



**urban**energy

**AUSTRALASIA**

*local* solutions to *global* problems

## About Urban Energy

Urban Energy is committed to sourcing new and innovative renewable energy technologies and solutions, and making them available to the Australian Market. Urban Energy offers an expanding range of exciting products from commercial solar thermal packages, that can include domestic hot water systems with hydronic heating (in floor heating) and systems with the ability to also heat the family pool.

We also offer our clients Cogeneration (or combined heat and power), Trigeneration, independent or decentralized power and thermal energy production products, services and plant financing.

Our clients come from a large cross section, from the private residential community to larger commercial project developments. With this in mind, Urban Energy prides itself on a high level of customer service. We are committed to designing and building solutions for everyday problems, not just selling the product.

Through our range of products, we continually look at ongoing power costs and rising tariffs of conventional energy suppliers, with two main objectives in mind. Firstly, to maximize energy savings along with reducing our carbon emissions, and secondly to bring to the market innovative products that are truly cutting edge technology, that will not just meet market expectations, but remind our clients of our corporate environmental responsibility.

## Partners



# Services

## Sales and Engineering

In-house sales and application engineers assess each site to identify project viability. From feasibility studies to comprehensive site surveys, Urban Energy identifies what is required and recommends a system to meet the customer's specific needs.

## Design

Careful preparation at the design stage reduces installation costs and increases savings over the lifetime of the scheme. Our building service engineers and thermal power specialists use the latest CAD technology to plan the logistics of implementing onsite Cogeneration.

Detailed design drawings identifying site interfacing and plant room access considerations are developed before the project is taken to site.

## Project Management

Urban Energy's engineers work with clients, their architects and the installing mechanical and electrical contractors on specifications to ensure that the Cogeneration or Trigeneration system selected is fully integrated with the building's services and operational systems.

A senior engineer is appointed to each project, responsible for producing and implementing a detailed information package, typically including:

- ◆ Project-specific scope of works, design and specifications
- ◆ A program of works
- ◆ Supervision and reporting of works in progress
- ◆ Operation and maintenance manuals
- ◆ Commissioning

On completion of an installation, our project manager will organise pre-commissioning and final commissioning of the project in conjunction with the appropriate electrical distribution and gas network operators.

## Energy Audits

Correct selection of equipment to integrate with a building's electrical and thermal profile is paramount to the efficiency and longevity of a Cogeneration or Trigeneration plant.

Urban Energy offers comprehensive site energy auditing, involving installation of electrical and thermal energy metering devices. Using a data-logging system, we determine a building's electrical and thermal demands to extremely high levels of accuracy. The resulting information is used to recommend the optimum Cogeneration or Trigeneration plant and equipment solution to that site.

## Consultancy and Engineering

Urban Energy offers a complete design and engineering service for accurate documentation and professional engineering of all systems.

Disciplines covered include:

- ◆ Mechanical
- ◆ Electrical
- ◆ Hydraulic
- ◆ Acoustic
- ◆ Environmental



IVT stands for innovative solutions for plumbing and heating. Apart from the patented Prineto plastic pipe system, we also supply the highly efficient Latento solar layer storage system.

# LATENTO

## UE, 56G HZ500

Gas boosted stand alone solar heating package that will facilitate the daily hot water and space heating and heat rejection requirements of the home and swimming pool.



## UE, 44G HZ500

Gas boosted stand alone solar heating package that will facilitate the daily hot water and space heating requirements of the home.



## UE, 112G BW1000

Gas boosted stand alone hot water heating package that will facilitate the daily hot water requirements of a small commercial installation.

# PRINETO

## SURFACE HEATING SYSTEM

The Prineto surface heating system is suitable for application in residential and industrial buildings, open areas, sport facilities, public institutions



## PIPES

Prineto pipes are made exclusively of cross-linked polyethylene, and are therefore highly resistant to ageing and thus provide long term leak-proof connections.



