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"Environmental protection is a strategic marketing factor"

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"Environmental protection is a strategic marketing factor"

The continuing improvement of environmentally responsible measures is an essential component of our company philosophy.

For Viessmann, protecting the environment is a strategic marketing factor, which is supported by the company's ability to innovate.

Mature products, with a focus on the future and environmental protection, are our best assurance for maintaining and creating jobs, healthy growth and competitiveness in international markets.



Guidelines for and aims of environmental protection

The concept of integral environmental protection finds its practical translation in the company's Environmental and Health & Safety at Work manual. It describes the organisational responsibilities and controls, as well as the aims of our environmental protection.

These include, among others:

- Environmental philosophy
- Environmental and Health & Safety at Work management system
- Legal principles
- Waste prevention, recycling and disposal
- Environmentally friendly manufacturing processes/ process management
- Checking new fuels and materials for their environmental compatibility
- Designing recyclable products
- Savings and efficiency in the use of energy
- Internal audits
- Training/instructions



Introduction

Natural science and technology are required to maintain the ecological system of our world. We must continuously reinforce the importance of protecting the environment. Existing technology must be improved and new technologies must be developed. This innovative effort represents an investment in and for the future.

Integrated environmental protection is realised as an holistic concept – from environmentally responsible products via production and environmentally-friendly recycling and disposal. From R & D to distribution, all sectors play their part.

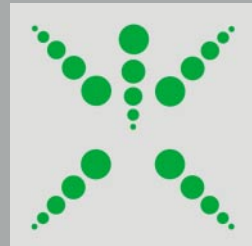
The energy crisis of the 70s was the first indicator, that our reserves of raw materials are not inexhaustible. Fossil fuels are rare and must therefore be protected – protected in the sense of optimum use in a heating system, which is oriented on the needs of the environment.

Viessmann began specific work to benefit the environment long before environmental protection was enshrined in our legislation and a long time before the Conference for Environment and Development in Rio de Janeiro, June 1992.

The environmentally responsible work of the Viessmann Group is based on a comprehensive, integrated concept of environmental protection applied by all business sectors, which is laid down in the first of the company's principles.

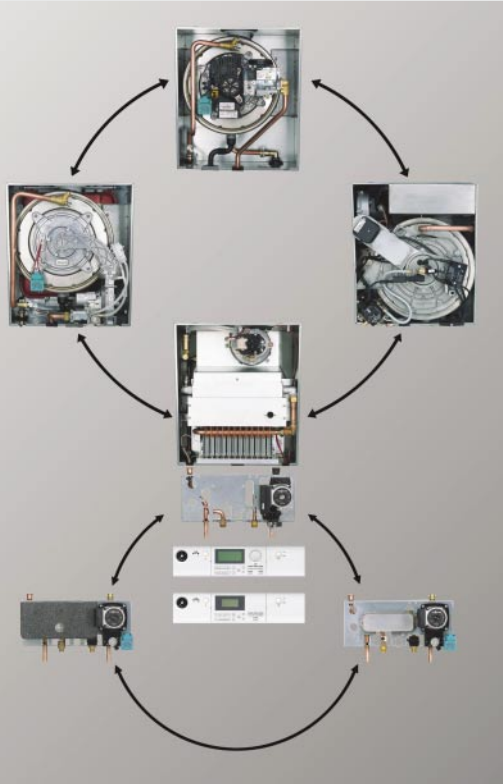
"We supply energy-efficient and environmentally responsible products – in-line with our responsibility for society, and we manufacture, use and dispose of materials in an environmentally friendly manner".

