Electric Heating in new build

Dimplex space heating and hot water for apartments and houses
Building Regulations

- Building Regulations today require energy performance to be approximately 60% better than that of the 2005 standards.

- Previously Solar thermal offered the solution of choice along side a gas or oil boiler

- However under the new Part L 2011 a properly sized solar system will no longer do it on its own with a gas or oil boiler.

- Analysis of the new part L shows that a heat pump now provides the most cost Nuetral solutions for all house types.
Building Regulations

- **By 2019 these buildings will need to be Nearly Zero Energy Buildings**
  - The energy performance will be 70% better than 2005
  - The carbon produced will be 65% lower than 2005
  - A significant amount of the energy used must be from Renewables of 20%
Dimplex Heat pumps – Scheme Houses

Outstanding performance and efficiency

• Designed to meet NZEB
  
  • Delivers all hot water
  
  • Delivers all space heating to -20 degrees

• Doesn’t need help from renewables like other heat pumps or boilers
Ridgewood, Swords, Dublin – MKN Property group

**Project**

150 houses No. 2,3 and 4 Bedroom houses ranging in size from 82 – 123 sqm. A2 rating
Rokeby, Lucan, Dublin – O’Flynn Capital Partners

Project
71 No. 4 and 5 Bedroom houses ranging in size from 177 – 259 sqm.
A2 rating
Mornington, Meath – Pivitol Construction

Project
260 No 3, 4 & 5 bedroom semi-detached houses ranging in size from 110 – 160 sqm.
A2 rating
City West – Davy Hickey Properties

Project
120 No. 2, 3, 4 Bedroom houses terrace and semi ranging in size from 120 – 150 sqm.
A2 rating
Smart Electric heating solutions in apartments
Current benchmark - Centralised systems

**PROS**

**Comfort & Convenience:** Hot water and heating is available instantly “on-demand”

**Safety:** Boilers and other heat sources are kept in a separate plant room

**CONS**

**Capital costs** – up to 2 times more expensive than alternatives

**High Heat loss** – system is always on and the heat network needs to be maintained at a high temperature all the time

**Running Cost:** Often higher running costs due to high system inefficiency, additional overheads, and sinking funds

**Billing** – heat metering and billing costs incurs overheads

**Sinking fund:** For replacement of components in the future
Why Electric heating

Electric resistive heating was precluded in Part L of the building regulations.

Electrification of heat is a key strategy for the EU.

Lower cost solution than a Centralised system.

Less complicated with little or no maintenance.

No concerns with Carbon Monoxide.

Lower running costs when paired with renewable technologies
NZEB - Apartments

Lowest running cost
Highly controllable
Easy to maintain
Less complicated
No annual safety checks
No Carbon Monoxide.
No District heating
No Centralised Billing
How we heat living rooms and kitchens - Quantum

• Quantum is highly controllable
  • built in timers
  • accurate room thermostats
  • Every room zoned
  • occupants can control the heating.

• Systems are easy to maintain as there is no requirement for an annual safety check, unlike a gas system.

• Lowest capital and installation costs.

• Electrical systems can be placed anywhere there is an electrical connection

• Quantum delivers savings of up to 25% compared with old storage heaters.

• Quantum incorporates latest technology as it is designed to facilitate demand side management and deliver energy savings.
How we heat Bedrooms - Qrad

- High efficiency Smart Electric Radiator
- Digital time and temperature control
- Suitable for Bedrooms
- Adaptive Room Temperature Control (pre-heat)
- Open Window Detection (auto setback)
- User selectable Operating Modes – Manual/ECO/Frost
- Timer: 24hr 7 day
- Advance/Boost
How we heat Bathrooms - TDTR

• Even heat distribution
• Rapid towel drying
• Compact, slimline design
• Choice of chrome or white finish
• Every year, the Glen Dimplex group sell 10,000 heat pumps in France.

• Stainless steel tank with 25 year guarantee and no requirement for sacrificial anode.

• Very quiet operation due to sound proof hood, variable speed fan and a high performance rotary compressor mounted on anti-vibration pads.
How we save - Capex

<table>
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<tr>
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<th>190 Apartments</th>
<th>100 Apartments</th>
<th>70 Apartments</th>
<th>53 Apartments</th>
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<tbody>
<tr>
<td>CHP and Boiler M&amp;E Cost</td>
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<td>€863,100</td>
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<td>Electric Heating cost</td>
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Running Costs

- **70m² Ground Floor**
  - Electric: €248.78
  - Central: €313.92

- **50m² Mid Floor**
  - Electric: €113.86
  - Central: €170.64

- **100m² Top Floor**
  - Electric: €233.40
  - Central: €333.09