



DBDH is a member based non-for-profit NGO with the mission to "Create a better world where people, companies, and cities benefit from sustainable district heating", and our vision is that DBDH must be the "Go-To Partner for District Energy. DBDH currently counts approx. 75 member companies, which range from small niche companies over visionary district heating utilities to the leading industrial companies and the top Danish consultants. With this broad membership, DBDH represents all technologies, services, and products within the Danish district heating concept and is, on this basis, recognized and respected as a worthy cooperation partner.

# Added<sup>®</sup> Values

INTELLIGENCE IN OPERATION

**Since 2013, Added Values has provided consultancy services to customers in the Danish and international energy sectors. Their two primary focal points are optimizing investments in new plants and the operation of existing plants.**

Added Values offers expert advice in

- Strategic energy planning
- Integration of green technologies, e.g., seawater heat pumps and Power-to-X
- Economical control rooms
- Regulatory and market conditions
- Optimization of plant investment and plant portfolio
- Operation optimization of existing plants
- Advanced model-based calculations

Added Values thus provides highly specialized consultancy, ensuring a maximum value for the customers in their investments and daily energy production.

## **A strong partner in energy investments**

Their unique and profound expertise and hands-on experience make them a strong partner in their customers' energy investments, contributing to greener energy production in the future.

## **20 highly specialized engineers**

Added Values is a medium-size Danish consulting engineering company. Added Values' headquarters are located in Vejle, and they presently employ 20 highly specialized engineers, some with more than 25 years of international experience in the energy sector.



# aquatherm

state of the pipe

**Aquatherm provides world-class district heating piping systems in polypropylene.**

With Aquatherm district heating piping systems, you get a pre-insulated pipe system for underground installation, ideally suited to transport heating and cooling water safely and efficiently over long distances.

### **3-layer PP-R fiber composite pipes**

Three-layer PP-R fiber composite pipes are used as carrier pipes, ideal for underground installation due to their low linear expansion, enabling piping layouts with no expansion loops.

Aquatherm is the world's leading manufacturer of piping systems made of polypropylene with sales offices and partners in 64 markets and an annual production of 38 million meter piping and 40 million fittings.

# AALBORG CSP

- *Changing Energy*

**Aalborg CSP A/S** is a leading developer and supplier of innovative renewable technologies aiming to change the way energy is produced today. Relying on extensive experience from some of the most efficient concentrated solar power (CSP) projects around the world, the company designs and delivers green technologies and integrated energy systems to lower the cost of energy for industries and power plants around the world.

For the district heating market, Aalborg CSP A/S provides a variety of renewable and solar-thermal technologies. The company matches individual energy needs with the right systems and technologies to design the most value-adding solution and thereby reduce the energy prices of district heating. These technologies include customized CSP parabolic trough plants, flat solar-thermal panels, combination plants, integrated heat pump systems and different heat storage technologies including the Pit Thermal Energy Storage (PTES) technology. In close collaboration with the clients, Aalborg CSP A/S assists the district heating plants in all aspects, from identification of energy needs to day-to-day operations.

Aalborg CSP A/S places strong focus on R&D activities and partners with knowledge-based companies and institutions to create leading-edge technologies. As a result, the Aalborg CSP engineering design is centred on a value-adding concept providing solutions that excel in operation, increase plant revenue and contribute to a greener future.

Headquartered in Aalborg (Denmark) and with a sales and service office in Spain, Aalborg CSP A/S has realized more than 1,700 MWth cost-effective green energy solutions to a variety of industries worldwide.

ENGINEERING  
TOMORROW



**Danfoss** engineers technologies that empower the world of tomorrow to build a better future. Energy efficient technologies empower smart communities and industries to create healthier and more comfortable climates in our buildings and homes.

With long tradition and profound knowledge of district energy industry, Danfoss is taking an end to end system optimization approach, connecting energy plants, networks, buildings and homes. From intelligent control components to advanced software solutions for end to end operation optimization, Danfoss delivers solutions that help utilities and energy companies operate cost-effectively and meet the growing demands to transparency, accessibility, convenience and climate-friendliness.



