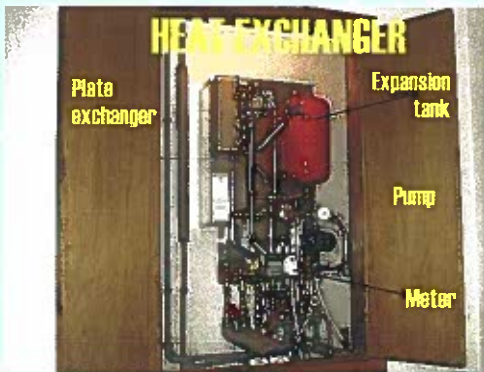
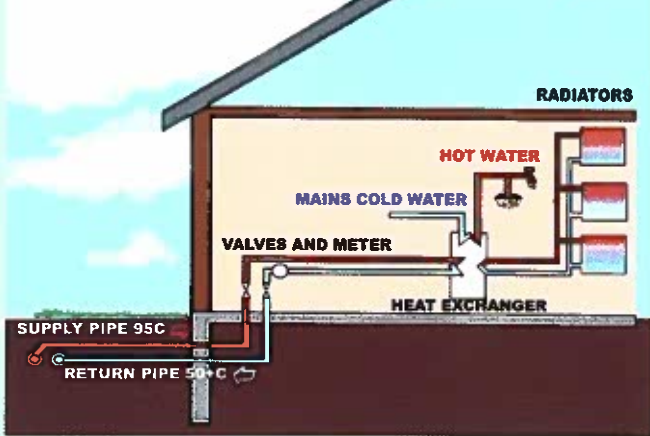