# TEDOM

**COGENERATION – The concept of cogeneration means the combined heat and electricity (CHP).**

**Unlike the classic power plant, where heat produced together with electricity is wasted into the environment - CHP units use generated heat for heating and thus save fuel which would be burnt in boilers for producing that heat.**

## COGENERATION

Electricity in all power plants originates in the spinning of electrical generators with the help of turbines. The heat necessary for the production of steam, which drives the turbine, mainly comes from the burning of coal or the fission of atomic nuclei. Together with electricity generation a lot of heat is generated. Most of the heat is not used however, and is released into the atmosphere. The nuclear power plants therefore operate at around 32% efficiency, which means that the rest of energy (70%) is wasted. The effectiveness of electricity production in

new coal-based power stations runs at around 40%; the most modern CCGT's (combine cycle gas turbines) are at around 50%.



In cogeneration units the electricity is generated in the same way as in other power plants, however the heat is utilized. Another advantage of CHP is Decentralisation. Decentralized energy is produced in or near of point of use and save transportation's costs and losses.

The heat utilized from jacket water of engine, oil and exhaust gases are effectively used, and thus the efficiency of cogeneration units is at around 80 - 90%.

**TRI-GENERATION – Tri-generation means the combined production of electricity, heat and cooling; technologically it is a question of connecting cogeneration units with absorption cooling units. This is suitable mainly from the point of view of the operation of cogeneration units, because it allows the use of heat even in summer, outside the heating season, and thus to extend the annual running of the units.**

Just this lowered possibility of using heat from cogeneration units in summer months often leads to the use of smaller units than would normally be suitable. If we can change the heat into cooling, then nothing stands in the way of the cogeneration units working normally in the summer. The produced cooling can be used everywhere where air-conditioning is needed - in banks, hotels, business and administration centres, hospitals, sports halls and so on.



The Heatmiser Network System allows you to control your heating centrally, from our Colour Touchscreen, remotely by text message and over the internet from anywhere in the world.

## DOMESTIC AND INDUSTRIAL HEATING CONTROL SYSTEMS



### Dial Type Thermostats

Our range of dial type thermostats are simple to use and offer a great level of accuracy.

### Underfloor Heating Thermostat

This unit takes control of electric underfloor heating systems, is highly flexible and suitable for all types of electric floor heating applications.



### Mains TouchScreen Thermostat

Designed to make life a little easier. The intuitive touchscreen display makes searching for the user manual a thing of the past. Models suitable for boiler and underfloor systems.

### Touch Pad

Have central control of your home heating system with the use of the Colour TouchPad. Gives central control of up to 32 low voltage thermostats.



### Central Wiring Switch Boxes

Designed to simplify the wiring process. Actuator, boiler and pump connections wired from a single point.



As a manufacturer of solar and heating controllers, we are affected by the environmental protection idea of viewing energy as being of precious value. Our goal is developing products which serve to save fossil resources by optimising heating systems. Combining the increasing complexity of electronic devices with understandable user guidance is our philosophy. We thus supply our customers with sophisticated, user-friendly controllers with the appropriate accessories.



### TDC - Temperature Difference Controller

Designed for solar and heating applications



### HCC - Weather Compensated Heating Controller

Easy to read lighted display with comprehensive full text and graphic mode.



### TDC 3 - Temperature Difference Controller

Designed as a solar thermal energy controller, with crystal clear operator guidance in a variety of languages.



### STDC - Small Temperature Difference Controller

Combines the functionality of TDC1 in a small housing, with comfortable display and menu.



**BOSCH**  
Invented for life

Whether you have a small studio apartment, family home or commercial business, Bosch can tailor the right hot water system for optimal efficiency and supply of endless hot water.

## BOSCH Highflow

The Bosch Highflow Series are the most advanced continuous flow gas water heaters to be sold in Australia and New Zealand and are the pinnacle of hot water technology.

The range is available in 17, 21 and now the even higher 26 litre per minute flow rates, to ensure that you never run out of hot water!



