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Sustainability – the key to the future


VIESMANN

The German government has made a landmark decision to phase out nuclear energy – Page 6

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Cover:
A graphical interpretation of the trend towards renewable energy.

Second cover page:
Holiday spirit at company headquarters in Allendorf.

Third cover page:
Symbols for fuels on the Viessmann Academy building in Allendorf – designed by Karl Duschek († 1 November 2011), Kirsten Dorn.

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Sustainability is the key to the future

At the moment, hardly any headway is being made in efforts to protect the climate and conserve energy resources. As noted by the International Energy Agency (IEA) in late November, global consumption of primary energy and thus overall CO2 emissions increased significantly in 2010 and 2011 following a slight decrease during the economic crisis year of 2009.

Worldwide CO2 emissions reach record high

CO2 emissions reached an all-time high of 30.6 gigatons in 2010, a level nearly 50 percent higher than that of 1990. But this amount must of course be halved by 2020 in order to achieve the two-degree target agreed upon last year in Cancun. Current climate models predict the temperature of the atmosphere will otherwise increase by six degrees.

And even the most recent Climate Change Conference in early December in Durban did not lead to a true breakthrough despite the efforts of EU representatives.

Unless a radical change takes place in international energy policies, the IEA expects worldwide energy consumption to increase by roughly one-third by the year 2035. Naturally, this has consequences for the price of energy. Whereas a barrel of crude oil costs more than US $100 today, it could rapidly increase to $150 in the future.

Germany has witnessed a fairly positive development in greenhouse gas emissions thanks to relatively high energy efficiency to begin with, but our energy consumption has once again risen as the economy grows. The current prices of EUR 1.50 per liter of diesel and EUR 1.00 for fuel oil are a direct result.

Expanding renewable energy is important, but not enough

The German government has irrevocably entered the new energy era with its decision to phase out nuclear power this year. But neither Germany nor the EU overall will meet the specified CO2 targets for 2020 from the present point of view.

There are certainly good reasons for Germany to phase out nuclear power, but it will not help the environment unless energy efficiency is increased significantly at the same time. Logically there will be greater pressure on expanding renewable energies but they cannot completely fill the gap, especially as criticism of coal as an energy source is growing.

In addition to the limited potential of renewables, the volatility of the wind and the sun pose a problem that should not be underestimated. Dealing with this issue will require completely new concepts for storing energy and integrating it into the grid. Uncoordinated installation of photovoltaic and wind power systems is not the answer.

Energy consumption must decrease by 40 percent

The transition to a new energy era can only be achieved by decreasing energy consumption in the medium term by approximately 40 percent. Policymakers know this, just as they know that the greatest potential for efficiency lies in the heating market, or more specifically in modernizing existing building stock. From the European Energy Performance of Buildings Directive to the German government's energy concept, all current policies and guidelines set ambitious goals for increasing the energy efficiency of buildings and expanding the use of renewables. But what is lacking are measures to achieve these goals.

Modernizing building energy systems pays off

No progress is being made in the long-since overdue modernization of buildings because the framework is completely inadequate.

The state cannot finance the modernization; instead it must give incentives to mobilize private capital. Various studies show that one euro of subsidies generates seven to eight euros of private investment. This means that the additional value added tax generated alone would more than offset the loss of income tax revenues. Thus promoting modernization with tax incentives pays off for the government as well. In light of this, one can only wonder why incentive measures for modernizing owner-occupied buildings initially failed in the Bundesrat and only reached the mediation committee with great effort and delay, where they have been postponed twice with no further progress.

Not an issue of technology

The issue is not one of technology but of implementation. The situation is bleak. Policymakers have set targets but have not pointed the way to achieve them. Many investors are waiting for political decisions or cutting-edge solutions to possibly make things much easier. But there is no reason to wait any longer. Tried-and-tested products and systems to reach the policy goals are already available on the market today. What is needed now is individual initiative amongst all market participants. The challenges are great, but the potential opportunities are tremendous. It is time for the industry to join forces and pursue them together.

The path towards a sustainable economy

The example of energy makes apparent what is valid for nearly all natural resources: We cannot simply continue as we have up to now. Today, the world consumes as much energy in a single year as was created in one million years. Things cannot go on like this for long.

We need to find a way to achieve a sustainable economy as soon as possible. This means that in the future, the growth necessary to maintain our current level of prosperity must come from intelligent value creation based on a sig-

nificantly more efficient usage of existing resources. Overexploitation of nature and the environment must be eliminated. In the long range, we should consume only the same amount of resources as can be regenerated in the same timeframe.

Sustainability is often overused as a buzzword these days. What it really means is meeting the needs of the present without compromising the ability of future generations to meet their own needs. The three pillars of sustainability, that is, economy, ecology, and social responsibility, need to be balanced. This applies to politics as well as to the economy, to society and ultimately to each of us as individuals.

In her speech at the 2011 German Sustainability Conference, German Chancellor Angela Merkel summarized the challenge as follows:

"It is about opening up new horizons in the future, not consuming them."

And sustainability is the key to this future.

Sustainability at Viessmann

At Viessmann, we have focused on the issue of sustainability for many years now and oriented the company correspondingly. The result is a comprehensive range of high-efficiency heating systems for all fuel types and areas of application. Together with our trade partners, we can offer the best sustainable, individual solution for every conceivable situation – with no bias towards a particular fuel or technology.

Sustainability is an integral part of our brand essence and is actively practiced throughout the company. Our strategic sustainability project at our Allendorf headquarters has already shown that the energy and climate policy goals for 2020 can in fact already be reached today, using technology readily available on the market.

But the project is still a work in progress, and we are always looking for ways to improve it.

We identify and capture additional potentials for energy efficiency, increase the share of renewables, increasingly rely on CHP systems and in the future will use domestic green hydroelectric power. With these measures, we will decrease our overall CO2 emissions by more than 80 percent, which means we will achieve the German government's climate goal for 2050 already in 2012.

Commitment throughout the company

Of course our commitment to sustainability is not limited to the Viessmann headquarters. For instance, we developed a CO2-neutral concept for our newly constructed sales offices in accordance with the gold standard of the German Sustainable Building Council (DGNB) and have already implemented it at buildings in Herford and Plattling. Austrian Group members Köb and Mawera are also in the process of transitioning to a carbon-neutral energy supply.

Our commitment to sustainability has gained considerable recognition and been honored with several renowned awards. This makes us proud and, at the same time, represents an obligation for us to continue on the same path with our trade partners. We invite them to join forces with us to stimulate the heating market – for mutual success, to protect the climate, and to ensure a reliable, environmentally friendly, and affordable energy supply.

Best wishes to all our readers for a Merry Christmas and a happy, healthy New Year.

Dr. Martin Viessmann

Dr. Viessmann honored with Environmental Award

Dr. Martin Viessmann has been recognized for his achievements in energy efficiency and climate protection with the B.A.U.M. Environmental Award.

The Award has been given since 1993 by the German Association of Environmental Management e.V. (B.A.U.M.) in recognition of outstanding commitment to environmental protection and sustainable development. "Dr. Martin Viessmann has continuously advanced the issues of environmental protection and resource conservation, topics which since the 1970s have been enshrined in the principles of the family company which he now heads in the third generation," proclaimed the jury. "By developing especially energy-saving, efficient products, Viessmann has served for decades as the technological leader and pacesetter of the entire heating industry. Under his management, the company was one of the first to implement the EU's EMAS eco-management and audit scheme. We also commend Viessmann's political commitment to protecting the climate."

Dr. Viessmann accepts the award from Olaf Scholz, First Mayor of Hamburg, Prof. Dr. Maximilian Gege, President of B.A.U.M., and Martin Oldeland, Director of Events/PR at B.A.U.M. (from left to right).

"Who's who" in the new energy era

German weekly business news magazine "Wirtschaftswoche" has published a list of "Who's who in the new energy era." The top 10 prominent figures in the pursuit of a sustainable energy system were selected in the categories "Pioneers," "Officials," "Politicians," "Industry Managers," "Energy Managers" and "Researchers." Dr. Martin Viessmann was ranked number 6 in the highly competitive field of "Industry Managers."

The Top 10 Industry Managers

1	Peter Löscher	Siemens, CEO	72.4*
2	Franz Fehrenbach	Robert Bosch, Chairman	51.4
3	Norbert Reithofer	BMW, Chairman of the Board	49.0
4	Frank Asbeck	Solarworld, Chairman/CEO	48.1
5	Martin Winterkorn	Volkswagen, Chairman of the Board of Management	47.5
6	Martin Viessmann	Viessmann Werke, Managing Partner	47.3
7	Jürgen Hambrecht	BASF, former Chairman of the Board	42.4
8	Aloys Wobben	Enercon, Director	41.4
9	Dieter Zetsche	Daimler, Chairman	41.0
10	Kurt Bock	BASF, Chairman of the Board	39.0

** Percentage of maximum possible points from jury*

Viessmann and VELUX agree on cooperation

Viessmann and market leader in roof windows VELUX Group have signed a cooperation agreement to jointly supply highly efficient solar thermal systems and appeal to a larger end customer group. VELUX has granted Viessmann the rights to distribute DHW cylinders and solar controls in selected countries. In return, Viessmann will expand its product range to include VELUX solar collectors for roof integration.

"The new partnership expands our comprehensive range for all fuel types and areas of application," remarks Dr. Thomas Schweisfurth, Chief Sales Officer of the Viessmann Group. "In addition to our own flat-plate and vacuum tube collectors, we can now also offer our customers VELUX solar collectors, which can be harmoniously integrated into any roof. We are convinced that this will consolidate the market position of both our companies."

With this cooperation, professional heating contractors now have access to VELUX solar collectors for roof installation and accessories via Viessmann. DHW cylinders, control units, components and technical support are all provided through Viessmann's worldwide distribution network.

