="http://www.isoplus.at/download/referenzliste-oesterreich/">http://www.isoplus.at/download/referenzliste-oesterreich/</a> </li> </ul>	
<p><b>General fields of our activities:</b></p> <ul style="list-style-type: none"> <li>- Micronets</li> <li>- Utilities</li> <li>- Biomass</li> <li>- Biogas</li> <li>- Cooling systems</li> <li>- Infrastructure projects</li> <li>- Oil projects</li> </ul>	
<p><b>General description of our company:</b></p> <p>The isoplus Group is represented with 15 national companies throughout Europe and with a further location also in the Arabic language area and a location in Kazakhstan.</p> <p>Founded in 1989, we are a leading manufacturer and exporter of high-quality products, specialized in the manufacture for pre-insulated piping systems for district heating and cooling.</p> <p>We constantly introducing new technologies and designing, manufacturing and insulating thousands of kilometres of district heating systems.</p>	

Our pre-insulated piping systems are designed for direct installation and include a complete range of pipes and components. We offer pre-insulated pipes of steel, PEX, AluPEX, copper and SteelFlex. Pipes are available with single or double support tubes.



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## Your partner to build small district heating systems

<p>Company name: <b>Kamstrup A/S</b></p>	
<p>Fields of our activities for small district heating:</p> <p><i>Kamstrup has a long history manufacturing and developing heat/cooling meters and systems for the district heating industry. Our meters can handle both heating and cooling depending on the needs of the utility and is not produced or configured until before both we and the utility are certain that it will meet the exact needs. This also means that we happily take on the role as the sparring partner and try to guide our customer to get value from our product and from their network.</i></p> <p><i>It is not the data – it how you use it.</i></p> <p><i>General fields of operations:</i></p> <ul style="list-style-type: none"> <li>- Submetering and District Heating</li> <li>- Heat and Cooling</li> <li>- Smart meters</li> <li>- Smart metering systems</li> <li>- Sensors (pressure, temperature etc.)</li> </ul>	
<p>References:</p> <p>Kamstrup is world market leader within smart metering. With meters installed worldwide, our product is well known, not only to customers in our home market of Denmark, but to utilities in most countries, where district heating/cooling is present.</p>	

General fields of our activities:

- Producing smart meters for the heat and cooling industry
- Delivering metering systems to collect data from smart meters in order to optimise operations and energy and resource consumption.
- By being on the edge of the latest technology and knowhow, we aim to assist utilities, cities and countries to better handle the ever-stricter demands for resource optimisation, safe and secure supply of district heating/cooling and lower prices for customers.
- Driving the political agenda to ensure the position of district heating as the primary driver in meeting the future heating demands but also in the transition towards integrating renewable energy sources into the network.

General description of our company:

At Kamstrup, we define success by the progress we create for others. Our superior technology and expertise have been the foundation from which to transform businesses and markets, by creating more efficient ways of working, ever since the company was founded by Olaf Kamstrup in Denmark in 1946.

Kamstrup now has 1200 employees, producing smart meters and metering systems in the water-, electricity- and heat/cooling businesses.

Owned by the Danish company OK, we have employees in more than 20 countries around the world, with the number of territories in which we operate continually increasing as part of a global expansion.

Every day around the world, Kamstrup smart meters, installed in households and commercial buildings, enable the delivery of more intelligent, reliable and cost-effective ways to measure and manage the supply of energy and water.

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## Your partner to build small district heating systems

<p>Company name: <b>Logimatic Engineering</b></p>	
<p><b>Fields of our activities for small district heating:</b></p> <p><b>District heating plants:</b> Logimatic offers substantial qualifications and solutions in instrumentation, automation and control of boiler and energy plants. We have delivered solutions for both hot water and steam production and with both gas and oil as fuel. We have extensive knowledge of the security requirements and deliver solutions that live up to the requirements that are made in the different industrial sectors both technically and concerning documentation. We collaborate with a number of different burner suppliers and have experience with integrations and interface with the burner suppliers' own operating systems.</p> <p><b>District heating network:</b> Logimatic offers automation services for district heating. We have in-depth knowledge as well as great insight into and experience with processes and regulation principles in management of district heating. Logimatic gives priority to a close and strong collaboration. Our clients get optimal solutions for their specific requirements. Logimatic is a collaborator who creates value through the solutions we offer.</p>	
<p><b>References:</b></p> <ul style="list-style-type: none"> <li>● Hillerød District Heating, Denmark: SCADA platform for a new transmission pipe for supplying three decentral district heating plants in the surrounding area.</li> <li>● Hillerød District Heating, Denmark: SCADA, Instrumentation and Control system for existing infrastructure including 3 heating plants.</li> <li>● Rodeløkka District Heating Plant, Norway: Instrumentation and Control system for new 100MW district heating hot water boiler.</li> <li>● Viken District Heating Plant, Norway: Instrumentation and Control system for new 100MW district heating hot water boiler.</li> </ul>	
<p><b>General fields of our activities:</b> Logimatic is a significant supplier of automation solutions for a number of selected markets in the industrial sector and the maritime industry.</p> <p>We develop, supply, and service complete automation solutions for the industrial sector with focus on the energy sector and the supply industry. The solutions are based on IT based SCADA systems, PLC systems, and communication networks.</p> <p>For the maritime industry, we develop, supply, and service systems as IPMS (Integrated Platform Management System) and CMAS (Control Monitoring Alarm System), and furthermore, we are specialized in energy optimization and automation design.</p>	