With the customers as main focus, DIN Forsyning contributes through dialogue and co-operation actively to an efficient and sustainable usage of the world's resources – within the markets of water supply, waste water purification, district heating, house hold waste and recycling.

Our 230 employees are committed to creating the best results for our customers and employees – every day. Our head office is based in the town of Esbjerg.

Every year we produce and distribute about 8.6 million liters of drinking water, transport and treat 23 million M3 waste water, handle 45,000 tons of waste and supply, approximately 1000 MWh district heating from waste incineration and CHP to our customers in the municipalities of Varde and Esbjerg.

We supply district heating to the city of Esbjerg, including Sædding, Hjerting, Tarp and Tjæreborg as well as Varde and Alslev towns and also Nordby on Fanø. A total of approx. 25,500 households district heating from us.

The heat comes primarily from surplus heat from the coal-fired Esbjerg plant and from the waste incinerator Energnist Esbjerg. If Esbjergværket or Energnist are out of service, DIN Forsyning's own peak and reserve load centers are ready. They ensure that we will almost always be able to maintain the heat supply after a few hours. The production at our peak and reserve load centers is primarily based on bio oil and heating gas oil. The bio-oil is CO<sub>2</sub>-neutral and a pure vegetable product. We use between 1,000,000 and 4,500,000 liters annually. Our peak and reserve load centers also function as pumping stations, so that the district heating passes through the smaller plants and on to the radiators.

We are transforming our heating system away from coal to utilizing wind and solar for heating. The cornerstone for the power-to-heat is large scale seawater heat pumps.

<https://youtu.be/YcJrVA3EhPE>



With an annual production of almost 16 million pump units, Grundfos is a global leader in the pump industry. Grundfos is a full-line supplier of pumps and pump systems for heating, air conditioning, wastewater and pressure boosting in private and commercial buildings. Furthermore, the company is also a market leader within solutions for water supply, dosing, fire fighting, wastewater treatment and industrial applications.

The Grundfos Group presently employs more than 17,000 employees in 80 companies in 45 countries. In addition, Grundfos products are sold by distributors across the globe. Grundfos is the preferred supplier and sparring partner for investors, consulting engineers, and building owners/users with a focus on reliability, Life Cycle Costs and environmental care.

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



**As the globe gets warmer, it becomes increasingly urgent to rethink how we heat our buildings.**

Innargi will use geothermal to heat millions of homes without leaving an imprint on our planet. We can all make small changes in our daily lives to better care for our nature and environment. But what the climate needs is large-scale change.

Sun and wind have already changed the way we produce energy. What the technologies have done for electricity, geothermal energy can do for heat. Innargi has the skills to make it a reality. With our combined expertise from an experienced team of geologists, reservoir, facility, and drilling engineers, as well as from partnerships with district heating experts, we now have a unique opportunity to realize ambitious plans and create fundamental change.

Innargi is owned by A.P. Møller Holding, ATP and NRGi.





We face the challenges of the world

We believe that we all play an important role in reducing relative energy consumption, and in developing an energy society that counter fights CO2 emission and has no negative impact on our environment.

Affordable, stable and sustainable energy will fuel a world of growth and at LOGSTOR, we take responsibility for a cleaner world.... !

In every society, pipe networks are vital parts of the infrastructure. Literally speaking, the pipe systems connect energy production, transmission, distribution and consumption - all the way. LOGSTOR pipe solutions bring people together to create the most efficient energy solutions - ranging from politicians, utility owners, engineers, contractors, consumers and manufacturers. All in an orchestrated approach to fuel and shape the world and combat climate change.

Energy efficient pipe systems with the very best insulation properties will ensure that only a minimum of produced energy goes to waste when transported over long distances - no matter if the energy is hot water, cold water, oil, gas or other precious liquids. More than 50 years of research, exploration and development in close dialogue with our customers have made LOGSTOR the leading manufacturer of pre-insulated pipe systems for any media - a second to noninnovative leader, setting higher standards year after year. We invented the pre-insulated pipe, the flexible pipe, unique joints and fittings, and we were the first company to introduce environmentally friendly products for the manufacturing of the best insulation material.

