



## Metering, Billing & Remote Surveillance

Solutions for Communal Heating Systems -  
Including SmartTalk™ Two-Way Communication



# Metering, Billing & Remote Surveillance Solutions

Evinox Energy specialise in energy metering, billing and on-going management of communal heating and hot water systems.

## Communal Heating

A communal heating system supplies heat to a number of dwellings from a common heat source. It may comprise of, for example, a system heating a block of apartments or a larger scale system heating many buildings.

Heat interface units in each apartment or home provide Independent, fast recovery hot water and high efficiency heating for each residence, removing the requirement for individual boilers and a gas supply in each home.



The units are fed by a central plant room, which reduces the buildings carbon foot print and allows the integration of renewable heat sources.

## Our Communal Heating System

Using heat interface units with in-built energy meters, we can accurately monitor and record the energy used to provide heating and hot water. Our system and the information provided can be tailored to meet the requirements of the building operator and residents, ranging from simple read-only meters with data provided for independent billing through to a PaySmart™ system, or a complete remote billing solution to provide residents with a fully itemised energy bill.

This can also include metering and billing of cold water, chilled water and electricity.

## Benefits of our Metering, billing and remote surveillance solutions

### Benefits for the housing stock owner

- Total revenue management service available
- Reduced administration
- Residents only pay for the energy they consume
- Reduced energy consumption when compared to individual gas fired boilers
- Competitive management rates

### Resident benefits

- Flexible and convenient payment methods
- Reduced heating costs
- Actual bills with no estimates
- Fair Tariff Policy



## Communal Heating System Responsibilities

### Evinox Responsibilities

- Equipment supply  
(Including energy meters)
- Data retrieval
- Customer billing and meter queries
- Cash collection
- Meter maintenance
- Commissioning
- Monthly financial reconciliation

### Owner Responsibilities

- Equipment installation  
(HIU, meters, central plant etc)
- Service contracts for HIU's, meters & central plant. (Evinox can provide these service contracts if required)

### Optional Evinox or Client Responsibilities

- Line rental fees
- Installation of telephone lines  
(Telephone lines not required where a GSM modem is used)
- Metering contract agreement
- Debt risk

## Lease and tenancy agreements, things to consider in advance

- Plan in advance how you will look after the scheme
- Future replacement costs
- Service charges - where will they be charged
- Tariff costs
- Debt control
- Plan for maintenance of the heat interface units and central plant equipment
- End user profile – Housing Association or Private
- Utility supplier agreement
- Renewable Heat Incentive (RHI) & Feed in Tariffs
- Project timetable
- Revenue Management Contract

### Our Clients include:

- Housing Associations
- Local Authorities
- Private developments
- Refurbishment projects
- Managing Agents
- Utility Companies



# Metering & Billing Solutions for Communal Heating Systems

Evinox Energy provide various metering solutions for communal heating systems. Our standard metering packages are listed below, however any client request can be considered and its viability will be investigated to provide a tailor made solution.

## Metering Solutions

- Read Only Meters
- BUS Metering
- BUS Metering and Full Remote Surveillance
- PaySmart™ metering
- Complete Billing Service Including Revenue Management
- Unique SmartTalk™ Two-Way Communication – Our software is capable of not only downloading data from the interface unit but also uploading data to provide remote control and fault diagnostics
- System Monitoring and Client Support
- Energy Management

The administration of the client account can also be adjusted to fit around specific requirements to suit the clients own internal administration procedures. We are open to adopt any procedures to assist in the smooth operation of a billing procedure that we are aware may be new to many Managing Agents, Residents Associations and Housing Associations.

## Read Only Meters

ModuSat Read only meters should ideally be located outside of each apartment in the communal areas. We do not recommend that these are installed within the ModuSat unit as this will provide a problem in accessing the recorded data. If the ModuSat is installed in the communal area the meters can then be installed within the ModuSat in the normal way.

Where read only meters are installed remotely from the ModuSat we provide a meter installation kit, which includes isolation valves, the facility to fit the tamper seals and the sensor pocket for the flow pipe.

There is a requirement to physically attend the development to read meters and record the data when using the ModuSat system with read only meters. We would only recommend this solution for small developments or where the meters can be installed in a convenient secure location within the communal areas. The meters should not be installed where access provides a problem or a Health and Safety Issue.