Dr. Martin Viessmann



Graphic relating to the first Viessmann company principle

Product development



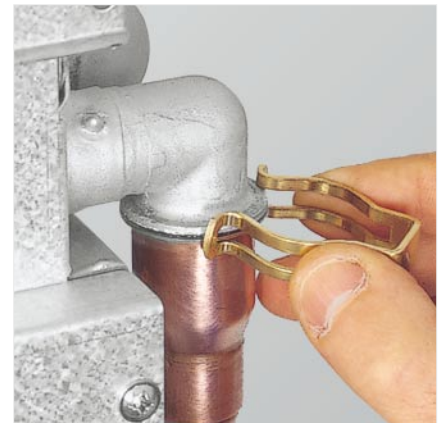
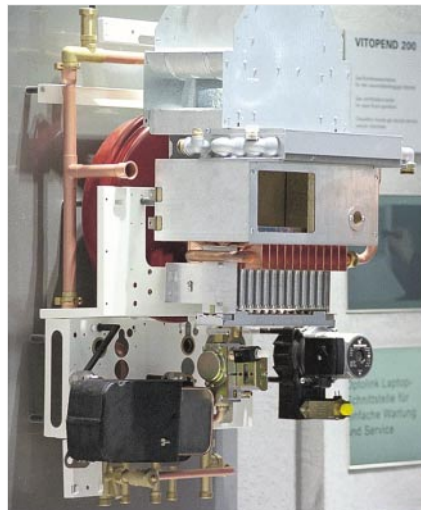
Modular design
for wall mounted
boilers

The Kreislaufwirtschafts- und Abfallgesetzes (KrW/AbfG) [Cycle Economy and Waste Act], which came into force October 1996, compelled manufacturers and those bringing products into circulation to observe extensive new regulations with regard to product liability, the creation of low-waste and recyclable long lasting products, plus their returnability and recycling at the end of their useful life. Apart from the Cycle Economy and Waste Act, rising raw material prices, scarcity of raw material resources and steeply rising disposal costs are important reasons for investigating and assimilating manufacturing, sales and disposal strategies.

Vitotec modular design

Modular design offers many benefits during installation, maintenance and service, as well as during the removal of older equipment later on. The Vitotec range of wall mounted boilers adheres closely to the principle of modular design in heating technology. Vitotec means: different function modules, like building blocks, are brought together on a uniform platform to create different equipment versions. The Aqua-plate with its multi-connect system is the key element to this design. All water connections are made at the rear of the unit, permitting easy access to all assemblies and their simple removal from the front. The multi-connect system also enables the rapid installation and removal of all components.

All components can
be easily removed
from the front



Multi-connect system



Specific identification of all components for clean segregation of components after use

Characteristics of designs with recycling in mind

Apart from the VDI guideline 2243 – design of products with recycling in mind – our design takes into consideration the company's own standards, when Viessmann could not draw on generally applicable and binding guidelines. Since 1992, not one product has been developed, that does not meet this standard.

Part of this standard is the focus on few environmentally compatible materials, their identification and the formulation of removal instructions during the design stage. Consequently, every component bears a specific marking, ensuring identification and clear segregation of materials, even after many years in use.

Film enables a clean segregation after product use

To enable clear segregation and re-processing, for example of DHW cylinders, the bare cylinders are wrapped in a PE foil before the CFC-free hard PU foam is applied. This prevents the polyurethane foam sticking to the cylinder body when the foam is removed during the cylinder recycling. This ensures the clear segregation of components.



Cylinders are wrapped in foil before the CFC-free foam insulation is applied. This way, the materials can be easily segregated during disposal.

Production/ Logistics



Solvent-free powder-coating

Environmental protection in research, development and manufacture alone are not enough to protect nature. Environmental protection continues into production too. Water, air and the ground are the most important elements for sustaining life on this planet, they are essential for mankind as well. Treating nature carefully necessarily involves the protection of these elements. Product and process integrated environmental protection are of equal importance.

No bonding agents in production

The foundry, which is part of the Viessmann Group, was able to make a crucial contribution to the reduction of special waste through a new production process for making composite duplex heating surfaces.

The castings of these heating surfaces are moulded exclusively "green", i.e. without a core, making the use of bonding agents superfluous. The moulding sand used in production is 98% recycled, reprocessed and reused. This means, no contaminated core sand is disposed of.