The cooperation is officially effective as of January 1, 2012 and will be implemented in the first half of 2012.

VELUX solar collectors can be harmoniously integrated into the roof.

Viessmann's Vitocell range offers the right DHW cylinder for every need, perfectly matched to the respective heat source.

2011 dena building report

In order to develop suitable strategies for reaching climate protection goals, political decision-makers and market participants require reliable information about the current status of energy systems in existing buildings and how target groups act in the market. To meet this need, the German Energy Agency (dena) has issued its 2011 building report, an extensive collection of data on existing residential buildings, ownership structures and framework conditions for energy efficiency in Germany. The statistics and analyses in the dena building report reflect both the current state of existing buildings and its development. dena relies on its own unpublished data and other sources to conduct ongoing analysis. The building report is updated at least once per year. The first issue will be published in mid-2012; for the exact date, please refer to their homepage www.dena.de.

Second Viessmann Heat Pump Forum

Some 200 industry experts from throughout Germany learned about the current trends and latest technological developments at the second Viessmann Heat Pump Forum in November.

In his welcome, Hans-Joachim Pez, Viessmann International Sales Manager, Region West, emphasized how important the modernization market is for climate protection, resource conservation and heating installation businesses. Dr. Ralf Baller, Head of the heat pump division at the German Office of Economics and Export Control (BAFA), explained funding regulations and application procedures, while Dr. Andreas Bühring, director of heat pump development at Viessmann, discussed the technology of electrically driven compression heat pumps. Interest was particularly high in two lectures about the new innovative ice storage system (see also separate article on page 20). Heiko Lüdemann, Managing Director of isocal HeizKühlsysteme GmbH, first explained how a heat pump system with ice storage works. Subsequently, Egbert Tippelt, Viessmann Product Sales Manager for heat accumulators, gave the contractors and planners on hand useful tips and information for properly installing the storage system.

Dr. Ralph Baller, Head of the heat pump division at the German Office of Economics and Export Control (BAFA), explained the procedure for applying for financial subsidies for heat pumps.

New handbook for planning heat pump systems

Viessmann began manufacturing heat pumps in the early 1970s. Today the company's comprehensive range includes pumps with outputs from 1.5 kW to 2 MW for use in single family homes, apartment buildings, commercial and industrial applications and local heating networks. The experience gained over decades of developing these heat sources as well as in planning and realizing heat pump systems is now being made available to contractors and planners in the form of a new handbook.

In addition to physical and technological fundamentals, the book explains the potentials of the primary sources of the earth, water, outside air and waste heat and how to exploit them. The authors go into detail about planning systems for heating and cooling buildings and generating domestic hot water. Every topic is accompanied by formulas, tables and diagrams to help readers put the information into practice. Extensive examples and illustrations are also included.

The new planning handbook (in German) can be downloaded for free at www.viessmann.de/de/Industrie-Gewerbe/ services/ fachreihen.html.

The planning handbook provides professional contractors and planners with essential information for planning, installing and operating heat pump systems.

Alliance for Building Energy Efficiency

Companies and associations have joined forces as part of an initiative from the German Energy Agency (dena) to call on the German government to drive forward the transition to a sustainable energy system in existing buildings and offer their active support. The newly founded Alliance for Building Energy Efficiency (geea), of which Viessmann is a member, is calling for the strategic development of a legal framework, financial incentives and market stimulus. In particular, this includes tightening the German Energy Saving Ordinance (EnEV) by up to 30 percent, increasing subsidies for energy-conserving modernization to up to EUR 5 billion annually, optimizing the Energy Performance Certificate and providing ongoing training for building experts.

"Germany must do something about the backlog in modernizing building energy systems", commented Stephan Kohler, Chairman of the Board of the German Energy Agency (dena), at the launch of the alliance in Berlin. "Modernizing existing buildings stimulates economic growth in industry, the trades and SMEs and has a positive effect on the job market. At the same time, we can eliminate climate-damaging CO2 much less expensively by modernizing energy systems than with many other measures."

Viessmann wins two Focus Design Awards

Two Viessmann products have been recognized with the 2011 "Focus Open" international design prize from the German state of Baden-Württemberg. More than 350 applications were received for the coveted award.

The gold award in the "Production, assembly, logistics" category went to the Vitotronic programmable logic control. The Vitotrol 300 RF remote control won silver in the same category.

The Focus Design Prize is renowned throughout Germany and abroad and is dedicated to outstanding quality and pioneering design solutions.

Vitocontrol

Vitotrol 300 RF

Setting an example for the world

2011 – Start of a new energy era in Germany

by Jürgen Petermann

No other industrialized nation has set such ambitious goals for its energy policies than Germany. Within one decade, all nuclear power plants are to be shut down, while CO2 emissions are to be decreased by 40 percent relative to 1990 levels. Is this even realistic? The world views Germany with a mixture of skepticism and amazement at such audacity. Will the Germans manage the fundamental structural shift in their energy systems?

"That which seemed impossible became possible, the absolutely improbable has become a reality." These were the shocked words of Chancellor Angela Merkel after an earthquake of magnitude 9.0 and a tsunami ravaged the nuclear power plant Fukushima and destroyed four of six reactor blocks on March 11, 2011. Japan declared a state of nuclear emergency, and more than 100,000 people had to flee from the radiation. It was the second-worst disaster in the history of civil nuclear energy, after Chernobyl. This date marks the beginning of a new era in German energy politics. Just a few months before in autumn 2010, the CDU/FDP government agreed to extend the service lives of existing nuclear power plants in Germany, under pressure from the economic interests of the large energy companies.

Sustainable revolution on the roof: Solar collectors for DHW and backup heating and photovoltaic modules for generating electricity are a common sight in many places.

Federal Chancellor Angela Merkel visits an offshore wind park by helicopter. The phase-out of nuclear power introduced by her government can be considered a landmark political decision.

But after the disastrous reactor catastrophe in Japan, the coalition government had a surprising change of heart. Eight of the 17 total nuclear power plants in Germany were immediately deactivated. The last nuclear power plant is scheduled to go offline at the end of 2022 at the latest.

Landmark decision

At a breathtaking rate, the government approved before its summer break an extensive package of legislation "to accelerate the transition to a new energy era." The decision to phase out nuclear energy was approved on June 30 by a broad consensus in Parliament and can be seen as a milestone in the new energy future, with countless benefits for German exports and economic power – assuming that citizens and investors can be convinced to do their part.

Two-degree target endangered

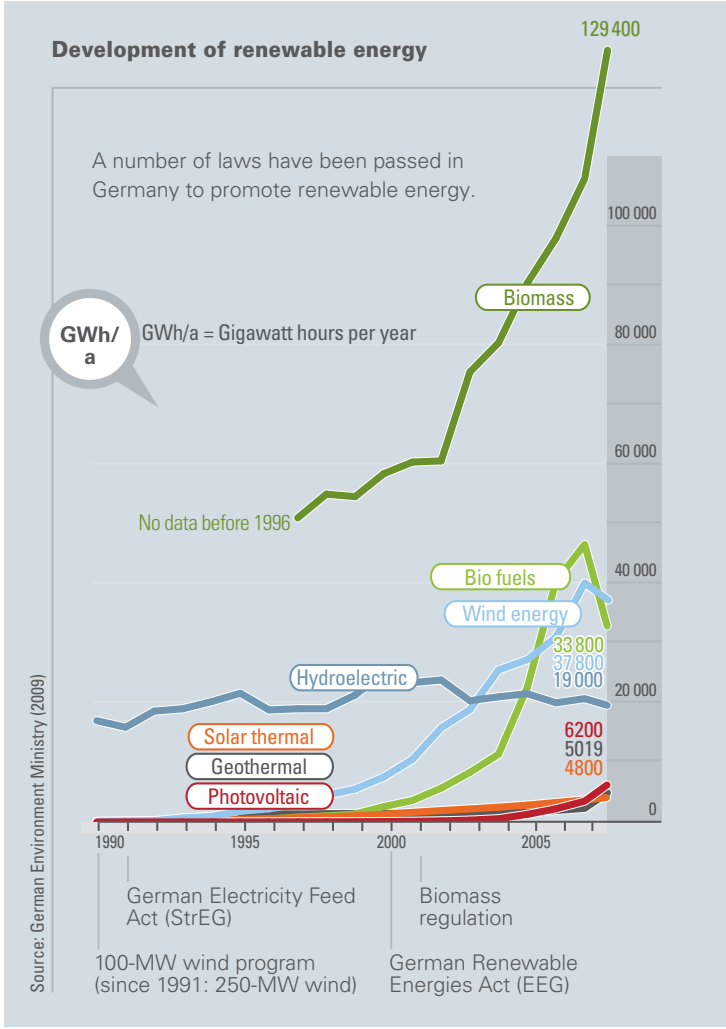
The fundamental transition to a sustainable energy supply without nuclear energy is economically and ecologically unavoidable. Reserves of fossil fuels are finite, and the conventional sources of oil which seemed in surplus just a few decades ago are drying up first. Gas will be available longer and can also be produced from regenerative sources. It will play a special role in the energy supply of the future if we want to avoid using coal due to CO2 emissions. The ability of the atmosphere to absorb the greenhouse gas CO2 is reaching its limits. If global carbon dioxide emissions continue to increase as they have up to now, we will not meet the target of stabilizing global warming at two degrees. The world would be up to six degrees hotter, with unpredictable consequences for the living conditions on the planet.

Challenge and opportunity for Germany

German Federal Minister for the Environment Dr. Norbert Röttgen explained that Germany's decision to enter a new energy era offers the opportunity to set an example for the world of how to balance competitiveness and sustainability in a leading industrial nation. At the same time, switching to a sustainable energy system poses major challenges for Germany's economy and industry. It will take billions of euros of investments and coordinated efforts throughout the country, similar to the cost and effort of German reunification, to move beyond outdated fossil and nuclear energy systems.

