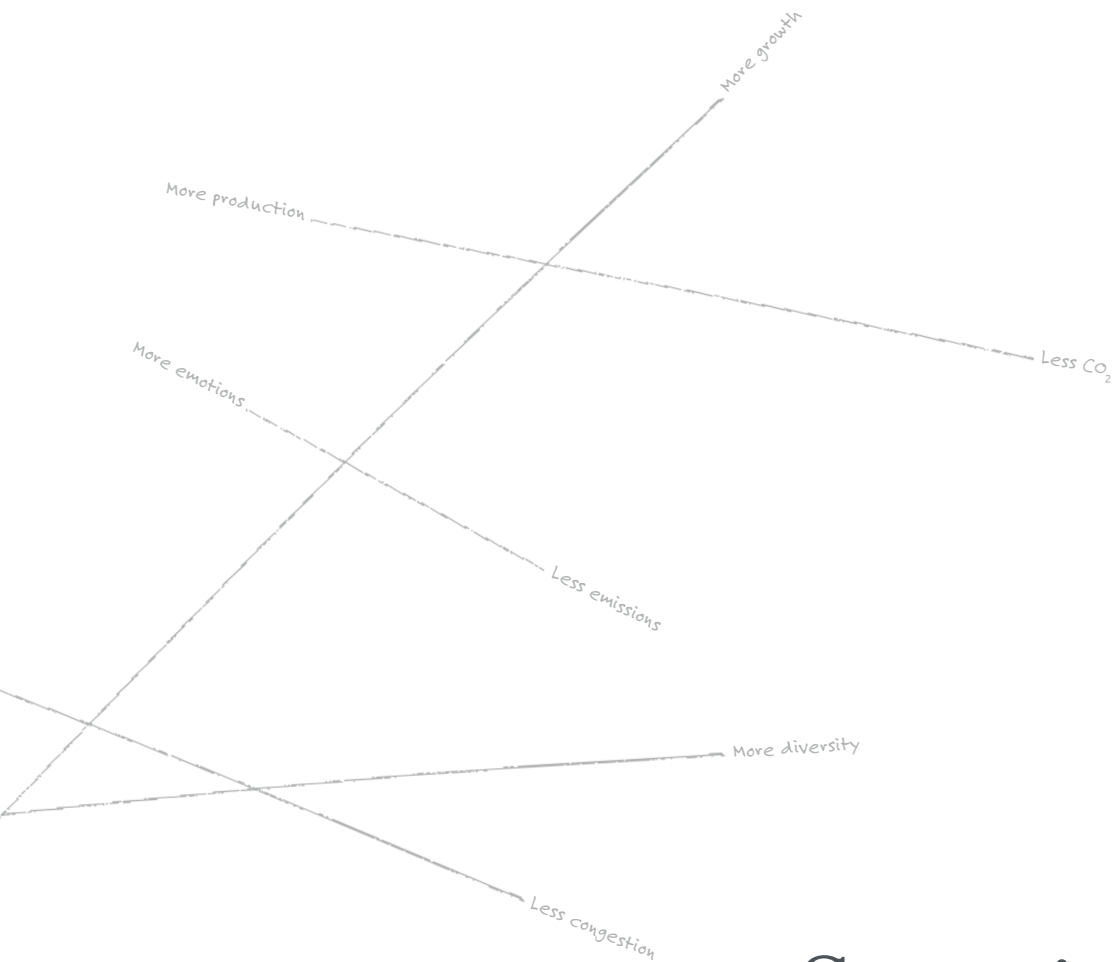


# VOLKSWAGEN

AKTIENGESELLSCHAFT



# Sustainability

REPORT 2011

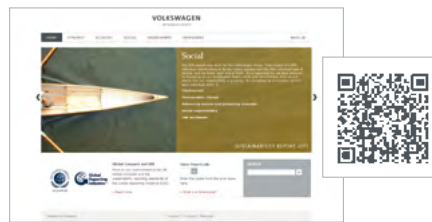
# About this report.

## Contents

This report contains information about the sustainability activities of the Volkswagen Group in 2011. The following pages outline the Group's key strategic principles and present concrete examples of the activities of the various Group brands. The key sustainability indicators are set out on page 76ff. The selection of topics, the editorial process and the indicators we chose were also analysed and checked by independent auditors and stakeholders. Further information on this aspect can be found in the Back-up chapter starting on page 90.

The period under review extends from March 31, 2011, when the previous report went to press, to February 15, 2012. The indicators presented relate to the 2011 calendar year. All information provided relates to the Volkswagen Group. If any information relates to individual Group brands only, this is expressly stated in the report (see also the Frame of reference on page 96). Emissions data for the models named in the report appear on page 88. [01](#), [04](#)

The symbol [0](#) in the body copy indicates where more information is available. Once online, select the number after the symbol to access the additional online directly. A list of all additional information with the relevant links can be found on the inside of the back cover. In addition, the latest news on sustainability at Volkswagen can be found at [www.volkswagenag.com/sustainability](http://www.volkswagenag.com/sustainability). Along with the conventional links to our online material, special additional features are marked with a QR code in this report. Photograph the QR link with a smartphone for a direct link to the material in question. Charges will depend on your individual mobile call rates.



[www.sustainability-report2011.volkswagenag.com](http://www.sustainability-report2011.volkswagenag.com)

## Additional information

The full contents of this report and further details on the individual articles can be found online on a dedicated website at [www.sustainability-report2011.volkswagenag.com](http://www.sustainability-report2011.volkswagenag.com).