Bosch 32 Series gives you flexibility and reliability when there is a demand for large volumes of hot water. The 32 series has all your applications covered and is perfect for large homes (3+ bathrooms).

## BOSCH 26 Eco+

The Bosch 26eco+ gas hot water system is a high-efficiency, fully-condensing appliance. Unlike traditional hot water systems, a condensing unit captures heat from the exhaust gas and uses it to preheat the incoming cold water, making the 26eco+ the most energy efficient gas hot water system on the market.





Beijing Sunda Solar Energy Technology Co., Ltd. is a worldwide leading manufacturer of evacuated tube solar collectors. Sunda was jointly founded by the DASA and SUNPU in 1995, based on two parties' research in the solar thermal field for over 10 years. Although it has very proud history, Sunda has been working hard on manufacturing and R&D excellence ever since.



### SEIDO 1 SOLAR COLLECTORS

All of Sunda's collector tubes are evacuated and sealed with our patented hermocompression sealing technology to prevent heat losses and to provide protection from corrosion. The heart of all collector tubes is an absorber plate with its aluminum nitride selective coating. The selective coating ensures the exceptionally high solar absorption and low thermal emission of our tubes. With a lifetime of approximately 15 years, our collectors offer longevity while maintaining a very high efficiency all the year round.

SEIDO1 solar collectors are available in four different models. The condensers of the collector tubes have a plug-in structure to make the tubes removable. The plug-in structure guarantees an easy installation since all parts are installed separately. Single tubes can conveniently be replaced without shutting the system down.

An important asset of SEIDO1 solar collectors is their versatility. One of application areas for SEIDO1 solar collectors is domestic water heating. Therefore installation requires remarkably little space making it practically applicable at any domestic place. Despite their little size, the collectors still cover over 70% of the hot water needs of an average household. Their excellent efficiency makes them also suitable for the operation of larger systems for commercial or public use. In addition, SEIDO1 solar collectors are also applicable for space heating and air-conditioning.





Scarcity of natural resources and increased environmental awareness lead to an unprecedented shift in society and politics worldwide. This development was the motivation for the foundation of SolarNext in 2006.

## WHY ADSORPTION TECHNOLOGY

- \* Adsorption chillers are practically maintenance – free (few mechanical parts)
- \* The life expectancy of Adsorption chillers is at least 20 years, but can also be significantly higher. For example, in the USA, an Adsorption chiller has been in operation for 70 years!
- \* Adsorption chillers consume almost no electrical energy
- \* Adsorption chillers use natural refrigerants which have no global warming potential (GWP)

### chillii® ISC10 Adsorption Chiller

Optimal application fields are all cooling and air conditioning concepts with a minimal cold water temperature of 8°C and at high ambient temperatures.



### chillii® WFC18 Absorption Chiller

The chillii® WFC18 can generate minimal cold water temperature of 6 °C. With the higher cooling capacity up to over 20 kW air conditioning in bigger application fields is possible.

### chillii® PSC12 Absorption Chiller

Through the use of ammonia, temperatures down to -10°C are possible for the cooling cycle. Thus the machine is optimally suitable for the use in the industry and the food sector.



# Urban Energy offers Cogeneration, Trigeneration, independent or decentralised power and thermal energy production products, services and financing.

## Our products and services include:

- ◆ Reciprocating engine Cogeneration systems
- ◆ Turbine Cogeneration systems
- ◆ Waste heat recovery
- ◆ Absorption chillers for air conditioning or process chilling
- ◆ Full design and engineering service
- ◆ Maintenance agreements
- ◆ 24/365 site and system monitoring and reporting service
- ◆ Energy production and efficiency reporting
- ◆ Electrical and thermal energy supply to end consumers
- ◆ Design, installation and maintenance of biogas systems
- ◆ High-efficiency solar thermal absorbers
- ◆ Thermal storage systems
- ◆ Phase change materials