80 percent of electricity from renewables by 2050

The government's declared goal is to generate more than 80 percent of electricity from renewable sources in Germany. Just as the solar roofs, wind parks, CHP stations and biogas systems need to be built, all these regenerative energy sources must also be integrated into the supply system. The country needs new grids. And moreover, it needs new methods



Environment Minister Norbert Röttgen: "Setting an example for the world of how to balance competitiveness and sustainability."

Laying the Baltic pipeline for Russian gas, which recently started up operations.

of storing energy from periods of excess wind and sun for times when these resources are not available. The supply system of the future will be much more diverse than it is today.

Expansion of infrastructure urgently needed

The new energy era in Germany started off auspiciously in 2011. Thanks to a sunny spring, more than 20 percent of German electricity demand could be met by green energy. Germany's first offshore wind park, alpha ventus, produced roughly five percent more electricity than anticipated. The world's largest hybrid power plant for generating hydrogen from excess wind electricity (output: 120 m^3/h) went operational in Prenzlau near Berlin. RAG, headquartered in the Ruhr district, announced plans to transform decommissioned coal mines into underground pumped storage power plants. The Desertec desert power initiative decided to construct a pilot plant in Morocco this coming year, much earlier than planned. The Baltic Sea pipeline for Russian gas went operational, and large reserves are now predicted underneath the Mediterranean Sea. Highly efficient gas power plants which can quickly be switched on and off will serve as essential bridge technology. There was also good news from Brussels: The EU has earmarked EUR 9.1 billion for new pipes and storage systems for electricity and gas starting in 2014.

The Achilles heel of the new energy era turns out to be the desperately needed expansion of the infrastructure. Bottlenecks are a problem, especially in the "electricity highways" intended to transport wind power from the North and Baltic Seas to the consumer grids of the west and south. In a letter to the German government in mid-November, transmission system operator Tennet complained about significant difficulties in planning and construction progress in all ongoing projects and requested concrete assistance from policymakers in planning and financing. One has to wonder why pipelines from the Mediterranean through the Alps are easier to realize than between the German states of Lower Saxony and Bavaria.

Enhancing efficiency is the most important resource

But critics feel the government has failed the most in another area: The debate about power plant capacities and high-voltage networks, rising electricity prices and feared bottlenecks neglects an important pillar of a sustainable energy system, namely increasing energy efficiency, without which the new era cannot hope to succeed.

The German government may have declared energy efficiency to be a "key issue," but of the 641 pages of legislation approved by the Cabinet on June 6, only a few were related to this topic. But energy efficiency is the fastest, most effective and cheapest method of reducing the terrible waste of energy. Nearly 40 percent of energy currently being consumed could be conserved by increasing efficiency amongst both generators/suppliers and consumers. In this sense, increasing energy efficiency is our most important resource.

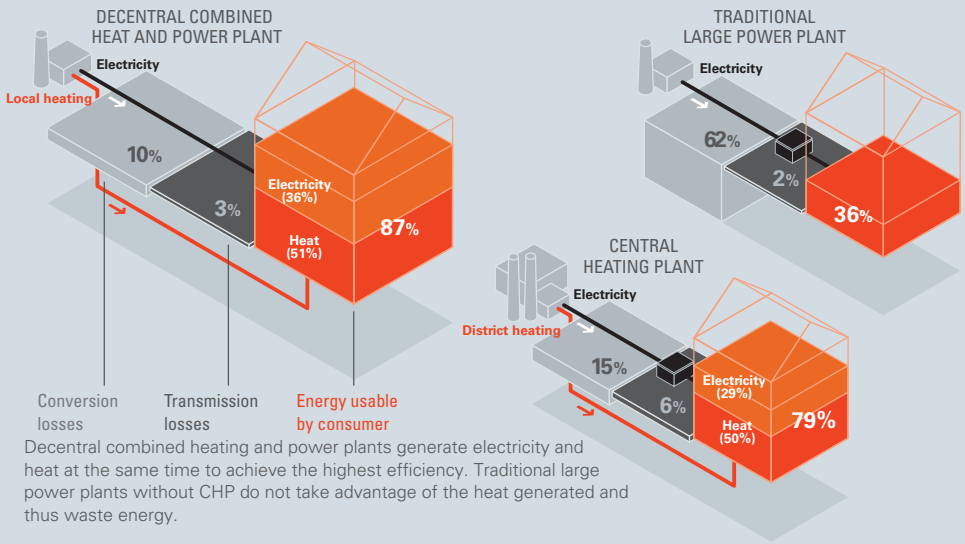
Electricity and heat continue to grow together

For example, energy efficiency can be improved by building power plants with better efficiencies or by greater use of combined heat and power (CHP), which has larger potential for efficiency. The heat generated by CHP systems is not simply rejected to the environment but used to heat residences or for industrial production. Small and very small power plants, including micro power plants in the basements of single-family homes, could improve the efficiency of millions of buildings. In this way, electricity and heat continue to grow together.

The world's largest hybrid power plant for generating hydrogen from excess wind electricity in Prenzlau near Berlin.

The increased use of combined heat and power generation is a powerful way of improving energy efficiency.

More efficiency thanks to cogeneration of heat and power (CHP)



Decentral combined heating and power plants generate electricity and heat at the same time to achieve the highest efficiency. Traditional large power plants without CHP do not take advantage of the heat generated and thus waste energy.

Heating market accounts for largest share of energy consumption

At around 40 percent, generating heat accounts for the greatest proportion of overall energy consumption, and a correspondingly large share of CO2 emissions. The German government's ambitious goal is to reduce primary energy demand in buildings by 80 percent by the year 2050 – by modernizing the energy systems of existing buildings. But this is exactly where the sustainable new energy era is running into problems.

Rate of modernization urgently needs to be doubled

In July, the German Bundesrat refused to agree to tax breaks proposed by the government for modernizing the energy systems of homes. Constantly changing subsidy requirements also irritate house owners interested in making investments. As a result, the modernization rate of existing buildings is only 1 percent per year; two percent would be necessary to reach the defined goals. In early September, an unprecedented alliance between the construction and real estate industries, union representatives and the German tenants'

Micro CHP stations such as the Vitotwin 300-W make cogeneration of heat and power interesting even for single and two-family homes.

association requested an increase in modernization subsidies and accused the government of ambiguity: "They announce a new era of sustainable energy while thwarting the industry in which the most energy could be conserved."

In addition to solar and wind energy, biogas is one of the essential renewable energy sources. It is generated in biogas plants from renewable, regionally available raw materials.

Tax incentives sent to mediation committee

It came as a surprise that the planned write-off for modernization measures in owner-occupied single and two-family homes which had already passed the Bundestag eventually failed due to resistance from states dominated by the Social Democratic Party. The tool of tax incentives has proven quite effective at stimulating investment in the past, especially considering that the anticipated loss in tax revenues have been offset by increases in income tax and VAT on the suppliers' side. Now the bill which failed in the Bundesrat has ended up in a mediation committee, which has met on the topic several times but adjourned again without making any progress. The delay in this important measure and the resulting "wait and see" attitude amongst potential customers only serve to further slow the market for building modernization, whose stimulation is essential for the success of the sustainable energy era.

Bundesrat topples CCS

In September, the Bundesrat toppled yet another important project related to the new energy era. Out of fear of citizen protest, the heads of the German states blocked a bill for pilot projects to capture the greenhouse gas CO2 underground instead of releasing it to the atmosphere (CCS or carbon capture and storage). Without this option, it will be even more problematic to cover the energy gap resulting from nuclear decommissioning with fossil fuels, until enough eco-electricity is available.

Clarification required in key issues

Clarification is still required in key issues. Will power plant operators be compensated in the future for maintaining their systems on standby, although they might have to be shut down more frequently and thereby become unprofitable due to the rise of eco-electricity? Energy suppliers such as E.ON and RWE are already demanding billions of euros in compensation for the accelerated phase-out of nuclear power and are contesting the nuclear fuel tax designed to finance the expansion of renewables. German weekly news magazine "Spiegel" has already called the new energy era a shaky business, and Stephan Kohler, head of the semi-public German Energy Agency (dena), has commented: "The aims of the sustainable energy era are well-defined but the implementation is faltering."

Biomass is growing in importance. Shown here: short-rotation wood for producing wood chips.

Profile

Jürgen Petermann served as head of the science and technology editorial team at German news magazine DER SPIEGEL and works as a freelance journalist in Hamburg. Petermann is the author of the book "Energy Future," the German version of which is in its second printing and available at www.viessmann.de/de/ueber_ viessmann/buchbestellung.html.

Population supports the transition

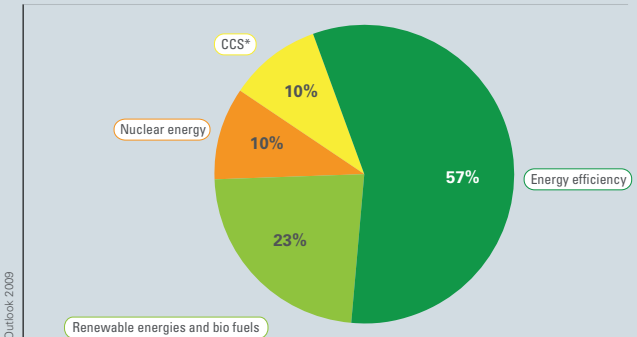
But the Conservative-Liberal coalition government set a surprisingly systematic course for restructuring the energy systems in 2011. And current surveys indicate that the population supports the transition. 94 percent of those surveyed are in favor of expanding renewable energies, most even if it were to happen in their neighborhoods and if they had to make financial sacrifices. And even the energy companies, which have tended to resist the changeover up to now, have begun to see the light. "We now understand that the future of the energy supply is green," remarked Tuomo Hatakka, CEO of Vattenfall Europe.