## BUS Metering Solution

Our standard BUS solution provides the ability to read the meters remotely either via a GSM modem, telephone communication system or broadband. Each meter is wired to an BUS data cabling system and data from the meters is fed to a master unit which collates the meter information and sends the data to a remote monitoring office. The remote monitoring can be provided by Evinox or the clients own administration centre.

The BUS metering solution provides heat energy consumptions as well as, flow and return temperatures to and from the apartment from the communal heating central plant room installation and the actual flow rate of the communal heating water into the apartment. These temperature and flow readings provide an overview of how the system is operating and are useful for an engineer to see if the system is balanced correctly and can identify areas of poor flow or an individual meter problem without the need to visit the site. This can also identify opportunities for energy reduction in the system.

## BUS Metering and Full Remote Surveillance System

In addition to the features of the BUS metering solution, our remote surveillance system provides access to the system on several levels so that different operators, whether these are the system administrator, the maintenance engineer or the equipment manufacturer, use different operating modes. The structure of the remote management

software gives efficient control of every satellite unit.

The ultimate solution for billing, remote assistance, remote surveillance and remote diagnostic, the system is a vital part of the after sales package and enables the operator to determine if a fault on site is due to end user control or settings. Should the heat interface unit develop a fault or if there is a problem with the communal heating boiler plant, the remote surveillance enables a swift response and in many cases faults can be rectified before any of the occupiers know that it has occurred through the SmartTalk™ two-way communication capability.



### PaySmart™ Metering Solution

Our PaySmart™ metering solution enables residents to be in control of their own energy bills by paying for energy in advance and therefore removing any burden of building up unpaid bills or debt.

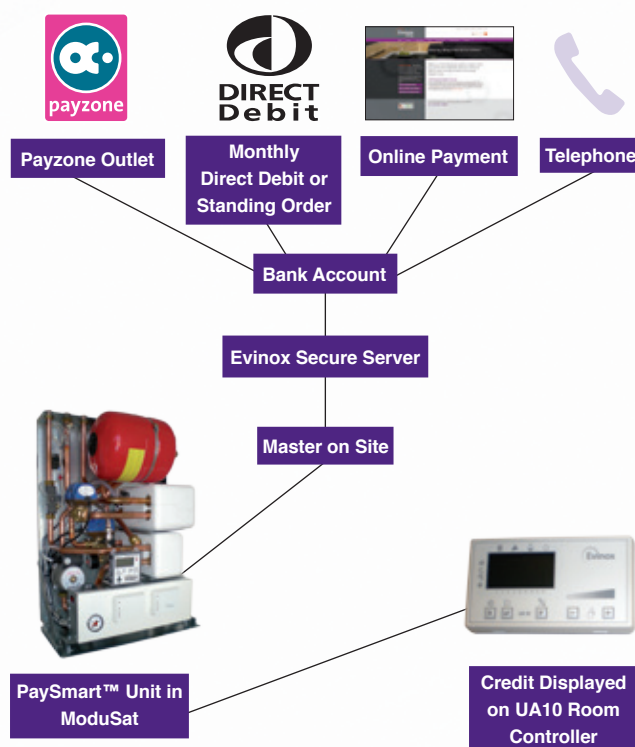
The PaySmart™ system also takes away the collection of money by the Managing Agent or Housing Association.

A PaySmart™ Unit is mounted on the ModuSat heat interface unit and is uniquely identified to a particular dwelling. This system includes a number of consumer friendly features and security provisions to prevent and detect unauthorised interference.

Unlike traditional pre-payment systems, the process of adding energy credit to the ModuSat PaySmart™ Unit is automated so there is no requirement for the resident to insert a card into the unit for activation.

The Evinox PaySmart™ system provides residents with flexibility and choice over how they pay for their heating and hot water.

### PaySmart™ Payment Process



*All payments register on the PaySmart™ Unit within a maximum of 30 minutes.*

### Emergency Credit

*Using the PaySmart™ system an agreed amount of emergency credit can be set on the unit to prevent immediate shut off of the heating and hot water. This would normally be set at around £10 and energy could be charged at an increased rate when the resident uses this credit facility.*

*Once emergency credit is exhausted the unit can be programmed to automatically either partially or completely shut off.*