Safety, quality and flawless deliveries are a matter of course at LOGSTOR - and we proudly deploy our many years of experience into long lasting energy solutions for people, for companies and for societies.



Pernexus systems develops the Worksportal, a digital solution to increase efficiency in energy companies and ease collaboration in large public works involving excavation.

Our product, the Worksportal, is a cloud-based collaboration platform developed for companies in the utility sector that own a network of pipes and initiate large public construction works, maintain the infrastructure, manage the daily operational tasks in all types of projects involving excavation.

Much more than just a software

Manage tenders online with structured data

Optimize administrative procedures with automated processes

Benefit from integration to a number of software suites and GIS system

Asset management via RFID/NFC technology

Access to real-time updated data accessible to all parties also on your smartphone with the EPMobile app



PlanEnergi is an independent consultancy that was established in 1983. We offer expert advice in:

- Strategic energy and heat planning for local authorities and utilities
- District heating projects, including:
  - Large scale heat pumps
  - Excess heat
  - Thermal storages (tank, pit, aquifer and boreholes)
  - Solar heating
  - Direct use of wind power and PV for Power-to-Heat
- Biogas & Power-to-X

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. We have currently 50 employees in our three Danish offices but offer our services internationally too.

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



SallingPlast'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 100 employees and export to a large number of countries in and outside the European Union.

We are continuously expanding the product range, which now includes 40.000 item numbers – from pre-insulated district heating products to fittings and other forms of tubes in plastic and plastic caps, and a wide range of specialty products. Over the years the development has been in close relationship with our customers.

An increasing part of the production consists of special solutions. We handle all aspects of special solutions through our flexible and efficient production resources – including manufacture of tools and machinery for the production.

The products are used 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 approximately 50% of the production.

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.



For over 30 years the Isoplus group has been developing, producing and marketing pipe systems for district heating and district cooling as well as pipes for all types of industrial plants. The Isoplus group is made up of a number of separate manufacturing and sales companies throughout Europe, and employs over 1,000 people.

Every year, the Isoplus group delivers thousands of kilometres of preinsulated pipes in sizes ranging from DN 20 all the way up to DN 1200. The product range includes preinsulated pipe systems for district heating, district cooling, steam and pipe systems for industrial use.

At Isoplus, much of our energy is focused on innovative product development to keep pace with market requirements, using the latest technology. We have recently boosted the capacity of our high-tech continuous production lines, where we make preinsulated pipes with gas diffusion barrier. The gas diffusion barrier keeps heat losses low throughout the service life of the pipe.

Isoplus is a modern enterprise that meets all international standards and requirements in all areas – whether they apply to our products or to the environment around us.



asises local experience combined with a global knowledge-base. The company constantly strives to achieve inspiring and exacting solutions that make a genuine difference to its customers, end-users and society as a whole. Ramboll works across six markets: Buildings, Transport, Environment, Energy, Oil, Gas and Management Consulting.

### **Energy**

Ramboll has more than 45 years of experience in the planning, design and implementation of energy solutions. The company advises on energy strategies and master planning, the full range of renewable and fossil-fuel based energy production technologies as well as energy transmission, distribution and storage. Its special competences lie within four areas:

- District heating
- Offshore wind
- Waste-to-energy
- Thermal power

In these four areas, Ramboll provides one-stop services, unique know-how and experience gained from a number of project references unmatched by other consultancies.

### **District energy**

Ramboll has played an integral part in the design of the city-wide district heating system in Copenhagen, which supplies heat to more than 1 million people. Ramboll has provided a wide variety of services to the majority of transmission and distribution companies and worked closely with all the local authorities. Overall, Ramboll has played an instrumental role in making Copenhagen an archetype of what can be achieved within district heating, multi-fuel CHP plants, waste-to-energy CHP plants, advanced heat storages and district cooling. Moreover Ramboll has played a major role in the development of district heating based on renewable energy including large-scale solar water heating, biomass boilers, large heat pumps and seasonal heat storages.