Exclusive use of solvent-free paints

From as early as 1974/75 have Viessmann boiler and DHW cylinder casings been powder-coated; since 1992 boiler bodies, too, have been treated this way. This makes the use of solvent-based paints as surface finish for boilers and DHW cylinders superfluous. Instead, powder is electro-statically attracted to the surface and sintered, making it essentially more robust than painted surfaces. This obviates the need for the disposal of environmentally detrimental paint sludge.

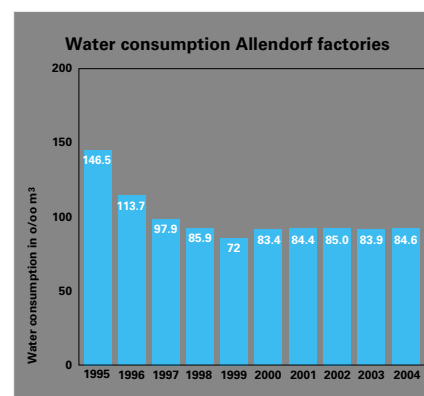
Highly effective CFC-free thermal insulation

What the 1995 CFC Prohibition Order demands, has already been reality at Viessmann since 1991. Exclusively insulation foam is used for insulating DHW cylinders, which are neither applied with CFC foaming agents nor contain CFCs themselves.

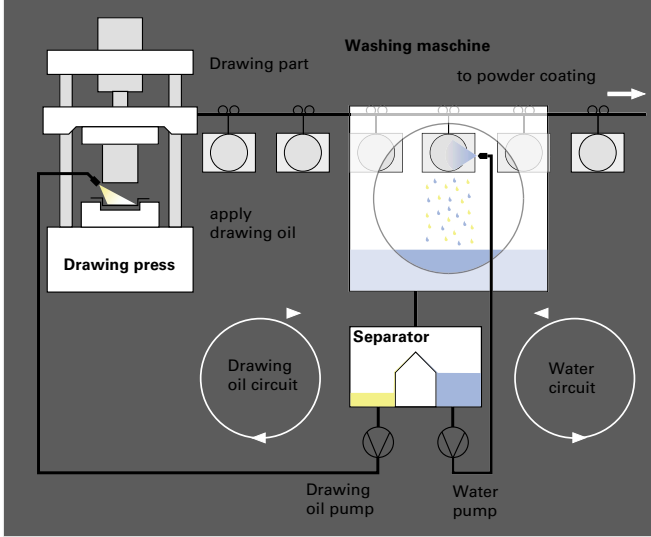


Reducing special waste by avoiding the use of bonding agents during the manufacture of composite duplex heating surfaces

Highly effective CFC-free thermal insulation



Commercial waste and water consumption at factories 1 and 2 in Allendorf and at the Battenberg factory



Looped systems for saving water, oil and detergent

Water pollution control

Apart from protecting water, the Viessmann Group also constantly aims to reduce water consumption. This is achieved, for example, by looping decreasing and cooling systems. This largely obviates the need for a constant supply of fresh water.

Returnable packaging

By introducing returnable packaging early on, Viessmann was able to make a significant contribution to the reduction of packaging materials.

Waste

Between 1995 and 2004, through measures like the substitution of waste-intensive manufacturing processes and the rigorously separated collection of valuable materials, such as metals, paper/cardboard, wood, plastics, electronic scrap, glass, blasting shot etc., the volume of trade waste created by the company was able to be reduced by more than 52%.

High proportion of rail movements

A substantial proportion of all goods movements is made by environmentally friendly rail. By shipping at night, i.e. one day after the rail wagon was handed over, products from our facilities reach our regional depots, which are connected to the rail network.