Germany taking the lead

Unless political and economic hurdles further stymie progress, Germany seems determined to enter the new energy era without delay – a step which all countries in the world will inevitably have to take at some time due to finite reserves of fossil fuels. Germany is taking an ambitious lead here. As a country with practically no fossil reserves of its own but the power to innovate, its future looks decidedly bright.

Hydroelectric power plant Pfrombach: In addition to wind, sun and biomass, hydroelectric power is another regenerative energy source for producing sustainable electricity.

Energy efficiency helps the climate



Source: IEA World Energy Outlook 2009

Target by 2030: reduce CO2 emissions by 13.8 gigatons
To limit warming of the atmosphere to 2 degrees Celsius, global CO2 emissions must be reduced by 13.8 gigatons by 2030. The greatest leverage is possible through measures to increase energy efficiency.

* Carbon capture and storage

Study by "Capital" magazine makes it clear: Of all the modernization methods, updating the heating system is the most cost-effective.

Study by "Capital" magazine:
Updating heating systems is the most cost-effective way to modernize

How can the sustainable energy system envisioned by the German government in the aftermath of Fukushima be achieved? This is a burning question for both experts and the general public alike. But one thing is clear: The key to launching a new energy era lies in the heating market. With a share of 40 percent, it is the largest energy consumer and boasts tremendous potential for savings. Only one in five heating systems is at an acceptable state of the art, and according to expert calculations, at least 30 percent more energy is being used than is necessary.

Significant economic potential remains untapped

But although eliminating the backlog of unmodernized buildings would provide the most leverage in achieving the government's ambitious goals, hardly any progress is being made here because suitable framework conditions are lacking. Unfortunately, the tendency of system operators to simply "wait and see" has negative effects on both the climate and the German economy. As early as 2007, four years before Fukushima, a McKinsey study estimating the costs and opportunities of reducing greenhouse gas emissions in Germany showed that the costs associated with eliminating CO2 by modernizing heating systems are negative. In other words, it would be an economic recovery program benefitting all participants, including the German economy.

"Capital" article shows what investments pay off

An informative article in the December issue of German business news magazine "Capital" details what residential building modernization investments pay off. Using two examples (single-family home and apartment building), it compares energy costs before and after modernization and explains what investments actually make economic sense. It turns out that modernizing heating systems is the most cost-effective measure. The only measures that paid off within a reasonable period for the single-family home were insulating the basement ceiling and installing new heating combined with a solar thermal system for domestic hot water. The situation turned out to be similar for the multiple-family residence: Modernizing the heating system is again the most cost-effective measure. Insulating fared better here than in the single-family home only because of the resulting increase in value of the house.

"markt intern" recognizes Viessmann as "Best Professional Trade Partner of the Year"
Viessmann tops overall ranking

The Viessmann Group is pleased to have been named "Best Professional Trade Partner of the Year" by "markt intern" trade magazine for the 11th time in a row this past spring. "markt intern" also named an overall top performer this year, an award which likewise went to Viessmann. Publishing Director Olaf Weber presented the trophy to Supervisory Board Member Dr. Thomas Schweisfurth in Düsseldorf.

38 individual wins since 1994

Every two years in the lead-up to the ISH trade fair, "markt intern" conducts a survey of several thousand heating contractors to determine that year's "Best Professional Trade Partner". Viessmann has won 38 individual awards in this survey since 1994, including Best Professional Trade Partner of the Year for 11 years running. Thus it came as no surprise that the company also won the overall performance award.

"Viessmann is a pillar of the industry"

"During these fast-paced times in particular, we need pillars of industry towards which we can orient ourselves", remarked "markt intern" Editor-in-Chief Hans-Georg Pauli in his accompanying speech. "Viessmann serves this function for the heating, plumbing and air conditioning sector."

"Motivation for further improvement"

In his acceptance speech, Dr. Thomas Schweisfurth explained that the company sees the 38 individual wins as a challenge to continue to listen closely to its trade partners, commenting: "Although we have finished at the top of countless individual disciplines, there is still room for improvement in certain areas and this motivates us to continue to improve ourselves."

Viessmann Supervisory Board Member Dr. Thomas Schweisfurth (right) and Managing Director of Viessmann Deutschland GmbH Michael Weber (second from right) accept the award from "markt intern" Publishing Director Olaf Weber (center) and Editor-in-Chief Hans Georg Pauli (left). Viessmann Brand Ambassador Sven Fischer (second from left) is also pleased with the honor.

2011 German Sustainability Award:
Viessmann named Most Sustainable Brand

On November 4, Viessmann was honored with the German Sustainability Award in the category "Germany's Most Sustainable Brand". The prize for "Most Sustainable Production" went to the company just two years before.

Federal Minister Aigner presents the award to Dr. Viessmann

German Minister of Food, Agriculture and Consumer Protection Ilse Aigner presented the award to Dr. Martin Viessmann during the 2011 German Sustainability Conference in Düsseldorf. Some 700 companies competed for the German Sustainability Award in 2011.

In selecting the winners, the jury chaired by Dr. Günther Bachmann, General Secretary of the Council for Sustainable Development, focused on two main issues: How sustainable is the company itself, in all areas? And to what extent and how professionally does it take sustainability into consideration in its brand management? "Specifically, we checked whether only lip service was being paid to sustainability or whether there was actual substance behind the brand promise", explained the jury. Jury members considered the criteria in this category to be fulfilled "by the innovative heating technology company Viessmann, where sustainability has been an integral part of its brand essence since 1966." They added that this is expressed today in particular in the company's commitment to solving key issues in pursuit of a new energy era.

Brand stands for values in practice

Dr. Viessmann thanked the jury, remarking: "A brand fundamentally represents a company's values in practice and creates trust, affinity and loyalty amongst the target groups. What is special about the Viessmann brand is the distinct company culture of our family business, based on six clearly defined principles. One of these pillars defines sustainability in the company, and involves not only a commitment to fulfilling our economical, ecological and social responsibilities, but also the environmental compatibility of all products and processes. We are dedicated to a double strategy of increasing energy efficiency and replacing fossil fuels with renewable sources."

Sustainability at Viessmann

Sustainability is practiced throughout the company. As part of a strategic sustainability project at its headquarters in Allendorf, Germany, Viessmann increased its use of renewable energies to enhance work, material and energy efficiency, thereby demonstrating that the energy and climate policy targets for 2020 can already be reached today.

More than 70 percent of the site's heat demand is met sustainably, with biomass generated in-house. CO_2 emissions will be reduced by more than 80 percent in 2012 when the purchase of green electricity is included – a target which, in the view of policymakers, cannot be reached until 2050.

deutscher nachhaltigkeitspreis

Germany's Most Sustainable Production 2009

Germany's Most Sustainable Brand 2011

Federal Minister Ilse Aigner and Stefan Schulze-Hausmann, Chairman of the Board of the German Sustainability Award Foundation (left), presented the award for Germany's Most Sustainable Brand to Dr. Martin Viessmann. (Photo: Christian Lietzmann)

Viessmann is now officially Germany's most sustainable brand.

In addition to protecting the environment and improving resource efficiency, the project also serves to secure jobs at the site.

Promoting art, culture and science

Viessmann is also committed to taking on social responsibility and is a sponsor of art, culture, science and various projects and social institutions. The company established its own foundation in 2010 for this purpose.

The commitment to sustainability actively practiced at Viessmann is entirely in keeping with the definition of the World Commission on Environment and Development (Brundtland Commission), according to which natural resources should be used in such a way as to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainability strategy of the German government

This concept is also the foundation of the National Sustainability Strategy issued in 2005 by the German government under Chancellor Angela Merkel, who also serves as the patron of the German Sustainability Award. The strategy has been further refined by the German Council for Sustainable Development (RNE), which was appointed by the federal government. The Council has since formulated a Sustainability Code which will serve as a guideline for the German industry in the future and will in fact be mandatory for capital market-funded companies in Germany.

Mawera headquarters in Hard at Lake Constance in Austria.

Mawera Holzfeuerungsanlagen Gesellschaft mbH
Customized system solutions for using biomass

MAWERA

VIESSMANN Group

Since it was founded in 1975, Mawera Holzfeuerungsanlagen Gesellschaft mbH has dedicated itself to innovative, efficient technologies for obtaining energy from biomass. Mawera has been a member of the Viessmann Group since 2006. As part of our on-going series on Viessmann Group members, this time we are pleased to profile the Austrian company with headquarters in Hard at Lake Constance.

Finishing touches being applied to a MAWERA three-pass boiler.

Multiple awards for innovative solutions

Mawera is one of the leading manufacturers of biomass boilers and heating plants in the range from 100 to 13,000 kW. As a specialist for the complete design and construction of biomass combustion systems, the company has received numerous awards for its advanced, innovative solutions, including the Austrian Innovation Award and the Bavarian State Prize. Mawera has approximately 150 employees and generates annual sales of EUR 30 million.

Consistently high quality in all systems

Areas of application for Mawera biomass combustion systems include generating domestic hot water, industrial hot water and saturated steam, process heat systems with thermal oil boilers and CHP systems. The product range also includes containerized heating systems.

Highly trained employees and state-of-the-art production equipment ensure consistently high quality in all Mawera systems. More than 5,000 customers worldwide rely on the company's technology and expertise.

In-house test facilities

As part of its commitment to progress and innovation, Mawera operates its own test facilities at its Austrian headquarters. In addition to testing customer-specific fuels, the insights gained here are used to consistently refine the products. Mawera additionally cooperates with universities and other scientific institutions. The company's extensive research efforts have resulted in extremely low-emission combustion technologies and further optimized combustion geometries.