# SmartTalk™

## Two-Way Communication

### Unique Two-Way Communication

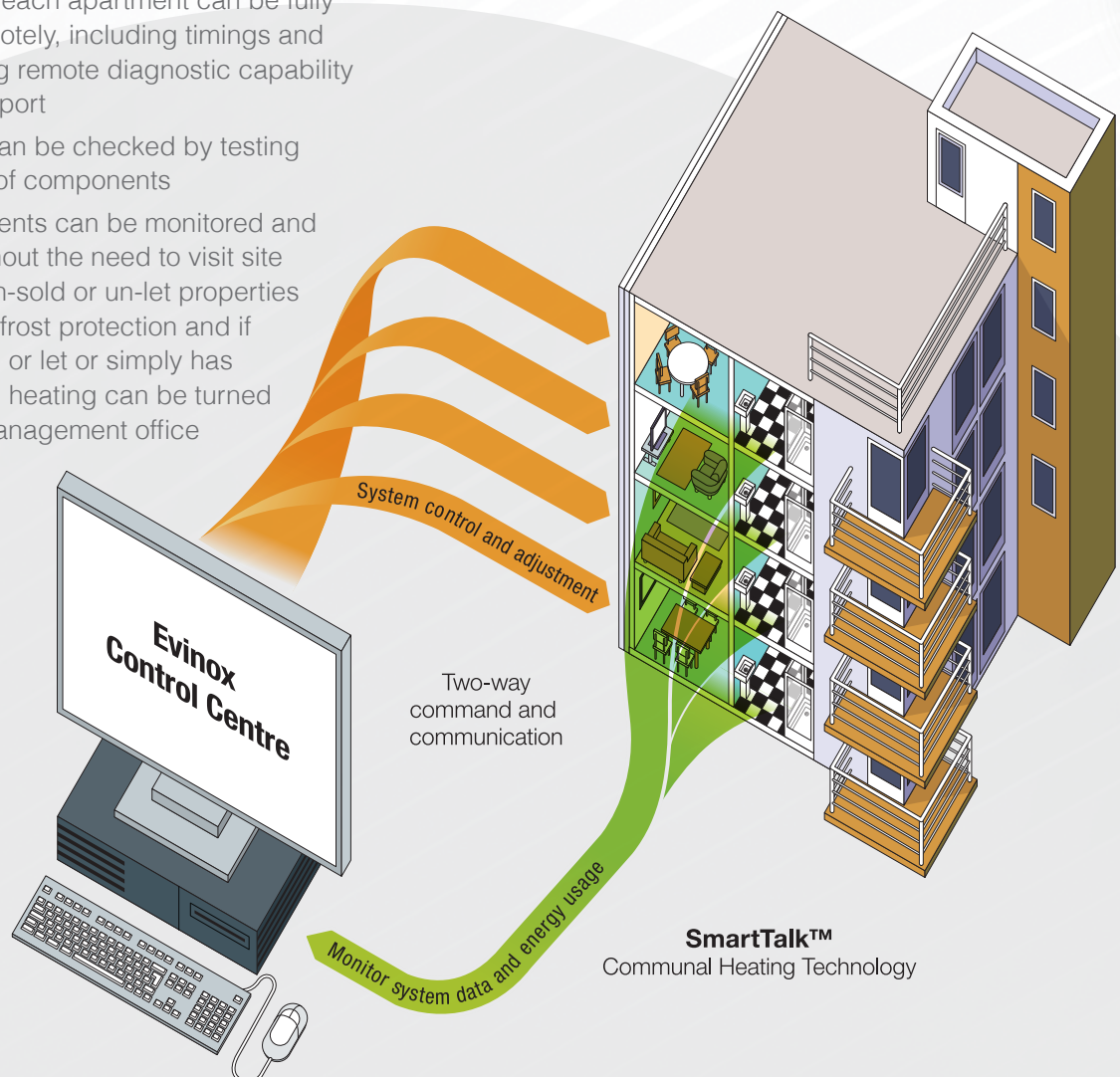
SmartTalk™ two-way data communication technology enables the system in each dwelling to be remotely metered, controlled, interrogated and tested.

Our Modusat software has the ability to not only download data from the unit but to also upload data to provide control remotely.