The Viessmann logistics system is designed around speed and environmental protection



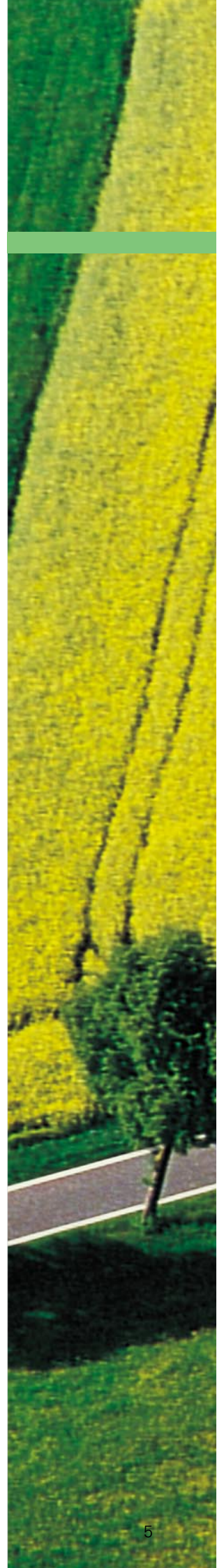
Re-usable packaging – preventing environmental pollution even at the transport stage



Non-returnable packaging processed by Messrs. Interseroh

Non-returnable packaging

As part of the sector contract for the sanitary, heating and ventilation industry, non-returnable packaging is processed by Messrs. Interseroh.



Product utilisation



The development of the MatriX radiant gas burner is recognised as a milestone on the way to clean combustion



Many environmental prizes acknowledge our work



MatriX-compact gas burner in Vitodens 200

Energy-saving and environmentally responsible products

Approximately one third of the total energy consumption in Germany is expended on heating buildings. In private households, the portion expended on central heating amounts to an even greater 80% or thereabouts of the total energy consumption. Using fossil fuels such as fuel oil, natural gas or coal plus electrical power for central heating inevitably involves substantial carbon dioxide (CO₂) emissions.

Additional energy yield through condensing technology

With "conventional" boilers, a certain proportion of heating energy is lost through the chimney with the flue gases. In searching for new solutions for the rational and sensible treatment of non-renewable energy sources, such as coal, fuel oil and natural gas, over the last few years, condensing technology increasingly moved centre stage. It not only utilises the net calorific value, but also the energy contained in the water vapour of flue gases. The energy utilisation with condensing technology is significantly higher than with alternative systems.

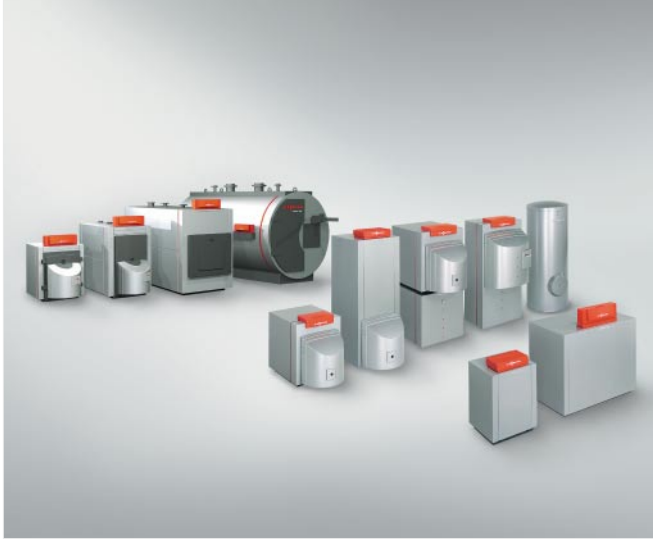
Viessmann offers a seamless range of condensing boilers from 4.2 to 6600 kW – from the compact Vitodens wall mounted gas fired condensing boiler with 4.2 kW to large-scale heating systems with flue gas/water heat exchangers up to 6600 kW. Vitoplus 300 and Vitolaplus 300 now also make oil fired condensing boilers available for wall mounted and freestanding applications.