Valuable tool for professional contractors and system operators:
Energy savings check app and dena subsidy calculator

Whether iPad, iPhone or Android smart phone – mobile communication devices are taking the world by storm, along with apps, small application programs that make life easier and more convenient. Viessmann launched a range of apps for the iPhone and other mobile devices for the 2011 ISH trade fair, including an energy savings check app, which has become one of the most frequently downloaded applications in the industry.

The energy savings check app for iPad, iPhone or Android smart phone quickly determines how efficient a heating system is.

Calculate heating efficiency quickly and easily

System operators and contractors can use the app to quickly and easily determine how efficient a heating system is. The result is a concrete suggestion for modernization and how much can be saved by doing so. The individual calculations can be saved as a project, edited again later or sent per email. The app is available for iPhone, iPod touch, iPad and Android.

Convenient subsidy calculator

What subsidies are available for German homeowners for installing a new heating system can now be calculated with the renewable energy incentives calculator from the German Energy Agency (dena). The tool calculates the amount of government subsidies possible for a planned solar thermal system, heat pump or biomass heating system. After entering data on the building and equipment, users receive all key information about the requirements and conditions of the market incentive program and how much subsidy they qualify for. The results of as many as three calculations can be saved and printed out in PDF format. The app allows system users to compare the various options for modernizing, discuss them with a professional and identify the best solution.

The subsidy calculator provides information about German government subsidies for a planned solar thermal system, heat pump or biomass heating system.

Focus Open Silver 2011

The Vitotrol 300 RF remote control has received the 2011 Focus Open silver design award from the German state of Baden-Württemberg.

Vitotrol app, Vitotrol 300 RF and 200 RF

Operating the heating system from the convenience of your living room

Convenient and easy to program, wherever you are: operating modern heating systems using mobile remote controls is becoming more and more popular. Owners save time by not having to go into the basement or utility room to check on things or change settings.

Viessmann is pleased to now offer three options for monitoring and programming the heating system from the convenience of one's living room or any other location: the Vitotrol app and the two wireless remote controls Vitotrol 300 RF and 200 RF.

The Vitotrol app: Operate the heating system remotely via a smart phone

Apps are innovative programs for smart phones and tablet computers and are becoming increasingly popular. Viessmann's Vitotrol app used with an iPhone, iPad or iPod Touch makes it possible to operate a heating system any time from home or away, whether in the car, the train or the office.

The current outside and set room temperatures are displayed on the start page of the smart phone. Settings can be changed simply by tapping on the display.

Easy to use

The app is completely straightforward to use. The start page shows the current outdoor and set room temperatures as well as the heating program currently in operation and the time and date. Does the house need to be pre-heated for a party that evening, or should the system be set to economy mode due to a longer absence? No problem – settings can be changed simply by tapping on the interface on the display. The full-color, clearly structured display and the unmistakable symbols make it possible to intuitively operate up to three heating circuits. Any messages from the boiler are sent to the terminal device via email to ensure that users are always informed of the current state of the heating system.

Communication via DSL router

To operate the heating system with the Vitotrol app, the Vitotronic 200 control unit of the heat source must be extended by a professional contractor to include the Vitocom 100 LAN1 communication module and connected to the house's DSL router.

Connecting the heating system to the internet via the Vitocom 100 LAN1 also allows the contractor to offer customers additional services, such as regular remote maintenance.

The Vitodens 300-W wall mounted gas condensing boiler with 11 kW rated output can already be connected to this communication module and used with the Vitotrol app today. As of April 2012, this option will also be possible for all Vitodens units, Vitoladens 300-C oil condensing boilers and Vitocal heat pumps with Vitotronic 200 control.

Vitotrol 300 RF and 200 RF: Wireless remote control for new construction and modernization

Controlling the heating system from the convenience of your living room? With Viessmann's new Vitotrol 300 RF und 200 RF wireless remote controls, all key functions of the heating system can be monitored and adjusted as needed directly from any room in the home.

No wires are necessary as the signals sent between the remote control units and the boilers are transmitted via radio. This makes Vitotrol 300 RF and 200 RF ideal for both new construction and modernization of existing buildings. The boiler's control unit simply needs to be equipped with a wireless module. If desired, a wireless sensor for measuring the outside temperature can also be added, powered by an integrated solar cell.

Vitotrol 300 RF with color touch display

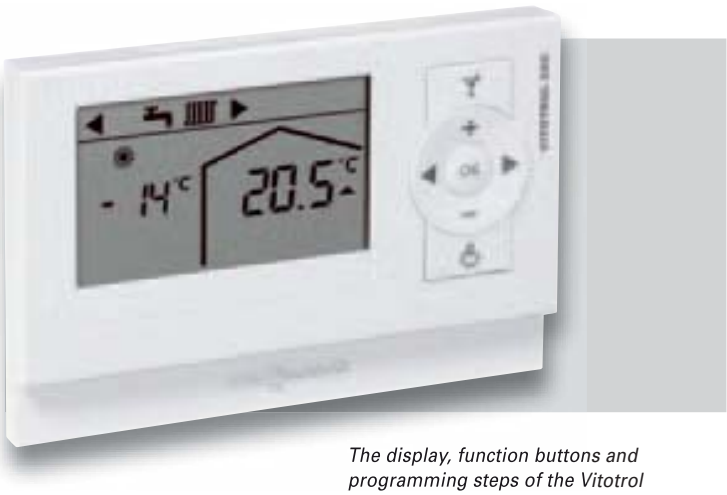
The Vitotrol 300 RF comes with a large color touch display to help users to operate the heating system. Simply pick up the Vitotrol 300 RF, select the desired function with your finger and for instance change the set room temperature/ operating times or select party, economy or holiday modes. Adjustments are a breeze, thanks to a clear structure including pictograms and plain text and logical, self-explanatory menu navigation. All modifications are immediately transmitted wirelessly from the remote control to the Vitotronic control unit of the boiler. As many as three heating circuits can be controlled in this manner.

Monitoring solar thermal yields

But the Vitotrol 300 RF can do even more. If a solar thermal system is installed and the boiler control is equipped with the SM1 solar control module, the solar yields of the past seven days are shown in a convenient diagram. To find out more about a specific day, simply tap on the corresponding bar in the diagram. Users are thus consistently informed about the amount of free energy provided by the sun.

The remote control operates on two rechargeable batteries and comes standard with a choice of a table stand or a wall mount including integrated charger.

Vitotrol 300 RF will be available starting in April 2012 for floorstanding and wall mounted oil and gas boilers such as the Vitoladens 300-C and Vitodens 200-W.



The display, function buttons and programming steps of the Vitotrol 200 RF are identical to those of the Vitotronic 200 control on the boiler.

Vitotrol 200 RF for operating a single heating circuit

Vitotrol 200 RF is designed to operate a single heating circuit. Its large lighted display, function buttons and programming steps are identical to those of the Vitotronic 200 control on the boiler.

The default display always shows the current outside temperature, the set room temperature and the selected heating program, providing users with the most important data at a glance. Changes in settings can be easily made using the scroll button and the OK button. The logical menu navigation allows users to quickly find what they are looking for. Party and economy modes can be activated via separate buttons.

The battery-operated Vitotrol 200 RF is mounted on the wall using the base included with delivery.

Vitotrol 200 RF is currently available for Viessmann oil and gas boilers, and as of April 2012 can also be used with Vitocal heat pumps.

Viessmann's Vitotrol app makes it possible to operate a heating system any time from home or away, whether in the car, the train or the office.

Special solar air absorbers collect heat from the air and from solar radiation. This energy is then stored in the ice storage tank.

Ice storage system
An innovative energy source for heat pumps

With its innovative ice storage system, Viessmann now offers a new way to use heat from the air, the earth and the sun.

The ice storage system is based on a tank with built-in heat exchangers. It is filled with regular tap water and buried in the garden. Special solar air absorbers on the roof collect heat from the ambient air and solar radiation and store it in the tank. The ice storage system absorbs additional heat from the surrounding earth.

In addition to geothermal probes and collectors, the ice storage system is an interesting new option for use with Viessmann's ground source heat pumps.

Heating with ice – solidifying water to release additional energy

The Vitocal heat pump removes the energy required for heating and generating domestic hot water from the tank as needed. If the temperature within the tank drops below the freezing point, the latent heat of fusion of the water is exploited for even more heat. The transition from liquid water to a solid releases as much energy as is stored during the reverse process of melting. For an ice storage tank of 12 cubic meters typical for single-family homes, this is equivalent to the energy of 120 liters of heating oil.

Even after the tank contents have been frozen, enough heat is still provided from the solar air absorbers and the earth to allow the Vitocal heat pump to reliably and economically heat the building. Free energy from the sun and the environment is then channeled back into the tank to thaw it again.

No official permits required

There are a number of advantages to this system. For one thing, it is not necessary to drill holes to capture heat from beneath the earth's surface, nor does extensive digging need be done to install large-area geothermal collectors. Official permits are also not necessary since the ice storage system has absolutely no impact on groundwater.

Precisely matched system components essential

To ensure that everything works properly, all system components including the ice storage tank, the solar air absorbers and the heat pump must be carefully matched to one another. The idea is to optimally use the various heat sources (outside air, solar radiation, geothermal energy) while ensuring that the heat pump works efficiently at both low and high temperatures in the ice storage tank (range approx. –7 to +25 °C).

The Vitocal 300 range of ground source heat pumps is ideal for this purpose. They feature heat source management, innovative cooling circuit control and an electronic expansion valve to ensure excellent coefficients of performance in all operating modes.

Forming ice in storage tanks of typical size for single-family homes releases as much energy as contained in 120 liters of fuel oil.

Cooperation between Viessmann and isocal

The innovative ice storage system was developed by isocal HeizKühlsysteme GmbH in Friedrichshafen, Germany. Viessmann Wärmepumpen GmbH and isocal signed an exclusive cooperation agreement in October 2011 to further develop and market the system.