Our industrial automation solutions are specialized in the energy sector and the supply industry, but also for a number of manufacturing businesses.

The solutions are adapted to the respective industries. Typically, the solutions are based on SCADA and PLC systems that form part of a total network solution. As a full-service provider, Logimatic can deliver a complete solution consisting of project management, design, hardware, and software deliveries as well as operationalization and subsequent servicing.

Within automation for district heating we can deliver:

- System design and specification
  - Hardware, Software, Network design, Process design
- Software
  - Development of software for PLC, SCADA, Engineering of IT and Network equipment
- Hardware
  - Panels, Instrumentation, Frequency drives, PLC, Cabling, Network and Computer equipment
- Project management
- Documentation
- Education, Service, Support

### General description of our company:

Logimatic is a Danish engineering and software company with solid global experience in development, sales, implementation and support of in-house developed software and automation solutions.

Consultancy is also a large proportion of the services we offer, both as independent services as well as in connection with our IT solutions. We are often project managers during system integrations and for the development of customized IT systems.

Logimatic short:

- founded in 1987
- 85 employees
- ISO9001 certified
- Main office in Aalborg, Denmark
- Experience from global projects
- Does Automation, Fleet management(Sertica) and Warehouse management(Logia)

### Contact:

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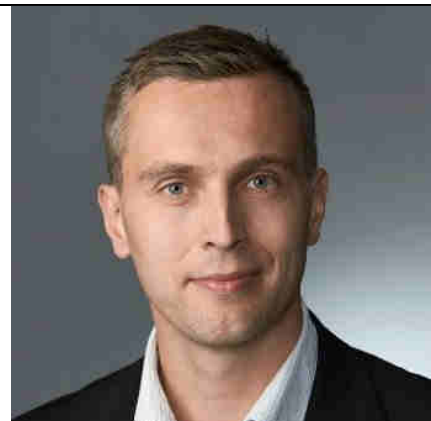
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## LOGSTOR A/S

Distributing energy efficiency



### THE HISTORY:

More than 50 years ago, LOGSTOR invented the pre-insulated pipe technology and is today the global leader, when it comes to these pipe systems for energy-efficient transportation of liquids and gases for district heating and cooling, marine and industrial purposes as well as oil and gas.

### LOGSTOR'S VISION:

"We make the World's energy supply more efficient and reduce the global energy loss with leading insulation products, improving the environment for the populations in all continents."

### FACTS:

To this date, LOGSTOR has delivered more than 170,000 km of pre-insulated pipes. LOGSTOR is a business within the energy industry providing environmentally friendly solutions and thus contributing to reductions in CO2 emissions and improved energy efficiency.



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**LOGSTOR**

Find out more at [www.logstor.com](http://www.logstor.com)





## Neas Energy

- energy asset management company



### SHORT INTRODUCTION TO NEAS ENERGY:

Neas Energy is an independent energy asset management company with activities on the European energy markets. We operate in power, gas and certificate markets across Europe. The company's head office is in Aalborg, Denmark and regional offices are located in London, Hamburg and Stockholm.

Our core business model is centred on optimising energy assets for customers operating on liberal energy markets with the value proposition of "Maximising Value by Managing Risk". Our objective is to trade physical electricity and gas on all major European markets by 2015, to ultimately provide pan-European asset optimisation to owners and operators of physical energy assets.

### WHAT DOES NEAS ENERGY OFFER?

Neas Energy's main activities are centred on the optimisation of energy assets and include:

- » 24/7 trading of asset-backed energy production and consumption
- » IT system for operation and optimisation of assets
- » IT systems and 24/7 manual control of balance responsible party services
- » Structuring of contracts for balanced risk/reward profile



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NEAS  ENERGY

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## NIRAS

Your expert in renewable energy



### NIRAS IS YOUR EXPERT IN RENEWABLE ENERGY

NIRAS has experts that can guide you in combining energy systems adapted to your specific needs and local conditions. We have an interdisciplinary and innovative approach to working with energy supply and we take pride in transforming our clients visions and challenges into efficient sustainable solutions with concern for the environment.

