Dimplex
Making life able

resource

WHY USE ELECTRIC HEATING

Housebuilders and developers

why use electric heating

Electric heating has a number of major benefits to both you and your customer over other fuels and this section is designed to help you understand these in more detail. The core benefits section is split into two sub-sections:

1. Benefits to the Developer and
2. Benefits to the Occupier.

In addition to the specific benefits listed, the long term future for electric heating is looking bright following the Government's recent Energy Review (see: Energy – the issues > UK Energy Policies and Strategy > Energy Review) which has signalled an increased reliance on renewables and the need for a new generation of low carbon electricity generation sources. This is a winning combination for electric heating as it will become cleaner and greener than it's ever been before, plus it is inherently renewables-ready. Electric heating is also very sustainable, bringing environmental, social and economic benefits to the community and these issues are all dealt with in more detail in the individual sections listed.

low capital and installation costs

Compared with other fuels, electric heating offers extremely low capital costs and installation costs. At Dimplex we estimate that for a two bed flat the average cost of a Dimplex electric heating system is £1500 compared with £3000 for a gas heating system, and for a typical terrace house the figures are £2000 and £3500 respectively*. In addition to this, with gas central heating the cost of installing a gas supply also needs to be considered. Whilst this will vary from site to site, it can add a significant cost to the development.

As an example of comparative costs for a complete development, one recent site of 121 properties quoted a cost of £500,000 for installing gas heating, compared to £290,000 for electric heating – a difference of £210,000.

And because electric heating doesn't require any pipe-work, simply a connection to the circuit, it can be installed in a matter of minutes at the second fix wiring stage. This is a real bonus for builders as it can result in the additional benefits of faster build times and improve cash flow as products / labour are not required until later in the schedule. A knock on effect is that there is less concern over 'shrinkage' issues as products do not need to be on site for long before being installed.

*Typical electric storage / panel heater installation vs Condensing gas boiler complete with 6 radiators and controls. Excludes hot water cylinder.

safe and reliable systems

Whatever type of heating you specify; safety is always an important consideration.

Because electric heaters do not burn fuel internally to generate heat, there are none of the associated safety risks, such as carbon monoxide poisoning or explosions.

And as there are no radiators to leak or burst, there is less risk of damage to completed properties which can be a major concern if properties are empty for a period of time, especially over the winter months. Also with no moving parts to break down or wear out, electric heating is extremely reliable and will normally run satisfactorily for much longer than a conventional wet system, avoiding the need for unwanted call backs once a property has been sold.

lifetime ownership costs

The cost of energy for different heating systems is only part of the true running cost equation. The real cost of ownership of a heating system is a combination of the original capital and installation cost, the annual fuel cost, maintenance costs and the operational lifetime of the system.

Electric heaters are 100% efficient at the point of use, meaning all the electricity used is converted directly into heat, unlike boiler based systems where energy is wasted through the flue. In addition, over the last few years there have been significant increases in the price of gas. In fact Energywatch – the independent gas and electricity consumer watchdog – reported in July 2006 that some energy suppliers had increased the cost of gas to their customers by as much as **92%** since 2003, while the price of electricity had increased by only 54%.

Maintaining a heating system can, depending on the choice of fuel, also add significantly to the overall cost of running the system, so it is very important to consider the likely impact of maintenance costs and any safety checks requirements, over the lifetime of the system. Because there are relatively few moving parts and no risk of combustion, electric heating is extremely reliable and safe and does not require regular maintenance. Boiler based system on the other hand should be regular serviced and, although not a legal requirement in private properties, should be given an annual safety check. Potential 'buy to let' purchasers will however be legally required to have annual safety checks on gas appliances.

Because electric heating has virtually no moving parts, most systems can be expected to last for at least 15 years, whereas the gas boiler industry itself quotes a lifetime of only 10 years for a boiler.

