



## Low carbon heating system from Thermia Atec – The choice of professionals



*'With Thermia's Atec air source heat pump I can save 2170 kg CO<sub>2</sub> every heating season, this is a 51 % CO<sub>2</sub> reduction compared with previous heating systems. I'm glad that besides the obvious economical savings, I can personally contribute to a "green" solution.'* – says Günter Oldigs

## Professionals should set a good example

Günter Oldigs who is a certified and authorized consultant of different German energy efficiency agencies and associations (BAFA, DENA, DEN e.V., GIH-Nord e.V.) advise homeowners and builders about the possibilities of energy saving, optimal energy use, the use of environmentally friendly energy carriers, as well as the selection of suitable equipment, systems, building materials and measures. His company examines and evaluates the technical conditions in buildings regarding thermal insulation, heating, ventilation, plumbing and air-conditioning systems. Günter Oldigs can also on behalf of the investor supervise the whole construction process according to energy performance for new builds as well as for retrofits.

Günter Oldigs has a single, family house where he lives with Angelika and two cats: Mr. Schmidt and Mr. Föhringer, in September 2014 Günter decided to improve the energy efficiency of his own home, through additional insulation on the top floor to improve the roof area and a change in the heating system.

## Energy efficiency and environmental foot print awareness

Previously the Viessmann oil boiler supplied only a few houses and heating was organized like a small



Günter's cat Mr. Schmidt and Mr. Föhringer



Günter Oldigs and his house

district heating system, meaning a 12-meter-long network. The cost was 1 000 to 1 350 € yearly depending on the winter season and oil prices. *'In changing the heating system, I had two main aims: doing away with one common oil boiler, being independent and resigning from burning fossil fuels... and definitely - yes, the environmental aspect played a big role. Above all, as an active building energy consultant, I wanted to set a good example. I decided install an air source heat pump, since the land area for a horizontal loop as a ground collector was not available.'* – said Günter. The decision on Thermia Atec was made because of the relatively favorable “sound pressure



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**ays Günter Oldigs, building energy efficiency consultant at Gebgo**

level”. The outstanding quality of Thermia Atec was confirmed by the technical company. The air source heat pump Thermia Atec 9 has been working since 03.09.2014 without interruption, furthermore, no use of the electric back-up heater is required, even at -8° C. No maintenance has been required so far and it is very quiet during operation. *'Our biggest challenge was separating from the old district heating in the neighboring building whilst simultaneously laying new flexible pipes in the ground.'* – underlines Günter

## True performance, measured day by day speaks for itself

*'On September 3, 2014 I decided to switch from an oil system to a Scandinavian air source heat pump, the Thermia Atec 9 kW. To promote*



Thermia Atec during installation



Thermia Atec



Thermia Atec indoor unit and manifold for heat distribution

*an energy efficient solution, I decided to publish all performance data on my website. All potential investors, homeowners can see and follow the monthly heating energy consumption and seasonal performance (SCOP) of my heating system'* says Günter Oldigs

Energy consumption for heating purposes dropped to 2 847 kWh and the heat delivered to the house was 9 373 kWh, so 70 % comes from thin air and is renewable energy. CO<sub>2</sub> emissions, originally 4 240 kg

dropped to 2 070 kg, this is a massive 51 % reduction (2,170 kg CO<sub>2</sub>).

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*renew their heating system.'* – sais Günter and adds: *'If I had a plot of land, I would install a ground source heat pump just to have even better energy performance, however, currently the installation of an air source heat pump is the best choice. As a heat distribution system, I would recommend low temperature underfloor heating or wall heating 35/28 ° C, no matter the type of heat pump.'*

Month	Energy consumed by heat pump (kWh)	Energy delivered to house (heating + hot water + cooling) (kWh)	SCOP (JAZ)	Cost of heating with heat pump (€)	Cost of heating with oil (€)
September 2014	84,2	313	3,72	22	56
October 2014	167,1	625	3,75	39	100
November 2014	281,1	998	3,55	63	119
December 2014	401,3	1 293	3,23	88	154
January 2015	399	1 305	3,27	87	204
February 2015	404,9	1 297	3,2	89	141
March 2015	318,9	1 027	3,22	71	133
April 2015	210,4	691	3,28	48	95
May 2015	164	545	3,32	38	96
Juni 2015	102,8	288	2,8	26	58
Juli 2015	141,9	412	2,9	34	46
August 2015	170,9	573	3,35	40	61
<b>Total</b>	<b>2 847</b>	<b>9 373</b>	<b>3,3</b>	<b>645</b>	<b>1 168</b>

## Fact Box

### Characteristics of the building

- Heated area: 110 m<sup>2</sup>
- Heating and hot water demand: about 10 000 kWh/year

### Applied renewable solution:

- Thermia Atec 9 with Total indoor kit

**Heat distribution system:** 100% underfloor heating 35/28 °C

**Energy savings:** 6 526 kWh

### Financial savings:

about 520 Euro / year

### Completion date:

September 2014

# Multitherm GmbH

## - the reliable and experienced partner on German market



Multitherm Handels GmbH is an owner-managed medium-sized company. The first Thermia heat pump was started up in February 2005.

Multitherm delivers nationwide building services and complex system solutions:

- Thermia air source and water/ground source heat pumps for heating and cooling from 4kW up to 300kW
- Utilization of Geothermal energy with special spiral collectors, horizontal collectors or boreholes
- Wall and floor heating systems
- Central and decentralized ventilation systems with heat recovery
- Professional advice and system Configuration
- Complete packages for calculation and implementation,
- Calculation of heating demand and primary energy needs
- Nationwide delivery of Thermia heat pumps and installation of spiral collectors including groundwork
- A test- and training center for heat pumps, in which interested craftsmen can be trained

Multitherm GmbH, Am Widder Camp 3, 18182 Bentwisch,  
Phone: +49 381 458 34 92, info@multitherm.de,  
www.multitherm.de



Peter Michalzik, Technical support manager

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Developing truly sustainable renewable energy solutions can only be achieved with passionate, dedicated, and uncompromising experts. Some of Europe's most highly qualified engineers can be found in our own R&D center.



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