### WE CAN LEAD YOU TO THE LATEST TECHNOLOGY IN DISTRICT HEATING

- » Low temperature district heating
- » Solar heat and Wind power
- » Seasonal heat storage
- » Cost efficient production plants
- » Heat pumps
- » Bio mass technology for both heat and power

### TECHNICAL SOLUTIONS SINCE 1985

NIRAS is the leading engineering consultancy company in Denmark in heat supply planning with renewable energy. Our experience in large scale solar heating systems goes back to the introduction on the Danish market in 1985. Since then our engineers have obtained worldwide experience in international energy projects.

### REFERENCE:

- » Dronninglund – the World's largest solar heat plant with a pit storage of 62.000 m3
- » Hjørring – the World's most efficient biomass plant
- » Hillerød, Biomass plant using the latest ORC technology

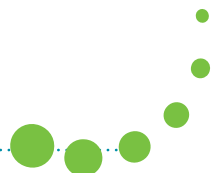


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**NIRAS**

Find out more at [www.Niras.com](http://www.Niras.com)







## Nordland Automatic A/S

Technology that works for you



### SHORT INTRODUCTION TO THE COMPANY:

Nordland Automatic was established in 1995. We have a long-term experience in industrial systems from control- and failsafe solutions in the energy sector over engineering and manufacturing of control- and distribution panels to high-end robotic solutions. Nordland Automatic develops both customized solutions and many types of standard solutions.

### WHAT DOES NORDLAND AUTOMATIC OFFER?

Flexible solutions your business need:

- » **PLC controllers and Process monitoring**
- » **SCADA Visualization Systems**
- » **Control and Distribution panels**
- » **Boiler and Burner Control- and Safety Systems**
- » **Robotic Solutions**
- » **Machine Controls**
- » **Vision System**
- » **Database development/PC programs**

### REFERENCE:

Developing and servicing control systems for a number of smaller local power plants  
Supplier of software for boiler management – and control systems for on-shore power plants  
Supplier of control systems for marine boilers  
Robotic solutions for handling and packaging



### CONTACT INFORMATION

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Find out more at [www.nordland.dk](http://www.nordland.dk)





## PlanEnergi

- energy asset management company



### SHORT INTRODUCTION TO PLANENERGI:

PlanEnergi was established in 1983 and operates as an independent consultancy company. PlanEnergi's mission is to promote the use of resource saving and environmental sustainable energy systems. The firm's objectives are continually promoted through its professional activities.

### WHAT DOES PLANENERGI OFFER?

At its core, PlanEnergi specializes in the development and creation of environmental solutions for renewable energy, effective energy use and energy planning, as well as information-based services. The company works with the private and public sector. In particular, PlanEnergi covers the following 4 key areas of advice:

- » Energy planning – including heat and wind energy
- » District heating with renewable energy (solar energy, heat storages, heat pumps, biomass) from design to implementation and commissioning
- » Biogas energy – including planning, design and implementation
- » Wind energy, from planning to mapping to visualization, and ultimately, to the precise layout of newly installed wind turbines

### REFERENCE

The World' largest solar heat plant, Dronninglund (DK). The plant consists of 2.982 solar heat panels with a total area of 37.573 m<sup>2</sup>. The solar heat is sent to the consumers of district heating in Dronninglund. During summer, however, the plant produces 7 times the consumption required when the sun shines. This surplus heat is fed into a large water storage of 62.000 m<sup>3</sup> and used during autumn and winter. A heat pump uses the water as its source of heat letting the temperature drop to 10 degrees C during winter.



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PlanEnergi

Find out more at [www.planenergi.eu](http://www.planenergi.eu)





## Salling Plast AS

- specialist solutions for district heating



### THE HISTORY:

Salling Plast was founded in 1967 and today the company employs more than 100 people. Since the beginning our goal has been to establish long-term relationship with our customers and to meet their requirements and expectations in the projects we are involved in. Our ongoing customer survey shows that we indeed have succeeded in achieving this goal.

### SPECIALIZING IN CUSTOM SOLUTIONS

Thanks to our highly flexible and efficient production apparatus we are able to handle custom solutions efficiently and on-time. Our employees are highly trained to ensure uniform quality throughout the production process. Our production complies with applicable standards and regulations under ISO 9001:2008 and the production of heating pipes comply with EN 253:2013 and underlying standards.

### SUB-CONTRACTOR FOR THE OLYMPICS:

As sub-contractor for INPAL, Salling Plast produced the shrinkable casings used for building the distribution pipe network for the Summer Olympics in London 2012. For this project, as well as for many other projects, quality and on-time delivery were of the utmost importance. Recently, we were also involved in a highly specialized project for the Sochi 2014 Winter Olympics.