Vitobloc 200 EM-20/39
Combined heating and power plant with maintenance intervals up to 6,000 hours

The Vitobloc 200 EM-20/39 is Viessmann's new mini CHP station with a long maintenance interval of 6,000 hours.

Heat produced as a by-product of generating electricity in central power plants can normally not be further utilized. Because there are typically no customers nearby to use this heat, it is simply released to the atmosphere. As a result, efficiencies of not even 40 percent are achieved.

Decentrally located combined heating and power (CHP) plants in contrast have the advantage that their heat can be captured and used, allowing them to achieve efficiencies of more than 90 percent.

Maintenance intervals of up to 6,000 hours

Viessmann's new Vitobloc 200 EM-20/39 provides 20 kW of electrical output and 39 kW of thermal output, making it especially well-suited for residential complexes with 30 to 50 units, hotels, retirement homes and commercial enterprises.

The four-cylinder gas engine of the Vitobloc 200 EM-20/39 is specifically designed for stationary operation and is particularly robust and reliable. Maintenance intervals of up to 6,000 hours are possible, which significantly reduces costs and makes the CHP unit more economical. The equivalent interval for a car in comparison would be 360,000 kilometers before any engine maintenance had to be performed.

The control unit of the Vitobloc 200 EM-20/39 together with the synchronous generator make it possible to flexibly meet the requirements of utilities companies.

Efficiencies up to 96 percent

The new CHP station is also particularly efficient thanks to condensing technology. The exhaust gas is cooled so that the water vapor it contains condenses, and the additional heat released in this process is used for heating. The Vitobloc 200 EM-20/39 thus achieves an impressive overall efficiency of up to 96 percent.

Flexibly adjusts to requirements of utilities companies

Utilities companies have different requirements for connecting CHP plants to their grids. The new Vitobloc 200 EM-20/39 features a specially developed control unit and a modern synchronous generator to be able to flexibly meet the various requirements of the utilities companies.

Extensive standard features

Following test start-up at the production plant, Vitobloc 200 CHP units are delivered as compact modules ready for operation and come with extensive standard features. The Vitobloc 200 EM-20/39 for instance is supplied with a sound-insulated housing for quiet operation and integrated flue gas scrubbing. The standard CHP unit also comes with all components necessary for replacing mains power, such as a starter battery. If there is an outage in the public grid, an independent supply of electricity is guaranteed.

Viessmann's new Vitotronic 200 control unit features a uniform user interface for all heat sources up to 2,000 kW.

Vitocrossal 300, type CR3B
Condensing boiler with outputs up to 1,400 kW

Up to now, Viessmann's high-efficiency Vitocrossal 200 and 300 gas condensing boilers have been available in outputs from 26 to 978 kW. The Vitocrossal 300 (type CR3B) recently launched on the market now extends the upper range considerably. With outputs of 787 to 1,400 kW, it is ideally suited for use in large apartment buildings, commercial and industrial applications as well as public buildings and district heating plants.

The new Vitocrossal 300 with outputs up to 1,400 kW is the largest condensing boiler in Viessmann's comprehensive range.

Consistently high efficiency thanks to Inox Crossal stainless steel heat exchanger

The tried-and-tested Inox Crossal stainless steel heat exchanger ensures high efficiency. The intense turbulence created as the hot gases pass through the heat exchanger means extremely efficient heat transfer, allowing the Vitocrossal 300 to achieve high condensation rates and seasonal efficiencies of up to 98 percent (H_s).

The smooth stainless steel heat exchanger permits the condensed water to run off unhindered below. This self-cleaning effect prevents deposits on the surface, promotes high efficiency in the long term, increases the service life of the boiler and decreases maintenance work.

Two return connectors for the hydraulic connection

A second return connector on the Vitocrossal 300 makes it possible to divide the heating circuit returns into a high-temperature circuit and a low-temperature circuit. This means that heating circuits with different system temperatures do not need to be combined in the boiler. The separate connection for the low-temperature circuit ensures consistently high condensing efficiency.

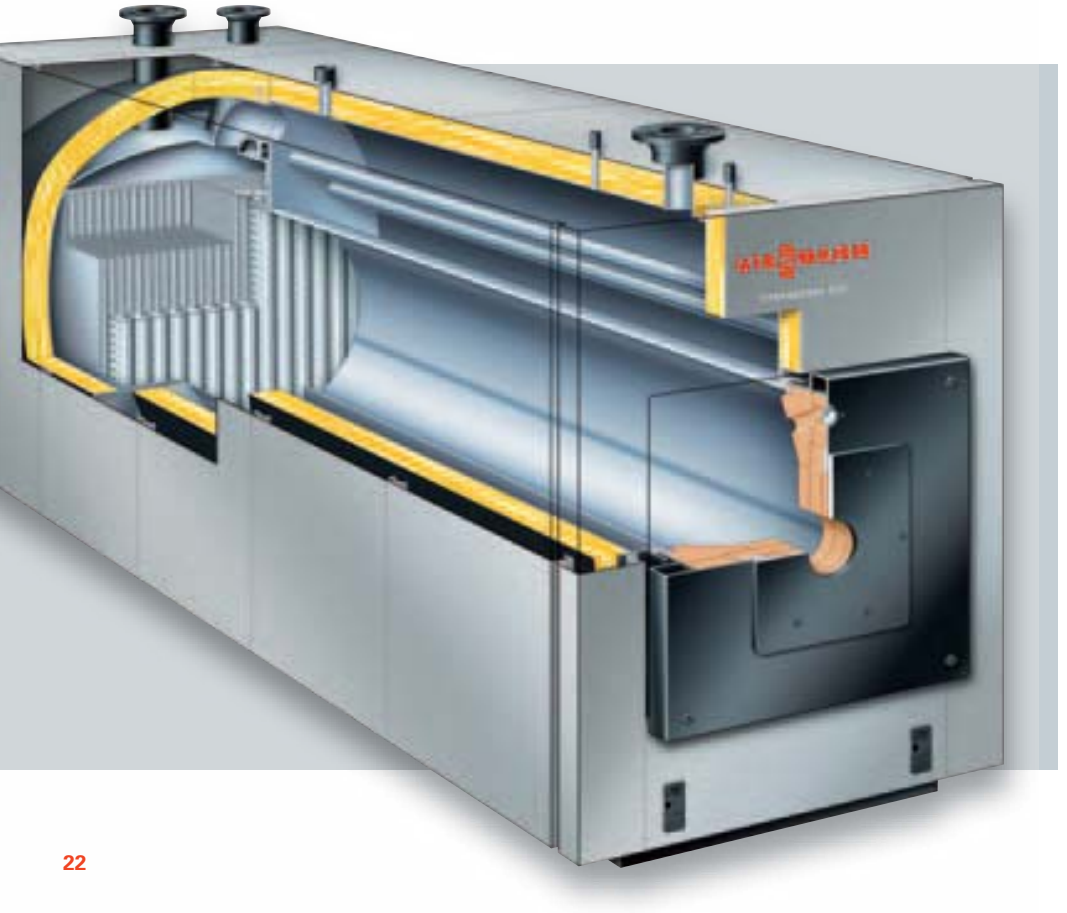
Control unit particularly easy to use

Like Viessmann's other heat sources up to 2,000 kW, the new Vitocrossal 300 is equipped with the innovative Vitotronic control unit with its easy-to-operate user interface. The menus are self-explanatory and all programming steps are intuitive to carry out. The large lighted display shows all information in plain text, while heating curves and operating times are conveniently displayed as diagrams.

The Vitotronic 300-K control unit is available as an accessory for operating the Vitocrossal 300 in multi-boiler systems with up to four boilers. It also comes with the convenient programming unit with large graphics display. The standardized LON bus enables the boiler to be integrated into building management systems. The Vitocom 300 and Vitodata 300 internet telecontrol systems also make it possible to monitor and program the system remotely.

Simple installation

The Vitocrossal 300 is delivered in two parts. Despite its high outputs, it is lightweight and compact, making transport and installation even easier.



For more than a decade and a half now, the village of Lech has played a pioneering role in supplying heat from renewable sources.

Tourist destinations Lech and Warth on their way to becoming a model region for sustainable energy supply

Mawera wood chip boiler for biomass heating plant in Oberlech

The heart of the new heating plant is a Mawera wood chip boiler (below). A Vitomax 200 is used to cover peak load (above).

To improve energy efficiency in the fields of heating, electricity and mobility and increase the share of renewable sources, the Austrian villages of Lech and Warth have launched a model project supported by the Austrian Climate and Energy Fund. The aim is not only to capture the largely untapped potential of modernizing building energy systems but also to raise awareness of the importance of conserving increasingly scarce fossil fuels.

Model project to run for two years

Up to now, improving energy efficiency in tourist destinations has failed due to often difficult framework conditions. Energy consumption fluctuates strongly, and during the tourist season there is little time to implement efficiency measures.

The model energy region Lech/Warth project will run for two years and is funded by the villages of Lech and Warth, the biomass heating plant in Lech and the Vorarlberger Kraftwerke (VKW) utilities company. During this period, the share of heat supply from biomass heating plants is to increase from 60 to 90 percent. Self-sufficiency is to be increased by expanding hydroelectric power, and electromobility will also be promoted.

Pioneering role for a decade and a half

The village of Lech has played a pioneering role in supplying heat from renewable energies for nearly one and a half decades now. Since 1997, all hotels and other commercial operations have been supplied with heat from a biomass heating plant. After the capacity of the original plant was no longer sufficient, a new heating plant was installed based on a Mawera wood chip boiler.

Honored with the Energy Globe Award

Austrian specialist aquotec was responsible for designing, planning and obtaining bids for the new heating center. The company with headquarters in Weißenkirchen/Attergau won the renowned Energy Globe Award for the project.