The two way control system provides a number of important benefits:-

- The system in each apartment can be fully controlled remotely, including timings and settings, giving remote diagnostic capability and client support
- Fault alarms can be checked by testing the operation of components
- Empty apartments can be monitored and controlled without the need to visit site for example un-sold or un-let properties can be left on frost protection and if the unit is sold or let or simply has a viewing then heating can be turned on from the management office

- SMS text message control facility to enable occupiers to set heating and hot water remotely and view consumption
- Avoids unnecessary call-outs as a result of simple user error
- Provides Data logging of apartment temperatures to avoid disputes





# Billing Services

Our billing department can provide the following services:

- Establish a database of dwellings connected to the scheme together with consumer details (if required)
- Record daily consumptions of each apartment
- Monitor the performance of the system and check for any problems that may arise via our monitoring system



- Dependant on the contract we can provide the following:
  - Issue billing data only (For example consumption readings only)
- Or
- A full billing service where we proportion the energy use and the running costs of the heating system against the energy use of each dwelling. We then issue bills directly to residents

- We will issue bills in a format agreed with the client, which can be in spreadsheet format for the clients own use or we can set out the bills on a template of the clients own headed paper or bill format so they can be run off electronically by the client without any additional work
- Operation and management of utility agreement, including procurement if required
- Tariff setting – We advise on and monitor energy costs so that the cost of the energy units can be adjusted according to fluctuations in fuel prices.
- Provide reports on individual dwelling purchases on a request basis
- Provide a monthly or 'ad hoc' report of dwellings with a low or high purchase profile based on parameters set in conjunction with the client. These reports are probably the most important management tools for successful operation of the district-heating scheme. They will provide information such as 'suspected tampering', and people not buying heat at all
- Billing service can include revenue management. Paperless Billing option
- Dedicated resident website including customer login area with a secure payment facility



Evinox Energy Residents Website

## Payment Methods

Whether the scheme operates with our credit billing service or using PaySmart, we offer residents a number of convenient and secure payment methods. These include:

- Direct Debit or Standing Order
- Top up using a Payzone card
- Secure Online Payment using the Evinox Energy website
- Pay using a Credit or Debit card over the telephone

## Our Fair Tariff Policy

Evinox Energy operates a fair tariff policy. We believe that residents of communal heating schemes should only pay for the energy that they use.

### **A standard tariff may consist of the following elements:**

- Heating/Hot Water charged per kWh (Kilo watt hour)
- Communal Facility Charge, charged per day (Where applicable)

The Heating/Hot Water Charge is a direct calculation based on the charges received from the energy supplier to operate the central plant equipment.

We employ a proportional billing system, which is based on proportioning the cost of running the system to ensure each resident only pays for the percentage of the total energy bill that they have used. (The communal facility charge is split equally between residents).

The tariff is set for each billing period by totaling the operating cost for the building(s) and dividing by the actual consumption of each home during the same billing period to convert the consumption readings to a percentage of the total cost. The cost for each home can then be calculated.

## Example

Cost per home = (total energy cost/total number of energy units consumed) energy units consumed in individual home.

*Please refer to our Fair Tariff Policy leaflet 2551169 for full details.*

## Disconnection of supply

Where our ModuSat Heat interface units are installed in a scheme, we are able to remotely disconnect the energy supply to a dwelling when payment has not been received. This service is flexible and the disconnection procedure can be tailored to the requirements of the building owner or operator.

## Debt management

Where disconnection of supply is not possible or the property is occupied by vulnerable residents, we will agree a formal debt management procedure with the building owner or operator, which can include pursuing a county court judgment to recover the debt.



## Energy Meters



Within each Modusat unit, our in-built energy meters accurately monitor and record the energy used to provide heating and hot water for each dwelling in the communal heating system.

Bulk meters are available to record the amount of energy created from the operation of the central plant room.

## Energy Management

We are all conscious of the effect that man is having on the planet and aware also of the spiraling cost of energy and the legislation covering this.

Over a third of all UK carbon emissions are generated in the home so any use of renewable energy or energy saving can have a large impact on our contribution to global warming.

The Evinox communal heating system can be integrated with renewable technology very effectively. The main plant can include a combination of renewable energy sources such as solar, ground source heat pumps or CHP, with top up boiler plant, to further improve energy savings.

Using smart energy technology in our communal heating systems, we provide end users with complete control of heating and hot water production within the home, enabling a reduction in the amount of energy used and the cost of bills.

## Energy Reports and Carbon Reduction Consultancy

Using the latest advanced metering technology, we are able to provide complete monitoring of energy consumption throughout a development. We can monitor consumption data in order to proactively assist in the management of the scheme, and provide energy reports and recommendations for improvements.