# HOW DISTRICT HEATING WORKS



Typical Heat Exchanger Installation



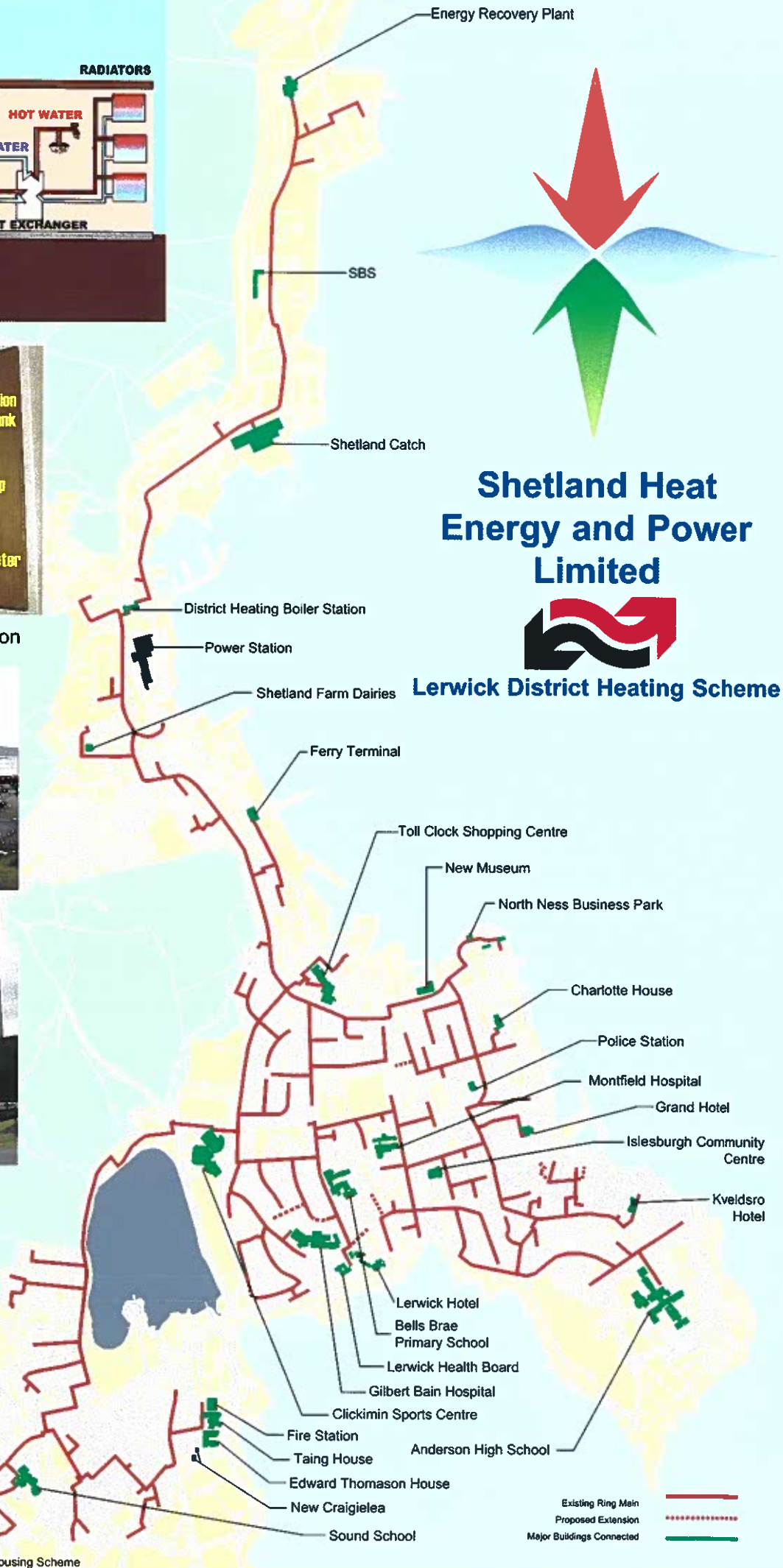
Energy Recovery Plant



District Heating Boiler Station

**Shetland Heat Energy and Power Limited**  
**Marina Business Park**  
**Gremista, Lerwick**  
**Shetland - ZE1 0TA**

Telephone : 01595 697111  
 Fax : 01595 695072  
[www.sheap-ltd.co.uk](http://www.sheap-ltd.co.uk)



**Shetland Heat Energy and Power Limited**



**Lerwick District Heating Scheme**

Quoy's Pumping Station To Quoy's Housing Scheme

The scheme has been operational for nearly 9 years and we now have around 800 customers, with more signed up for connection. Demand for connections has been greater than envisaged and we apologise for any delays. Most of the work is now concentrating on connections where pipes have already been laid. Except for special cases the order book for connections in 2007 and 2008 is full.

### Customers Now Include:-

- over 700 homes
- Clickimin Leisure Complex
- Gilbert Bain and Montfield Hospitals
- Bells Brae and Sound Primary Schools
- Anderson High School
- Shetland Catch and other Industrial Buildings
- Islesburgh Community Centre
- Ferry Terminal and Port Operations
- Churches
- Shops and Offices
- Hotels and Guest Houses
- Care Centres
- Garages and Workshops
- Shetland Farm Dairies
- New Museum

We are now one of the most successful schemes in the UK and often have people from Britain, Europe and even further afield visiting our scheme.

### Some Statistics for the Lerwick District Heating Scheme:-

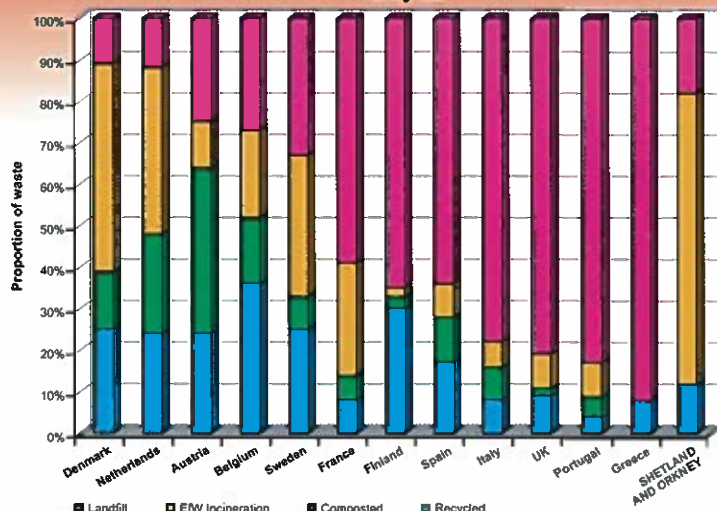
- Mains pipe laid 27+ kilometres
- Carbon Dioxide emissions reduced by 11,250 tonnes per annum
- Sulphur Dioxide emissions reduced by 500 tonnes per annum
- NOx emissions reduced by 1,000 tonnes per annum
- Fossil Fuel imports reduced by 3,930 tonnes per annum

*These figures do not include for the 22,000 tonnes of landfill that would otherwise biodegrade to global warming gases.*

63% of the heat sales goes to the non domestic sector which benefits all of Shetland's economy by over £2 million per annum.

The high oil prices of 2005 onwards has resulted in greater savings to our customers, providing an even greater benefit to the Shetland economy.

Municipal Waste Management in Selected European Countries July 02



Source: Environment agency, municipal waste incineration, July 2002; based on EEA, environmental signals 2002  
Source of Shetland and Orkney: BPEO 2002  
Note: some composting in Shetland and Orkney but there are no figures available

### Recent achievements:-

- Radio modules installed in all our meters allows us to detect if any customers systems are working inefficiently. No estimates are required. Remote metering allows us to give up to date information for statements.
- A thermal storage tank was built in 2006, which allows us to store up surplus heat overnight to meet morning peaks. After last winter it appears that the tank will pay for itself in under 5 years.

**New Heat Sources** - As our demand for heat increases we are looking for other sources of waste heat that could benefit the economy and environment. Options being looked at include:-

- Waste oil
- Waste wood
- Combined Heat and Power (using the heat from electricity generation) such as from the Power Station
- Industrial waste processes
- Heat pumps into the sea
- Biomass (possibly locally grown)
- Wind power with more thermal storage backup

**Without another heat source we will be unable to put on new connections from 2009 onwards except for special cases. Some of these alternative heat sources may be used in rural built up areas.**

If you are interested in connecting to the scheme give us a call.

[www.sheap-ltd.co.uk](http://www.sheap-ltd.co.uk)