Innovative system for flue gas scrubbing

The heart of the plant is a Mawera Pyroflex wood chip boiler with an output of 2.5 MW. The boiler's flat moving grate makes it possible to burn wood fuels with a high ash content. A key advantage of this system is a low particle content in the exhaust gas, thanks to a stationary fuel bed. The exhaust gases recirculated to the combustion chamber also ensure highly clean combustion.

The new heating plant features an innovative system for flue gas scrubbing. The exhaust gases are fed over an electric filter which electrostatically binds and absorbs fine ash. This ensures that the level of particulates in the exhaust gas is significantly below that specified by Austrian law.

Efficiency of more than 98 percent

A heat recovery system has also been installed which supplies the district heating network. Efficiency increases to 98 percent as a result, and large volumes of fuel can be conserved. A buffer cylinder helps offset fluctuations in heat supply and demand. A Vitomax 200 oil boiler can be added to cover peak loads.

Heat and electricity for high-tech production plant

Two ESS combined heating and power units at OSRAM Opto Semiconductors in Regensburg

Siemens subsidiary OSRAM AG is one of the two leading lighting manufacturers in the world. Energy efficient products account for more than 70 percent of its annual sales of roughly EUR 5 billion. The international company has approximately 41,000 employees worldwide, supplies customers in 150 countries and operates 44 production facilities in 16 countries.

Setting the highest international standards

In 2003, the OSRAM Opto Semiconductors subsidiary in Regensburg, Germany started up operation of the most advanced opto chip production plant in the world at the time. The company sets international benchmarks in the areas of illumination, visualization and sensor technology. As of last summer, two ESS combined heating and power units have been generating environmentally friendly electricity and heat for the high-tech plant.

High efficiency was the deciding factor

OSRAM is committed to continuously improving efficiency throughout its business units. It came as no surprise then that they chose the Vitobloc 200 combined heating and power plants. With efficiencies of more than 90 percent, it is anticipated that the investment will have paid off within just one and a half years.

Heat and electricity used in-house

The two CHP plants together provide an electrical output of 280 kW. This electricity is used in the factory, primarily to operate two chillers installed in the direct

The two ESS combined heating and power units together provide 280 kWel and 414 kWth and achieve efficiencies of more than 90 percent.

OSRAM Opto Semiconductors in Regensburg run the most advanced opto chip production plant in the world.

In addition to numerous chillers, the company's Energy Center also features two ESS CHP units.

vicinity. The modules also produce 414 kW of heat, which is fed into the heating system and used for technical processes.

To ensure that no refrigerant released during chiller maintenance is drawn in by the engines of the two CHP units, a balanced flue combustion air supply was implemented. The modules were equipped with separate supply and exhaust air systems to ensure that only outside air reaches the engines.

Planning certainty thanks to 300-plus maintenance contract

OSRAM has signed a 300-plus service agreement which covers all service and maintenance for the next ten years, giving the Regensburg-based company absolute planning certainty.

Vitobloc: Compact modules ready for operation

The compact Vitobloc 200 modules come ready for operation, with a standard frame to accommodate the engine and generator, standard sound-insulated housing and an integral control system. As a custom-tailored energy solution, Vitobloc 200 CHP units are especially well-suited for use in commercial buildings, industry, hospitals, hotels and residential complexes.

The engines installed depend on module size, are equipped with 3-way catalytic converters and fall below emission limits specified by German law. Highly effective sound insulation ensures quiet operation. Flexible engine mounts minimize vibrations transmitted to the underflooring. The Vitobloc 200 comes with the corresponding system equipment, including digital control to automatically adjust output to current energy demand and allow remote monitoring, and kits for the heating gas and exhaust gas connections. The modules are delivered ready-to-connect following a functional test at the production plant, which simplifies and speeds up installation and operational start-up.

Second sales office built in Plattling according to gold standard of German Sustainable Building Council

Heat and electricity demand met completely by renewable sources

Viessmann has developed an innovative strategy for an energy saving, environmentally friendly supply of heat and electricity at its sales offices. As part of this new concept, sustainability goals are defined early in the planning phase. Equipped with technology already available on the market today, these buildings meet the gold standard of the German Sustainable Building Council as well as the requirements of the Energy Performance of Buildings Directive (EPBD).

The concept was first implemented in Herford (see "aktuell" 2/2011), followed now by Plattling in Bavaria. Viessmann has invested roughly EUR 3.3 million in each of the new sales offices, and they now serve as models for all future locations. As examples of best practice, it is hoped that they will inspire other investors to likewise develop sustainable buildings.

The new building in Plattling features office space for 12 employees, exhibition areas, seminar rooms and a collection warehouse.

Heat sources are installed in the training facilities to give hands-on experience to professional contractors.

Heating and cooling via KWT heat pump

The 6,000-square-meter property conveniently located near the A92 motorway in Plattling is now home to a sales office supplied with electricity and heat completely from renewable energy sources. The 750-square-meter building is heated and cooled with an environmentally friendly ground source heat pump from KWT. It is specially designed for large outputs and obtains its heat from four 14-meter-deep delivery and return wells.

Solar energy is also used in Plattling; three vacuum tube collectors with an area of six square meters mounted on the facade supply the building with domestic hot water. 256 photovoltaic modules installed on the roof of the building provide a total power output of 56.3 kW, which is fed into the grid.

Carbon-neutral supply of heat and electricity

The high-efficiency system equipment is complemented by triple-paned windows and insulation of the building envelope to ensure that the heat generated is used as efficiently as possible.

As part of its energy concept, the sales office in Plattling also uses environmentally friendly electricity from renewable sources such as biomass, hydroelectric and wind power. This green electricity is supplied by the local utilities company, Stadtwerke Plattling.

This means that the overall heat and power supply of the building is carbon-neutral.

Portrait of one of the oldest cities in Germany

Regensburg – economic powerhouse and cultural magnet

Hardly any other German city looks back on such an old and rich history as Regensburg. The capital of the Upper Palatinate district was founded more than 2,000 years ago, making it one of the oldest cities in Germany. But Regensburg has two faces: thousand-year-old history on one side, prosperous high-tech hub on the other.

Its name comes from the Roman fort Castra Regina ("fortress by the river Regen") built in 179 AD. The city boasts more than 1,500 buildings listed under monument protection, most in the city center where they form the ensemble "Old Town of Regensburg with Stadtamhof," which was declared a UNESCO World Heritage Site in 2006.

Economic center of the Upper Palatinate region

The diverse international influences on the town's historic architecture have to do with its role as a medieval crossroads and center of trade in the 12th and 13th centuries. Regensburg has remained the economic center of the Upper Palatinate region until the present day.

The high job density of 720 fully insured jobs per 1,000 inhabitants is a result of many large companies settling here. Unemployment in Regensburg is just 3.3. percent, below the state average of 4 percent. One of the largest employers in the region is BMW. The automotive manufacturer has operated a plant here since 1986, currently employing some 9,000 people.

Another important sector is electrical engineering, represented in particular by Siemens, Osram and Toshiba. Germany's largest regional utilities supplier, E.ON Bayern, also has its headquarters in Regensburg.

The Old Town of Regensburg – here a view of Obere Bachgasse – is recognized as a UNESCO World Heritage Site.

Birthplace of Schmack Biogas

There is a close connection between Regensburg and one of the most important fuels for solving our energy and climate problems: biogas. Biogas pioneer Ulrich Schmack founded Schmack Biogas GbR here in 1995. Schmack Biogas GmbH emerged from this original company and has been a member of the Viessmann Group since 2010. The company operated in Regensburg for eight years before relocating 40 kilometers away to Schwandorf in 2003.

Sporty elegance: the exclusive BOGNER collection of performance clothing for winter 2011/2012.

The new Selection winter catalogue is out

Top products with appealing design and unsurpassed quality

Following the relatively wet and cold summer in most of Europe, not only skiers are looking forward to recreational fun in snowy landscapes. Viessmann's new winter 2011/2012 Selection catalogue offers the right products for every activity, with appealing design and excellent quality.

Vito-Ski

The new Vito skis are perfect for downhill enthusiasts looking for unsurpassed quality and to stand out from the crowd. These carving skis are suitable for both advanced beginners and professional athletes. Edgar Anneser, qualified sports teacher and German Ski Association instructor, put the Vito skis to the test before the season began and can attest to their outstanding qualities.

BOGNER collection

Sporty clothing with an elegant touch: Discover BOGNER's premium collection of performance jackets and shirts for men and women. The signature BOGNER appliqués give the shirts and jackets their extraordinary, sporty appeal. Make an impression in this exclusive apparel, whether on the slopes or in town.

Softshell jacket

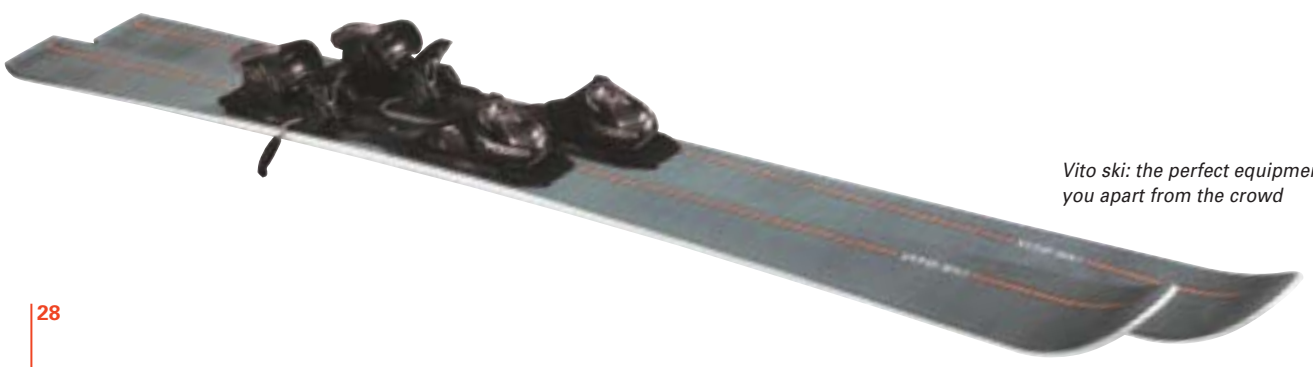
The softshell jacket features a warm fleece lining which is breathable and wind and water repellent. Team and racing logos combined with contrast embroidery transform the jackets into real eye-catchers.