## Service and Maintenance

All Evinox communal heating systems are designed to operate at optimum efficiency, using high performance equipment. However the level of the continuous operation and maintenance service has a major effect on the lifetime of the scheme. We offer various service and maintenance packages, that are available throughout the lifetime of a project, for the heat interface units. This includes a Comprehensive extended warranty contract, where we will provide full servicing with parts and labour for ModuSat's and other manufacturers HIU's.

Our highly qualified service engineers provide the highest standard of service, and are trained specialists in our full range of Modusat communal heating equipment.

## Plant Room – Planned Preventative Maintenance (PPM)

Our Planned Preventive Maintenance is a schedule of planned maintenance procedures aimed at the prevention of breakdowns and failure of plant room equipment. The primary goal of our preventive maintenance is to avoid the failure of equipment before it actually occurs. This is designed to preserve and enhance equipment reliability by replacing worn components before they actually fail. In addition, our engineers can record equipment deterioration so they can schedule the replacement or repair of worn parts before they cause system failure. The Modusat remote monitoring system can also detect alarms and equipment failure in the central plant room.

# Customer Heat Charter for Communal Systems

Communal heating systems are becoming increasingly common for new build developments and refurbishments to provide low carbon homes.

While the use of communal heating systems should reduce emissions and help to keep heat affordable, it raises a number of new issues for developers and customers of heat networks.

There are currently no definitive regulations in place to control the standard of service that is being provided for communal heat networks, other than general fair trading standards as imposed by the Office of Fair Trading. Without protection measures in place consumers may be vulnerable.

Evinox therefore follow a "Customer Heat Charter" that has been developed based on similar procedures within the electricity markets and best practice in the industry. The charter applies to the relationship between customers and the services provider.

The purpose of the charter is to clarify and improve standards of service to domestic customers connected to communal heating systems.

The document is a commitment to provide high levels of customer service and in particular to take into account the diverse needs of those customers.

## **The aim of the Charter is to:**

- Outline the basic requirements for service and customer protection
- Apply to the majority of customers on communal heating schemes
- Help the service provider understand the requirements from the outset

We do not suggest that this Charter will apply to all possible schemes; this is simply a guideline to follow. In addition this does not prevent developers, communities, or RSLs from requiring additional services from their service provider, or serve as a replacement for communication or contract negotiation with services providers.

## **The Charter covers -**

- Vulnerable Customers
- Maintenance
- Pricing, Debt, Disconnection and Prepayment meters
- Quality of Service and Complaint Handling
- Tenants Obligations
- Energy Billing
- Pricing and our Fair Tariff Policy

*For full details please contact us to request the full "Customer Heat Charter" Document.*



# Highbury Gardens Apartments

## Revenue Management



Recently awarded “Best New Place to Live” by the Mayor of London Boris Johnson at the 2012 London Planning Awards, Highbury Gardens is a mixed-use housing scheme that has been developed by First Base Islington Ltd. The development consists of 119, one, two and three bedroom homes built around a new landscaped courtyard. This includes 62 homes for private sale and key workers that have been delivered with the HCA, the national housing and regeneration agency. A further 57 apartments are owned by the Housing Association partner, Southern Housing Group, providing a mix of tenures to meet local housing needs. First Base chose to use the revenue management services of Evinox to provide tariff control and billing management for residents via the Evinox ModuSat communal heating system.

To control costs and ensure the system operates debt free, the Evinox PaySmart™ system is being used. The Housing Association decided the PaySmart™ system was perfectly suited to Highbury Gardens as it provides their residents with a choice over how they pay for their heating and hot water. The Evinox solution offers flexibility, with the option to Pay-As-You-Go, where tenants can purchase their energy from a local Payzone outlet, online via

the Evinox Energy website or over the telephone as energy units are required. Alternatively tenants can pay via direct debit.

The Evinox BUS system at Highbury Gardens has been installed so that the meters are read remotely via a GSM modem. This solution also provides heat energy consumptions as well as, flow and return temperatures to and from the apartment from the communal heating central plant room installation and the actual flow rate of the communal heating water into the apartment. These temperature and flow readings provide an overview of how the system is operating and are useful for an engineer to see if the system is balanced correctly and can identify areas of poor flow or an individual meter problem without the need to visit the site.

The Evinox PaySmart™ system controls costs and therefore keeps the tariff rate down due to less administration and reduced debt management service being required. As a result of this the occupiers can all benefit. The building owner and managing agent also have the peace of mind that the communal system is being managed efficiently without ongoing increasing costs.





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