To see the true lifetime costs of an electric system compared to a gas system, please click on the following links:

	Typical 2 bed flat		Typical terraced house	
	Electric	**Gas**	**Electric**	**Gas**
Installation cost[1]	£1500	£3000	£2000	£3500
Annual Fuel Cost[2]	£264	£138	£360	£189
Annual Safety Check[3]	£0	£75	£0	£75
Service / Maintenance[4]	£0	£117	£0	£117
Lifetime (years)[5]	15	10	15	10
Annual running cost	£264	£330	£360	£381
Lifetime cost per annum[6]	**£364**	**£630**	**£493**	**£731**

1. Typical electric storage / panel heater installation vs Condensing gas boiler c/w 6 radiators and controls. Excludes hot water cylinder.
2. Annual fuel costs for heating and hot water, BRE GPG345
3. Source: National Landlords Assn
4. British Gas Central Heating Care, less cost of annual safety check
5. Industry estimates
6. (Annual running cost x lifetime) + installation cost / lifetime – ie cost of ownership per year

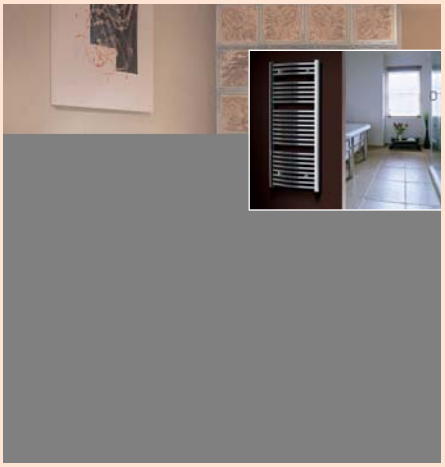
Because electric heating is cheaper to install, maintain and lasts an average of 50% longer than a gas system, the true ownership costs means that an electric heating system can be a more cost effective solution in many developments.

comfort & control

There have been significant developments in electric heating in the last few years and modern electric heating systems, such as Dimplex electronic panel heaters or DuoHeat® radiators, incorporate highly sensitive, integral thermostatic controls. The accuracy of electronic controls allows rapid response to sudden changes in room temperature, ensuring that heater outputs are quickly reduced or increased to maintain a consistent room temperature. And Dimplex also offers a variety of control options to meet the needs of different customer lifestyles – from simple plug in controls, through to a truly integrated central control with the ability for any of our products – from panel heaters through to water heaters – to be controlled from the convenience of a single programmer. Most controls, whether integral or remote include 'set and forget' features for added convenience.

For more information on Dimplex range of electric heating solutions please click here.

safe & reliable



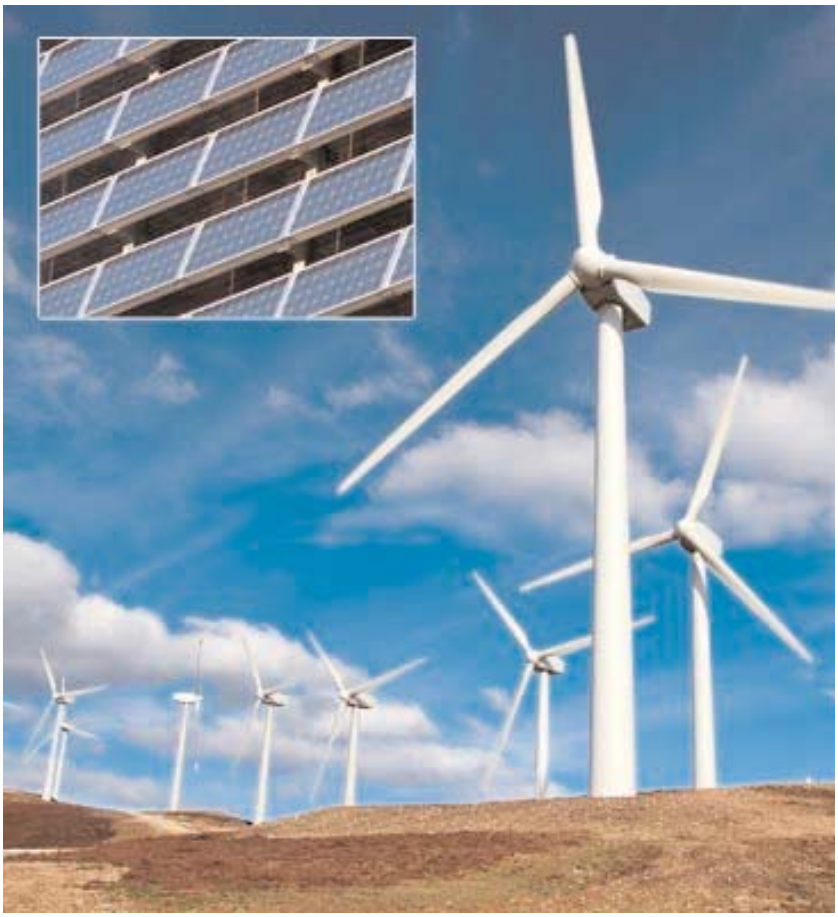
Because Dimplex electric heating systems do not burn fuel internally to generate heat, there are none of the associated safety risks, such as carbon monoxide poisoning or explosions. And as there are no radiators to leak or burst, there is minimal risk of damage to your property or even your neighbours if you live in a flat or apartment. Also with no moving parts to break down or wear out, electric heating is extremely reliable and will normally run satisfactorily for much longer than a conventional wet system. And in the unlikely event that a heater should breakdown, only that product is affected, the rest of the system will continue to operate.