### CONTACT INFORMATION


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Find out more at [www.sallingplast.com](http://www.sallingplast.com)



## Your partner to build small district heating systems

<p>Company name:  <b>Salling Plast AS</b></p>	
<p>Fields of our activities for small district heating:</p> <ul style="list-style-type: none"> <li>- District heating fittings, reductions, bends, assembly t-pieces</li> </ul>	
<p>References:</p> <p>District heating / cooling (fittings), industrial applications, utility, fishing industry (farms), sewage and wastewater solutions, pressure pipe solutions, insulation solutions for marine/off shore.</p> <p>References are e.g. Logstor, Isoplus, Broen, Powerpipe, Brugg, Inpal, German Pipe, Pipelife, Uponor Infra, DE Valves (former Danfoss) and Canusa CPS.</p>	
<p>General fields of our activities:</p> <ul style="list-style-type: none"> <li>- Production of PeHD-fittings for district heating, industry and offshore</li> <li>- Distribution in more than 40 countries</li> </ul>	
<p>General description of our company:</p> <p>Salling Plast's history goes back almost 50 years, and the company has been family-owned since the beginning of 1967. The company started as a one-man business, and today we employ more than 150 employees and export to a large number of countries in and outside the European Union.</p> <p>Our products are used, a.o., for district heating, district cooling, utility and waste water, ventilation, food production (e.g. slaughterhouses, dairies and breweries), the chemical industry and the offshore industry. The export share is approx. 50% of the production.</p> <p>Our internal quality department ensures continuously that the production at any time complies with the applicable standards and rules, in accordance with the quality standard ISO 9001:2008, and that the production of district heating pipes is done pursuant to EN 253:2013 and standards pertaining hereto.</p>	

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## Saseco ApS

Your Home. In Your Hands.



### WHO IS SASECO:

Saseco is a software development company specialising in solutions for personal energy management and home automation. We have developed a user friendly online application designed to combine the advantages of automated meter reading with wireless home automation. Saseco is dedicated to advancing the synergy between the new technologies in wireless automation and intelligent energy meters.

### WHAT DOES SASECO OFFER?

Our main product, eButler, is an online software-as-a-service application for visualisation of energy consumption and controlling wireless home automation devices like switches, dimmers, smoke/movement sensors, thermostats etc. The consumption of water, electricity, gas and heating is registered hourly by so-called 'intelligent' meters, giving the user a unique insight into his/hers consumption patterns. Most energy management systems are developed for professional users, and as such require a high level of prior knowledge. Our products, however, are developed specifically for consumers. This means feature accessibility over feature profusion, and boiling down complicated calculations to simple charts and sophisticated analysis to plain results.

### EBUTLER - EFFICIENCY IN ENERGY CONSUMPTION:

The Danish Technological Institute, Saseco, AffaldVarme Aarhus and Randers Municipality have come together in the project "eButler - efficiency in energy consumption" to uncover how data from remotely read meters in private homes and public buildings can be used to influence energy consumption and behaviour over time. Saseco has developed the visualization system called eButler to collect and visualize data from all kinds of energy usage and to facilitate intelligent home control.



#### CONTACT INFORMATION

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## Your partner to build small district heating systems

Company name:  
**Savosolar ApS**



Fields of our activities for small district heating:

*We provide communities with sustainable heating with the world's most efficient collectors for district heating applications. Our solutions offer cost competitive and price stable energy over 20+ years.*

*We offer:*

- *Solar thermal collector fields*
- *Complete turnkey solutions, including system design and system delivery*

References:

*During summer 2016, Savosolar delivered a collector field with over 15,000 m<sup>2</sup> to Jelling Varmeværk in central Denmark. During its first weekend of operation, it broke the Danish record and produced 4.97 kWh/m<sup>2</sup> in a single day.*

General description of our company:

*Savosolar ApS is part of the Savosolar group, with companies in Denmark, Finland and Germany. Since 2009, the company has supplied its solar thermal solutions to 17 countries on 4 continents.*



Savosolar collector field in Løgumkloster in southern Denmark - 15,300 m<sup>2</sup> providing 20% of the village's annual heating demand.

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## WEISS

World-class Green Energy Solution



### WASTE & BIOMASS COMBUSTION, ENERGY & POWER PLANT SOLUTIONS:

Weiss A/S is a Green Profile company, with long experience in environmental and efficiency optimized combustion. We specialize in waste and biomass combustion solutions with company history dating back decades.

Weiss A/S has its own Development, Design, Construction and Project Management Departments. We have our own in-house boiler production facilities in Denmark and Poland. All our boiler designs benefit from more than 1000 reference installations worldwide. We are a leading producer of combustion plants in Scandinavia.

### WHAT DOES WEISS OFFER?

Weiss A/S Energy Power Plants convert various kinds of Biomass or Waste into Heating, District Heating, Electricity and Process Steam. Weiss A/S also handles incineration of hazardous and medical waste, and even low level radiation waste from the nuclear industry.



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