

# Octopus Ice-Stick



**Save up to  
75% on heating bills  
with the *Ice Stick***



**Product Information  
& Testimonials 2012**

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## Energy Savings with Octopus Ice-Stick & EuroSaver Heat Pumps

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### Octopus Ice-Stick wins the 2010 WWF Climate Solver Product of the Year.

#### Innovation

Few people understand the workings of a heat pump, but everyone understands that heating and cooling costs money. A heat pump helps mitigate those costs, and Octopus has managed to both simplify the heat pump system, and do away with the need to dig deep into the earth for system installation. The result is an elegant, efficient, and cost effective system called the Ice-Stick.

Octopus inventor Kurt Karlsson created the Ice-Stick, a novel implementation of the classic heat pump consisting of a statue-like set of outdoor aluminium pipes that look a lot like, well, an icicle. These outdoor Ice-Stick pipes condense water vapour from the air, causing the refrigerant inside them to warm and evaporate. When the evaporated gas moves to Ice-Stick's compressor (the system's only moving part), pressurization raises the temperature of the refrigerant further. The system's pump sends this accumulated heat through the water system of a home or building. With the heat dispersed via a radiator (for example) and pressure lowered, the refrigerant is ready to travel back up to the evaporator to repeat the cycle.

A strong feature in the Octopus Ice-Stick is that the compressor is the system's only moving part. This results in very limited need for maintenance and a life expectancy of the Ice-Stick outdoor unit that can be 50 years, with the pump lasting as long 25 years. Octopus also devised a hybrid Ice-Stick that uses both air and geothermal sources for heat to help keep the system working efficiently in very cold climates.

#### Climate Benefits

With 40% of the global CO<sub>2</sub> emissions originating from buildings, solutions to radically reduce this impact are of great importance. The Ice-Stick can save 60-75% of the energy needed for heating buildings. It's an inspiring application of a mature technology with a global potential yet to be realized. If one in five buildings in the targeted market installs a heat pump similar to the Ice-Stick the emissions of CO<sub>2</sub> can be reduced by 29 million tonnes annually in 2020.



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For more information and video from the WWF visit [www.climatesolver.org](http://www.climatesolver.org) (search Ice-Stick)

## EuroSaver Heat Pumps:

Can complement or replace solar.

Average house can have 55 degrees 24/7 for €150 PA.



### EuroSaver — Heating, Cooling, Ventilation All-in-One

The EuroSaver is a heat pump with added benefits. Apart from producing hot water using up to 75% less energy than a traditional immersion, the unit will also de-humidify your bathroom and cool a larger area all at the same time. The EuroSaver is available in sizes from 150-500L with a solar coil and wall control as standard.

#### FACTS:

- Up to **75%** savings compared to immersion
- Solar coil and additional control unit as standard
- Additional coil for heating available.
- Automatically de-humidifies.
- Exhaust can provide cooling
- Timer or constant temperature up to 70 degrees
- Automatic weekly legionella protection
- 3kW backup as standard.
- Stainless steel tank
- 5 Year warranty (domestic installations)



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### House on Thornback Rd, Kilkenny , Ireland

Denis and Stella Coughlan wanted to tackle their rising oil bills, and improve the comfort levels of their home. In 2010 they used €3500 worth of oil. They had their heating on timer and switched off radiators in a couple of rooms.

In December 2011 they installed an Ice-Stick onto the existing system with very satisfactory results. They have constant comfort throughout the house as well as significant cost reductions.

#### FACTS:

- 280m.
- Combination of underfloor heating and radiators.
- An IS 61 was installed with existing oil as backup.
- Whole home maintained at a comfortable 19 degrees.
- Ice-Stick consumed 8249 kw/hrs from 1/12/2011 – 1/8/2012 at a cost of €900 plus vat.
- €200 worth of oil used.



**Red Wing Engineering**  
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Thomastown Co. Kilkenny  
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### Home in Newcastle, Co.Wicklow, Ireland

Denis Doyle was about to install an oil burner in his new house when his architect recommended he has a look at the Ice-Stick. He went with our system and one year on his son is installing the same system in his new house. Denis is “delighted” with the system and it’s performance.

#### FACTS:

- 270 sqm Built 2008
- Optiheat UFH pipes ground floor with 40mm Screed
- Radiators 1st floor
- An IS 48 Combined was installed with a central unit
- House is at a constant 21 degrees
- Water heating by solar
- Heating Consumption from 28/11/08-28/11/09 totalled 8150kWhrs at a cost of €775+vat
- Annual consumption of 8150kWhrs or 30kWhrs / sqm



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### Home in Drummin, Delgany, Co. Wicklow, Ireland

Adrian Doyle decided on the Ice-Stick system following the success of his fathers installation. OptiHeat underfloor heating was installed on both floors covered by our special screed. A IS48 Ice-Stick Hybrid was installed combined with a 60m ground loop which boosts the output especially in that freezing winter when the air temperature was below -10 degrees. Adrian maintains the house at 18 degrees.

