

- Comfort & Economy
- Heating - Hot Water - Cooling without Fuel

## Nutherm Ltd Commercial Projects

### Nutherm Ltd and Waterkotte GmbH Earth Energy System Solutions

Nutherm Ltd specialise in the design and installation of Waterkotte Geothermal Heat Pump Systems. Originally a Donegal based company, it's founder, Michael McCloskey has been installing heat pumps for over seven years and Nutherm now has over 700 Geothermal Systems operating in domestic, commercial and industrial projects all over Ireland and UK. Today Nutherm has regional offices in both Ireland and UK and operates through a select network of highly trained installers who cover all regions.

Nutherm are sole distributors for the Waterkotte product range in the UK and Ireland. Waterkotte have developed a system approach to heat collection, heat distribution, hot water production and cooling. One of the keys to our continued success is the close system partner relationship between Nutherm, Waterkotte and installer network.

The full potential of well designed Geothermal systems has not yet been fully realised in this region and we feel that our modular system approach is transforming the application of this technology.

A fact that is not fully appreciated is that buildings can be net producers of energy on an annual basis but still require supplementary heating / cooling throughout the year. The advantage of our system is not only that we can use renewable energy from a very reliable source i.e. ground water and rock structure below the building, but we also have a viable method of storing excess energy from summer cooling which can be moved back to the building in the winter for heating.

Our geothermal systems are designed to provide all the energy needs of buildings including Heating, Hot Water, Swimming Pool Heating, Natural Cooling (earth as heat sink), Active Cooling via AHU, Dehumidification, Heat Recovery etc. This is achieved by moving heat from one place to another when required and storing excess energy within the rock structure beneath the building which can be recalled as necessary.

Nutherm's system approach to all projects and our dedicated control system allows for the efficient management of energy within buildings.

The use of renewable energy in our systems can be a "green" solution for your heating / cooling needs but the decision to utilise this technology should also be a commercial decision. Life cycle costs will be reduced, pay back times are short, carbon tax can be avoided, grant aid can be attracted while at the same time increasing comfort for the end user. Opportunities also exist for developers to become utility providers for heating / cooling energy.

**Renewable Energy is more cost effective than conventional fossil fuel systems.**



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Please find attached some examples of existing projects where these technologies have been applied.

We specialise in the design and supply of high quality domestic and commercial Geothermal system solutions including:-

- Advanced Ground Source Heat Pump Modular Solutions
- Underfloor Heating Systems
- Domestic Hot Water Production. (No Backup Required)
- Heat Source Technologies (Groundwater, Probe Fields etc.)
- Natural and Active Cooling
- Building Energy Management Systems (BEMS)
- Remote Systems Monitoring
- Ventilation and Heat Recovery
- Concrete core activation

Our products are approved by all major bodies for grant and tax relief purposes and we can provide complete design, materials and technical assistance packages to suit your needs.

Should you wish to discuss our Waterkotte systems or talk to us about forming a partnership please contact us at our head office and we would be happy to set up a meeting.

Alternatively please visit our website [www.nutherm.ie](http://www.nutherm.ie) where you can find more detailed information on our services and [www.waterkotte.de](http://www.waterkotte.de) (English version) for information on our products.



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**Project A:**                   **Spencer Road**  
4 Storey Office Block and Retail Outlet, Spencer Road, Derry City, Ireland

**M&E Consultants:** Delap & Waller Limited

**Developer/Client:** McCormick Properties

**Architects, Consulting Structural & Civil Engineers:** - WDR & RT Taggart

**Building Contractor:** Liam O'Neill Limited

**System Designed, Supplied and Installed by:** Nutherm Limited

### **Project Summary:-**

**Building Size:** 1024.21m<sup>2</sup>

**Heat Pumps:** 1 x 45.6kW Tandem Scroll Compressor  
1 x 23.5kW Single Scroll Compressor

**Number of Floors:** Five Floors including Basement (Basement Services Only)

**Building Function:** Commercial Units and offices (8 Units in total)

### **Project Rationale:-**

- Perimeter of site essentially the perimeter of the building (boreholes within footprint)
- Conventional System reduces available commercial floor space.
- One Entity/System for Heating Cooling and Hot Water
- Carbon Tax avoidance
- Enhanced Capital Allowance Scheme Incentive (DEFRA)
- Local authority grant received
- Reduced Life Cycle Costs
- Energy can be sold as part of a rental package at a premium using heat meters

### **Geothermal System Functions:-**

- Domestic Hot Water
- Heating via Air Handling Unit
- Heating via Underfloor Heating
- Natural Cooling via Floors
- Natural Cooling Via Air Handling Unit
- Active Cooling via Air Handling Unit
- Heat Recovery via Thermal Wheel
- Waterkotte remote system monitoring

**Current Status:** - System Completed and Commissioned March 2007



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**Project B:**           **The Marble & Granite Centre, Troy Wharf, London, UK**  
Four Storey Office Development

**M&E Consultants:** None

**Developer/Client:** MGC Property Developments (Stephen Pike)

**Architectural Firm:** Mark Fairhurst Architecture & Design

**Mechanical Installation Company:** Total Concept Solutions

**Project Summary:**

**Building Size:** 350m<sup>2</sup>

**Heat Pumps:** 1 x 18.3kW Tandem Scroll

**Number of Floors:** Four Floors including Basement

**Building Function:** Offices and Show Room

**Project Rationale:**

- Energy Efficient Solution For Heating, Cooling and Hot Water
- Marble Flooring specialist therefore promoted by Underfloor Heating System
- One Entity/System for Heating Cooling and Hot Water
- Carbon Tax
- Enhanced Capital Allowance Scheme Incentive (DEFRA)
- Reduced Life Cycle Costs