System design for low energy houses – everything matching and from one source



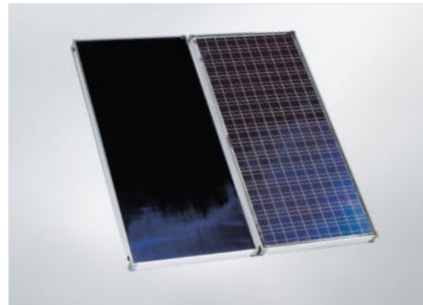
Stiftung Warentest [German Consumers Association] awarded a "very good" to Vitolaplus 300



The VITOTEC range
– total system
design

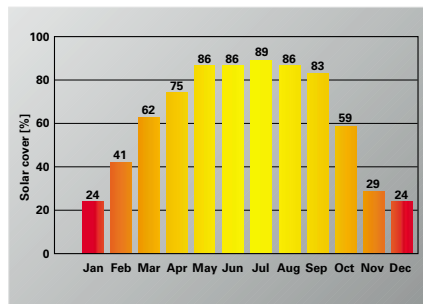
Exploiting solar energy

More than 20 years of experience in building collectors have flown into the development of the company's solar panels. The Vitosol 100 flat-plate collector and the Vitosol 200, 250 and 300 vacuum tube collectors utilise solar energy to heat domestic hot water, heat up swimming pool water and occasionally to backup central heating.



Solar heating and
photovoltaic power
generation

In detached and two-family homes, Viessmann solar heating systems can save you between 50 and 60% of your annual energy demand for domestic hot water. During the summer months, i.e. from May to August, the available solar energy can almost completely cover the energy required for domestic hot water heating.

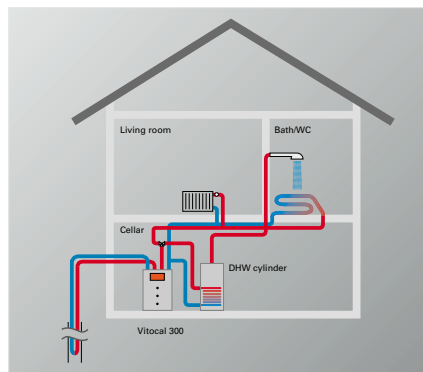


Solar cover for
DHW heating of a
detached or
two-family house

Utilising energy from the environment for heating all the year round

Heat pumps, too, utilise renewable energy from the environment – i.e. that solar energy, which is stored in the ground, in groundwater and in the air.

Generally speaking, Viessmann heat pumps can be the sole heating energy supplier all the year round. Alternatively, they can operate in parallel with another heating system, making an energy-efficient and convenient contribution to the provision of heat.



Vitocal 300 –
brine/water heat
pump with ground
probe



Disposal



The cooperation between Viessmann EGR – old boilers and components of any make, are collected directly from local heating contractors

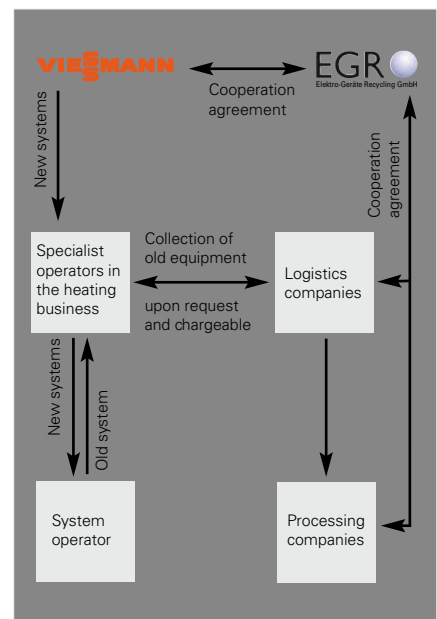
Heating system modernisation

In Germany, approx. half a million heating systems are replaced every year. The Energy Savings Order (EnEV) and the expired transitional orders of the 1st Federal Immission Order (1st BImSchV) continue to leave an enormous modernisation potential [in Germany].