running costs

There is often confusion about the running costs of electric heating compared to other fuels; however the cost of the energy to heat the system is only part of the picture. The true cost to consider is the annual running cost – taking into account not only the fuel used but the hidden cost of maintaining the system. To see the true lifetime costs of an electric system compared to a gas system, please click on the following links:

renewables ready

The Government's recent Energy Review (see: Energy – the issues > UK Energy Policies and Strategy > Energy Review) signalled an increased reliance on renewables and the need for a new generation of nuclear power stations. This is a winning combination for electric heating as it will become cleaner and greener than it has ever been before, plus it is inherently renewables-ready. As the government is also backing away from decentralisation, grid supply will continue to supply much of our power, and power generated from intermittent renewable supplies like wind or wave will need to be stored – both advantageous for electric heating systems. For more information on renewable energy please click here or (see: Energy – the issues > Renewables).



benefits vs other fuel type

In choosing a fuel type for a property, a diverse number of factors will come into consideration, the main points of which are summarised in the table. The items highlighted in red are also covered in more detail elsewhere.

	Electric	Natural Gas	LPG	Oil
Low Capital and Installation Cost	✔	✗	✗	✗
100% appliance efficiency at point of use	✔	✗	✗	✗
No maintenance or annual service requirements	✔	✗	✗	✗
Single service supply to the building	✔	✗	✗	✗
Flexible and highly accurate individual room, zone or central control	✔	✗	✗	✗
No total system failure in event of boiler breakdown	✔	✗	✗	✗
Appliances operate silently	✔	✗	✗	✗
No bulk delivery or fuel storage issues	✔	✔	✗	✗
No internal combustion, so no safety risks such as carbon monoxide poisoning or explosions	✔	✗	✗	✗
No building design constraints because of positioning of flues	✔	✗	✗	✗
No worry about property damage caused by leaking or burst pipes	✔	✗	✗	✗

electric heating and sustainability

The fundamental requirement of sustainability is for products that have a minimal impact on the environment, both socially and physically, and are economic to purchase and use. For electric heating the key to sustainability is two fold:

- focusing on reducing power requirements through product controllability and improved efficiency of the building fabric, and
- incorporating more renewable sources of energy into buildings.

So, how is electric heating economically sustainable?

- It has low capital and installation costs
- It doesn't incur the costs of an annual safety check
- It is virtually maintenance free
- It is 100% efficient at point of use
- It has a life expectancy of 15 years, unlike a gas boiler which is estimated to have a 10 year life span.

How is electric heating socially sustainable?

- It is extremely flexible and can fit the varying demands of user lifestyles
- There is no risk of leaking or burst pipes damaging the property
- It is clean and safe, with no harmful fumes or gases to worry about
- In the unlikely event that a heater breaks down, the rest of the system will work, whereas with a gas system if the boiler fails, there is complete system breakdown
- Because it is quick and easy to install, there is minimum disruption for either refurbishment or new build sites.

How is electric heating environmentally sustainable?

- It is maintenance free, so does not incur the need for a engineer to call on the property on an annual basis
- It has longer lifecycles than other fuels, so will need replacing less frequently
- It is freely available throughout the UK so there is minimum disruption to the surroundings when installed
- When installed, it encourages improvements in the building fabric which will remain for the lifespan of the building, thereby determining its long term sustainable footprint. For more details (see: Housebuilders & Developers > What you need to know > Building Regulations > Part L – England & Wales > The Dimplex Solution > Sustainability through higher fabric standards).
- Electricity is inherently 'renewables ready' meaning that as electricity generation becomes less carbon intensive in the future (see: Energy – the issues > UK Energy Policies and Strategy > Energy Review) emissions from homes heated by electric will automatically be reduced.
- Electricity is the **only** fuel that has the potential to be truely zero carbon.