**Geothermal System Functions:-**

- Domestic Hot Water
- Heating via Underfloor Heating
- Natural Cooling Via Underfloor Heating Distribution Pipe work

**Current Status:** Bore Hole Collector Installed

**Completion Date:** September 2007



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**Project C:** Carrick on Shannon Church and Visitor Centre

**M&E Consultants:** None

**Developer/Client:** Carrick on Shannon Heritage Group

**Architects, Consulting Structural & Civil Engineers:** Mary O' Carroll and Associates

**Mechanical Installation Company:** Nutherm Ltd

**Project Summary:**

**Building Size:**

Church (Existing):- 244sq.m  
Visitor Centre (NEW):- 160sq.m

**Heat Pumps:** 1 x 18.3.kW Single Compressor  
1 x 8.9kW Ai1

**Building Function:** Church and Heritage Visitor Centre

**Project Rationale:**

- Economical method of providing a comfortable environment within the building.
- One Entity/System for Heating, Natural Cooling and Hot Water
- Underfloor Heating a Pre-Requisite

**Geothermal System Functions:**

- Domestic Hot Water
- Heating via Underfloor Heating
- Natural Cooling Via Underfloor Heating Distribution Pipe work

**Current Status:** 2 x Geothermal Heat Pumps with Bore Holes and Underfloor Heating system installed and commissioned.

**Completion Date:** September 2006



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**Project D:**                **Rehab Centre**  
**Camphill Communities Development, Grangebeg, Kilcullen, Co Kildare**

**M&E Consultants:** None

**Developer/Client:**    Camphill Communities

**Architects, Consulting Structural & Civil Engineers:** CMG Architects, Carlow.

**Mechanical Installation Company:** MM Building Services

**Project Summary:**

**Building Size:**

Unit 3:- 600 Sq.m  
Unit 4:- 600 Sq.m  
Community Centre: - 350 Sq.m

**Building Function:** Retreat Village for Disabled

**Heat Pumps:**    2 x 14.6kW Heat Pumps (Unit 3) \*  
                         2 x 14.6kW Heat Pumps (Unit 3) \*  
                         1 x 14.6kW Heat Pumps (Community Centre)

**\* Please note Three Phase Power was unavailable due to the rural location**

**Project Rationale:**

- Economical method of providing a comfortable environment within the building.
- One Entity/System for Heating and Hot Water
- Carbon Tax
- Reduced Life Cycle Costs
- Grant Received

**Geothermal System Functions:-**

- Domestic Hot Water
- Heating via Underfloor Heating
- Natural Cooling Via Underfloor Heating Distribution Pipe work

**Completion Date:** December 2006



**Project E: Office Block and Retail Unit Omagh Town Centre**

**M&E Consultants:** None

**Developer/Client:** Mr. Paddy Devlin

**Mechanical Installation Company:** Nutherm

**Project Summary:**

**Building Size:** 250sq.m

**Building Function:** Office Units with Retail Unit on ground floor

**Heat Pumps:** 1 x 14.2kW (B0/W35)

**Project Rationale:-**

- Economical method of providing a comfortable environment within the building.
- One Entity/System for Heating and Hot Water
- Carbon Tax
- Reduced Life Cycle Costs

**Geothermal System Functions:-**

- Domestic Hot Water
- Heating via Underfloor Heating
- Natural Cooling Via Underfloor Heating Distribution Pipe work

**Completion Date:** December 2005

**Project F:**                **White Oaks Drug and Rehabilitation Centre  
Derryvane, Muff, Co Donegal**

**M&E Consultants:** None

**Developer/Client:**    White Oaks Housing Association

**Architects, Consulting Structural & Civil Engineers:**    Galbraith Architects and Associates

**Mechanical Installation Company:** Nutherm

**Project Summary:**

**Building Size:**

Unit: - 600 Sq.m

**Heat Pumps:**    1 x 23.5kW (B0/W35)

**Building Function:** Visitor Centre

**Project Rationale:**

- Economical method of providing a comfortable environment within the building.
- One Entity/System for Heating and Hot Water
- Carbon Tax
- Reduced Life Cycle Costs

**Geothermal System Functions:**

- Domestic Hot Water
- Heating via Underfloor Heating
- Natural Cooling Via Underfloor Heating Distribution Pipe work

**Completion Date:**    March 2005

**Project F:**                **The Lunch Box Café, Bakery, Newsagents and Apartment Development  
Buncrana, Co Donegal**

**M&E Consultants:** None

**Developer/Client:** Mr. Brendan McConnell

**Mechanical Installation Company:** Nutherm

**Project Summary:**

**Building Size:** 270sq.m

**Heat Pumps:** 1 x 10.23kW (B0/W35)

**Building Function:** Retail Unit with 2 Town Houses

**Project Rationale:**

- Economical method of providing a comfortable environment within the building.
- One Entity/System for Heating and Hot Water
- Carbon Tax
- Reduced Life Cycle Costs

**Geothermal System Functions:**

- Domestic Hot Water (60 degrees C)
- Heating via Underfloor Heating
- Natural Cooling Via Underfloor Heating Distribution Pipe work and Fan Coil Unit

**Completion Date:** August 2006