Old equipment

The "Viessmann EGR" recycling system is available for the disposal of older equipment which has been replaced. One call to the toll-free EGR Hotline +49-8 00/8 34 35 30 is enough to get the old equipment collected from an authorised haulier at economical rates.

The subsequent dismantling and processing of old equipment by certified disposal specialists ensures the recycling of valuable raw materials into the production process as well as the proper disposal of waste, which cannot be re-used.



Holistic, integrated environmental management

Within the Viessmann organisation, environmental and Health & Safety at Work considerations control the operational actions vis-à-vis the environment. Regular checks ensure that the goals derived from our environmental policy are achieved, and these goals are matched to continuous product development.

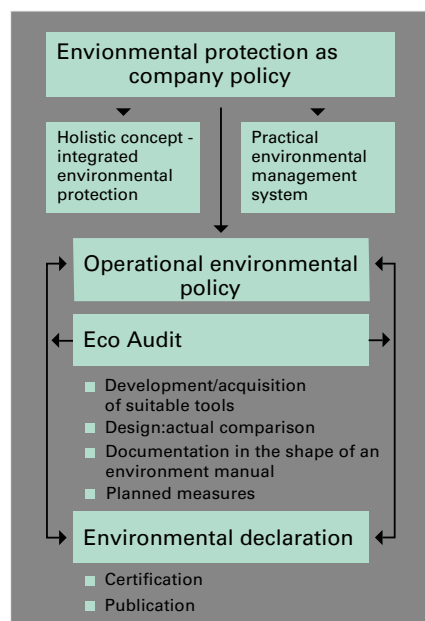
The production facilities in Allendorf (Eder) have been validated in accordance with the Eco Management and Audit Scheme (EMAS) as early as September 1995. The company was the third or fourth entered into the national register and the sixth or seventh in the European location register. After the validation of the manufacturing sites for Viessmann Kessel- und Apparatebau, Mittenwalde, in December 1999 and the foundry Weso Aurorahütte, Gladenbach-Erdhausen in August 2000, all German production facilities within the Viessmann group are validated according to the Eco Management and Audit Scheme; all are additionally certified to ISO 14.001. Measures and results are regularly published in the form of Environmental Reports or the Environmental Declaration in accordance with the Eco Audit.

The international standard EN ISO 14001 regarding the implementation of a general environmental management system, accompanies the European Eco Audit, which lays down stringent requirements regarding environmental transparency. This standard, too, sets itself the goal of continual improvement of environmental protection. Contrary to the Eco Audit, it is implemented without making an environmental statement, which would be validated by an external assessor and which would subsequently be published.

As recognised environmental pioneer, Viessmann has made many extensive, voluntary and effective contributions in Germany at a very high level. The experiences gained as part of the Eco Audits in several factories and the transparency have brought many – even economic – benefits.



Viessmann Werke certified according to the Eco Audit



Comprehensive three-step range for every application, demand and aspiration

"more than heat"

For three generations, the Viessmann family business has been committed to generate heat conveniently, economically and with a sense of environmental responsibility and to make it available in accordance with the prevailing demand.

Innovation

Time and again, Viessmann has produced milestones for the heating equipment sector with a number of exceptional product developments and problem-solving solutions, which have made Viessmann the pacemaker and trend-setter for their entire industry.

Top quality

The use of high-grade and particularly suitable materials, in conjunction with highly developed process expertise, are of crucial importance to product quality. Viessmann has made a tradition of using the specific properties of the materials used to bring about innovative technical solutions. In this, the company has created the perfect combination of material selection and manufacturing methodology. Together with the applied knowledge of Viessmann's employees, this creates the top quality for which Viessmann is renowned.

A comprehensive range for every demand

With the current Vitotec range, Viessmann offers its customers a



Freestanding boilers for oil and gas, with conventional and condensing technology

Wall mounted boilers for oil and gas, with conventional and condensing technology



Heating system components, from fuel storage to radiators and underfloor heating systems



Renewable energy systems for the utilisation of environmental energy, solar energy and sustainable fuel supplies

The Viessmann Group

comprehensive, multistage range with output ranging from 1.5 kW to 19400 kW: freestanding and wall mounted boilers for oil and gas, either with conventional or condensing technology, plus systems using renewable energy, such as heat pumps, solar heating systems and boilers for sustainable fuel supplies. The product range further includes control technology and data communication as well as the entire system periphery, even radiators and underfloor heating systems.