Performance shirt

This shirt acts as a shield against the cold and UV rays. Moisture is quickly wicked away from the body. And the details are also impressive: Four zipper pockets hold small items, while reflective strips shimmer in elegant gold.

Zip-up jacket

The combination of finest lambswool and No Wind® membrane protects you from autumn storms and frosty temperatures. Features two practical inside pockets and two zipper pockets.



Vito ski: the perfect equipment to set you apart from the crowd

Zip-up shirt

Stylish fleece shirt with typical BOGNER embroidery; contrasting strips lend sporty flair. The high-quality microfleece is extremely warm and comfortable to wear.

Adidas fleece jacket

Whether as athletic apparel or casual sportswear – you're sure to make an impression with the Adidas fleece jacket from the Viessmann Selection. The high-quality CLIMAWARM material insulates ideally against the cold, while the textured Polartec Classic microfleece provides additional warmth.

Biathlon backpack

A must-have for every biathlon enthusiast: The original biathlon backpack is reminiscent of a rifle bag and available exclusively in the Viessmann Selection catalogue. Its ample storage space has room for everything fans need. Pens and autograph cards can be stored in the front pocket, while there is room for a water bottle in the inside mesh pocket. Of course the backpack's designers knew that not every World Cup event takes place in sunny weather, which is why a rain cover has been integrated into the bottom compartment and two inside pockets with zippers offer additional room. Padded back support ensures the ultimate in comfort despite countless hours at the stadium. And the backpack is ideal outside the biathlon arena too. It has plenty of room for a tennis racket for instance, with two extra-long zippers to make it easier to stow items.

The original biathlon backpack is available exclusively from Viessmann Selection.

Watch

The new Selection watch features timeless, subdued design. The stainless steel housing contrasts with the white face to make the watch discreetly elegant. And the details are just as impressive: brand-name movement from Myota (by Citizen), hardened mineral glass and a polyurethane embossed strap with stainless steel buckle. The watch is waterproof to 3 bars and comes with a 5-year guarantee.

EISBÄR hot water bottle

The hot water bottle from cult brand EISBÄR is sure to make you feel better, whether you have cold feet, muscle tension or an upset stomach. A pleasantly warm little "heater" for couch or bed, with a soft removable cover (washable).

The winter 2011/2012 Selection catalogue is available at the Viessmann website under www.viessmann.de.

The new Selection watch comes in a timeless, subdued design.

The cuddly EISBÄR hot water bottle provides soothing care for minor aches and pains and much more.

BOGNER zip-up jackets and shirts: Fine lambswool or microfleece for ideal wear comfort.

Stefan Bradl is the first German world motorcycle champion in 18 years.

First German world motorcycle champion in 18 years
Stefan Bradl crowned winner

Stefan Bradl is Germany's first motorcycle world champion in 18 years. At the close of the 2008 season he was facing the end of his career. But with Viessmann's support, he was able to continue – all the more gratifying that the talented 22-year-old was named Moto2 World Champion at the grand prix in Valencia three years later. Bradl proved his mettle throughout the past season, dominating the first race in Qatar with a start to finish victory. In the fifth race, the pilot of the Viessmann Kiefer Racing Team secured his fifth pole position in a row during the qualifying and enjoyed a third win that season. The second half of the season brought with it a fierce showdown with his toughest competitor, Spaniard Marc Marquez, where he ultimately prevailed.

Start in the top tier in 2012

This coming year, Bradl will start for team LCR Honda in the premier class of motorcycle racing, the MotoGP. Viessmann is pleased to continue to personally sponsor Stefan Bradl as an athlete. The company

chooses not to act as a general sponsor in the MotoGP event, as this would not be compatible with our sustainability strategy and commitment to energy efficiency and environmental protection.

Richard Freitag joins team

Ski jumper Richard Freitag was already being feted as the newcomer of the year before the new season began, and in the summer 2011 grand prix he enjoyed the first podium finishes of his young career, with 2nd place in Courchevel and third in Hinterzarten. The success of the 20-year-old is anything but a miracle, considering he has ski jumping in his genes. His father Holger was also a ski jumper and even took part in the Winter Olympic Games in Sarajevo in 1984.

Richard Freitag, who is wearing the Viessmann colors for the first time this current season, emerged in the extended world class last winter and made it to the top 3 last summer. "My main goal is to succeed at the Four Hills Tournament," says the athlete from the German Erzgebirge region cautiously. "I hope to place in the top 10 overall."

With his achievements so far, especially his World Cup win in Harrachov, Czech Republic, and a silver medal at the Junior World Championships in 2011, to say nothing of his personable demeanor, he is the perfect addition to the Viessmann team.

German team counting on him

His solid performances mean the national coach can really count on him. In his free time, the 20-year-old enjoys listening to music. "I'm trying to master the fine art of the guitar," reports Freitag laughing, "but it's a project that will take a few years of practice." Apparently not all skills are inherited ...

Crowd pleaser with ski jumping in his genes: Richard Freitag is a new addition to the Viessmann team.

Athletes from the Viessmann team enjoy a successful start to the 2011/2012 season

Perfect World Cup opening for luge squad, ski jumpers and Nordic combined team

The members of the Viessmann team have enjoyed a successful start to the new season, with outstanding finishes at the first World Cup events. Whether biathlon, ski jumping, Nordic combined or luge: Viessmann athletes finished consistently at the top.

Richard Freitag: World Cup win in Harrachov

Richard Freitag celebrated the greatest success of his ski jumping career so far with his first World Cup victory in Harrachov, Czech Republic. Following a second-place finish on the normal hill in Lillehammer, Norway, on the large "Teufelsberg" jump, the 20-year-old followed in the footsteps of his father Holger, who was likewise successful in Harrachov 29 years earlier.

"Before the season, I set a top 10 finish as my goal and I'm sticking with it," explains Freitag. "I'm just going to keep going and then we'll see what happens." German team trainer Werner Schuster was full of praise: "Richard's triumph came as no surprise. He had the best individual result in the team event after all."

Four weeks before the start of the Four Hills Tournament, Andreas Wank complemented the excellent results of the ski jumpers sponsored by Viessmann with a tenth-place finish in Lillehammer.

Furious chase by Tina Bachmann

Tina Bachmann gave an impressive chase at the biathlon World Cup opening in Östersund, Sweden. The vice-world champion jumped from number 27 in the sprint to number six. Franziska Hildebrand, at age 24 the "baby" of the team, also finished in sixth place in the individual category.

Eric Frenzel wins first penalty race in history

Eric Frenzel is one year younger than Franziska Hildebrand but already world champion in Nordic combined. And now he is also the first winner in the newly established penalty race. Eric Frenzel pumped his fist in the air and hopped across the finish line with a smile across his face. With the third World Cup victory of his career, he added another chapter to the impressive German success story in Nordic combined. "We had really good teamwork today", said Frenzel. "Our tactic worked perfectly." Another Viessmann athlete made it to the podium in Lillehammer: Björn Kircheisen in third place.

Viessmann's luge team dominates

The German luge team also enjoyed a picture-perfect start to the season. Tatjana Hüfner and Felix Loch, who brought home gold from the 2010 Winter Games in Vancouver, won the opening race of the Viessmann World Cup in Innsbruck-Igls. Felix Loch was also successful in Whistler in the individual and team competitions. Men's doubles luge athletes and last year's overall World Cup winners Tobias Wendl/Tobias Arlt finished in fourth place in Innsbruck – the same result as at the season opening at the end of last year.

Felix Loch won the opening event of the luge World Cup in Innsbruck-Igls, as did his colleague from Viessmann's women's team, Tatjana Hüfner.

Karl Duschek
A champion of clarity and conciseness

One of the most important German graphic designers of our time passed away on November 1, 2011 in Stuttgart at the age of 64 following a short, serious illness. The boundaries between design and art were fluid for Karl Duschek. Together with ingenious constructivist Anton Stankowski, whom he succeeded 13 years ago, he developed striking company logos, including for Deutsche Bank and German retail group Rewe. Both artists have had a significant impact on Viessmann's visual identity.

Karl Duschek
* March 14, 1947 ·
† November 1, 2011

Cooperation with Anton Stankowskii

Karl Duschek was born in Braunschweig, Germany, in 1947. After his apprenticeship in lithography, he studied at Braunschweig University of Art. In 1972 he began his collaboration with Anton Stankowski, who together with Dr. Hans Viessmann developed the guidelines for Viessmann's visual identity in the 1960s. They invented numerous renowned brand designs in their Stuttgart-based studio, including the corporate design of the German Stock Exchange, until Anton Stankowski's death in 1998.

Series of works based on mathematical geometry

Karl Duschek was one of the key figures in the concrete art movement. Already as a student, he created his first serial works based on the fundamentals of mathematics and geometry. He produced primarily series of solid-colored shapes, which he also expanded into the third dimension in the form of small blocks and cubes. He was committed to constructivist aesthetics throughout his career and remained true to the fundamental theme of his work – depicting complex order with a reduced formal language.

Duschek's functional graphics are standalone works of art

The functional graphics he developed for Viessmann which are featured in countless brochures and of course "aktuell" are unparalleled in their clarity and conciseness. They appear as standalone works of art, independent of the information they convey, and are present in all of Viessmann's buildings and at many of its trade partners worldwide.

The world has lost an artist of exceptional stature – visionary, unconventional and ready to defend his point of view at any time. The Viessmann Group is deeply indebted to him.

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