#### FACTS:

- 260 sqm Built 2009
- OptiHeat Underfloor heating through out
- Ground Floor: 40mm screed over insulation
- First Floor: 30mm screed over concrete
- An IS 48 Split was installed with a central unit and 60m Ground Loop
- House is at a constant 18 degrees
- Water heating by solar
- Heating Consumption from 10/02/10-10/02/11 totalled 5865kWhrs at a cost of €550
- Annual consumption equates to 22.5kWhrs / sqm



#### TEAM:

ARC Design [www.arcdesign.ie](http://www.arcdesign.ie)



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## Energy Savings with Octopus Ice-Stick



### Accountants Office, Enfield, Co. Meath, Ireland

Jim O'Connell, Managing Director of the Danu Group, is only too aware of overheads. Having spent over €6000 on oil in 2008 he was determined to do something about it. The Ice-Stick was retro fitted to his existing system with fantastic results.

#### FACTS:

- 400 sqm (Poor Insulation)
- Existing radiator system retained. No additional internal works were required.
- An IS 81 Ice-Stick was installed with existing oil as a backup
- Office is at a constant 22 degrees (24 hrs a day)
- Ice-Stick consumed 14391 kW/hrs in 1 year at a cost of €1400 + Vat
- Oil consumption was 500 Litres.
- Savings of €4000 means that the Ice-Stick is paid for in 3 Years.



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### Home in Ashford, Co. Wicklow Ireland

John & Theresa Lankester saw the Ice-Stick at a energy show in Dublin. John had looked at many technologies to maintain a comfortable, economic temperature with his radiator system.

He decided on the Ice-Stick because it could easily be retro-fitted to his existing system.

One year later, and the coldest winter in 40 years, the retired couple are delighted with the results.

#### FACTS:

- 100 sqm (Poor Insulation)
- Existing radiator system retained. No additional internal works were required.
- An IS 48 Ice-Stick was installed with existing oil as a backup
- House is at a constant 21 degrees (24 hrs a day)
- Ice-Stick consumed 6300 kW/hrs for the year
- at a cost of **€600** + Vat
- Oil consumption was 215 ltrs



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### Esker Lodge Nursing Home, Cavan

Esker Lodge is leading the standards in nursing home care in Ireland. They recently completed a 15000 sqft extension with underfloor heating. The consultant engineer specified the “Ice-Stick” as constant temperature and low energy costs were required.

#### FACTS:

- 1390 sqm Dementia Ward
- Underfloor Heating through out
- Solar for Domestic Hot Water
- 1 X IS 81 and 2 X IS 61 Ice-Stick's were installed
- Rooms at a constant 21 degrees (24 hrs per day)

Metered consumption for **1 YEAR:**  
16/2/11-17/2/12 = **13070 kW/hr** (9.4 kWh/sqm)  
costing **€1570** + VAT

#### TEAM:

John Egan & Associates Consulting Engineer  
David Mc Cormack & Co Architects  
Laurence Mechanical Services



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### Kerry County Council, Tralee

Kerry County Council chose the Octopus Ice-Stick and EuroSaver for the heating and hot water requirements in a new office building.

#### FACTS:

- 283sqm Floor Area. 4m ceilings open plan
- Underfloor Heating through out
- EuroSaver for Hot Water and Backup
- 1 X IS 81X and 1 X Hotfoot EuroSaver installed
- EuroSaver recovers heat from server rooms.
- Rooms at a constant 21 degrees (24 hrs per day)

Grant Aided by SEAI Renewable Heat Deployment Programme.

Heating demand measured as **33,400 kW/hr/annum** (118 kWh/sqm)

#### ACTUAL:

Heating metered consumption for **1 YEAR = 8721kW/hr** (30.8 kWh/sqm) costing **€1117 + VAT**



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### Private House, Ballyla, Co.Wexford

This unique architect designed house installed both the Ice-Stick and the EuroSaver. Our products were chosen because of their simplicity, efficiency and design.

#### FACTS:

- 345 sqm.
- OptiHeat Underfloor Heating through out.
- **EuroSaver** for Domestic Hot Water, Heat Pump backup and Larder cooling.
- IS 61 with 60m ground loop was installed.

#### TEAM:

Architect: Michael Kelly Architect

Structural Engineer: John Quigley & Associates  
Consulting Engineers

Contractor: Bawn Developments

Mechanical Sub-contractor: P.J. Firman Heating & Plumbing

Specialist Sub-contractor: Hotfoot Ltd.

Electrical Sub-contractor: Robert Hassey Electrical Contractors



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A large, stylized red wing graphic, similar to the one in the logo, is positioned to the left of the promotional text.

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