International presence

Viessmann's orientation is decidedly international - 10 factories in Germany, France, Canada, Poland and China, sales organisations in Germany and 34 other countries plus 111 sales offices around the world.

Responsibility, fairness and efficiency

Responsibility for the environment and society at large, fairness in dealing with business partners and employees as well as striving for perfection and the highest efficiency in all business processes are core values for Viessmann. This applies to every individual employee and therefore to the whole company. It offers its customers, with the multitude of its products and associated services, the particular benefit and added value of a strong brand.

Viessmann – more than heat



The Viessmann Centre, Allendorf, showing the company's museum "Via Temporis"



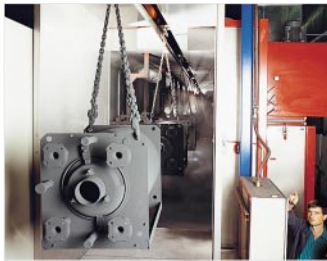
Viessmann supports top performances in the sporting arena too



Viessmann sales offices: 111 world-wide



1991: returnable packaging for boilers



1992: solvent-free powder coating



1994: MatriX radiant awarded

The working party of independent industrialists awarded Dr. Martin Viessmann for his environmentally responsible management strategies



Summary: the environmental protection commitment of the Viessmann Group

- 1970 Use of electric fork trucks to improve the air quality
- 1972 Installation of the waste water treatment plant
- 1975 Conversion of the sheet steel paint plant to powder coating
- 1985 Appointment of the first environmental officer
- 1988 Creation of the environmental protection department
- 1990 Changeover from polystyrene packaging inserts to cardboard (made in-house)
- 1990 Production of CFC-free thermal insulation
- 1991 Introduction of returnable transport crates
- 1991 Viessmann trainees are award-winners of the 1993 Environmental Protection Competition "TeamMachWerke"
- 1992 No more solvent-based paints because of the introduction of powder coating for boiler bodies
- 1992 Viessmann was the first company in the heating equipment sector to proclaim environmentally compatible production, processing and disposal as company principle and committed itself to continue developing environmentally responsible heating technology.
- 1992 Designing completely recyclable products
- 1992 Award for recycling-compatible design of Dekamatik heating circuit control unit
- 1994 Viessmann trainees were the first to be awarded the first prize in the environmental protection
- competition by the metal and electrical industry of the state of Hessen
- 1995 Viessmann Werke Allendorf were the first in the heating sector and only the third company in Germany to be certified in accordance with the Eco Audit.
- 1997 Eco Audit and ISO 14 001 for Viessmann Werke Berlin
- 1998 Weso-Aurorahütte is the first foundry in Hessen certified to ISO 14001
- 1998 ASU environmental prize "Environmentally responsible company management (1992, 1995, 1996/97,1998/99)"
- 1999 Recognition of the waste concept and statements for the factories in Allendorf and Battenberg as part of the Eco Audit
- 1999 Eco Audit Mittenwalde
- 2000 Eco Audit WESO
- 2000 Founding member of Umweltallianz [Environmental Alliance], Hessen
- 2001 Vitosol 300 wins environmental prize of the state of Saxony
- 2001 Utilising condensing technology with Vitoplus 300 wall mounted boiler
- 2003 Public contract with President Kassel to reduce emissions, heating centre factory I, Allendorf
- 2004 Viessmann Werke is awarded the accolade "Example for the Umweltallianz Hessen" by the Minister for the Environment Dietzel
- 2004 Oil fired condensing Unit Vitolaplus 300 – The German Consumer's Association rated it "Very good"

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Subject to technical modifications
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