Since 2011 the Volkswagen Group Sustainability Report has been published annually. The next report will be published in the second quarter of 2013.

## Indexes – Ratings – Rankings – Awards



This report was prepared in accordance with the internationally recognised G3 sustainability reporting standards of the Global Reporting Initiative (GRI). This label documents the fact that the information in this report meets the requirements of the GRI. [05](#)

### Indexes

ASPI Advanced Sustainability Performance Index	listed	
Dow Jones Sustainability World Index (DJSI)	listed	
ECPI Ethical Index Europe	listed	
ECPI Ethical Index EMU	listed	
ECPI Ethical Index Global	listed	
ESI Excellence Euro	listed	
ESI Excellence Europe	listed	
ESI Excellence Global	listed	
FTSE4Good	listed	
STOXX® Global ESG Leaders indexes	listed	

### Ratings & Rankings

Carbon Disclosure Project	Disclosure Leadership Index	
Oekom Research	Prime Status	
Sustainalytics – DAX 30	Ranked 3rd	
Two Tomorrows Sustainable Value Rating	Aa	

### Awards

German CSR Award	Award-winner 2011	
International German PR Award in the category "Responsibility Communication and CSR"	Award-winner 2011	
International German Sponsoring Award in the category "Public Sponsoring"	Award-winner 2011	
SAM Sustainability Awards	Award-winner 2012	

# Portrait of the Group

The Volkswagen Group, based in Wolfsburg, is one of the world's leading automobile manufacturers and the largest automaker in Europe. In 2011 the Group increased the number of vehicles delivered to customers to 8.265 million (2010: 7.203 million), which equates to 12.3 percent of the global passenger car market.

In Western Europe more than one fifth of all new cars (23.0 percent) were manufactured by the Volkswagen Group. The Group's sales revenue totalled €159 billion in 2011 (2010: €126.9 billion). Profit after tax in the fiscal year 2011 totalled €15.8 billion (2010: €7.2 billion). The Volkswagen Group owns ten brands from seven European countries: Volkswagen, Audi, SEAT, Škoda, Bentley, Bugatti, Lamborghini, Volkswagen Commercial Vehicles, Scania and MAN. Each brand has its own distinctive character and operates autonomously in the marketplace. The passenger car portfolio extends from economical compact cars to luxury high-end models. In the commercial vehicle sector, the range starts with pick-up trucks and extends all the way to buses and heavy-duty trucks. In other business areas the products manufactured within the Volkswagen Group include large-bore diesel engines for marine and stationary applications (turnkey power plants), turbochargers, turbomachinery (steam and gas turbines), compressors and chemical reactors. The portfolio also comprises special gear units for vehicles and wind turbines, slide bearings and couplings, as well as testing systems for the mobility sector. Any changes in location or activities are set out in our current annual report under "Chronicle 2011". 02

In 18 European countries and eight countries in the Americas, Asia and Africa, the Volkswagen Group operates 94 production facilities. Around the world more than 500,000 employees produce approximately 34,500 vehicles per working day, provide vehicle-related services or work in other business areas. The Volkswagen Group's sales operations cover 153 countries. 01

The Group's aim is to offer attractive, safe and eco-friendly vehicles that are capable of competing in an increasingly hard-fought marketplace and set the global benchmark in their respective classes.

Volkswagen AG's subscribed capital increased to €1,190,995,443.20 at the end of the fiscal year due to the conversion of the final tranche of the stock option plan. The distribution of voting rights at the reporting date was as follows: Porsche Automobil Holding SE, Stuttgart, held 50.73 percent of the voting rights. The second-largest shareholder was the State of Lower Saxony, which held 20.0 percent of the voting rights. Qatar Holding LLC was the third-largest shareholder, with 17.0 percent; Porsche GmbH, Salzburg, held a 2.37 percent share of the voting rights. The remaining 9.9 percent of the 295,089,817 ordinary shares were attributable to other shareholders.

Notifications of changes in voting rights in accordance with the Wertpapierhandelsgesetz (WpHG – German Securities Trading Act) are published on our website at [www.volkswagenag.com/ir](http://www.volkswagenag.com/ir).

03

## VOLKSWAGEN GROUP<sup>1</sup>

Data	2011	2010
Vehicle sales (units)	8,361,294	7,278,440
Production (units)	8,494,280	7,357,505
Employees at Dec. 31	501,956	399,381
Proportion of female employees in %*	14.7	14.2
Absenteeism in %**	3.4	3.3
CO <sub>2</sub> emissions European new car fleet in g/km	137	144
Direct CO <sub>2</sub> emissions in kg/vehicle	533,61	562,69
Energy consumption in MWh/vehicle	2.38	2.65
Financial data (IFRS), € million	2011	2010
Sales revenue	159,337	126,875
Operating profit	11,271	7,141
Profit before tax	18,926	8,994
Profit after tax	15,799	7,226

Information on production and sales of the main Group products, as well as revenue and profit figures broken down by brand and business field, and details of our shareholder structure can be found in our Annual Report 2011. Comments on the key sustainability indicators can be found in the Key Indicators chapter of this report, starting on page 76.

\* From 2011 incl. Scania \*\*Volkswagen Group production sites not including Scania or MAN

<sup>1</sup> Volume data including the unconsolidated Chinese joint ventures.



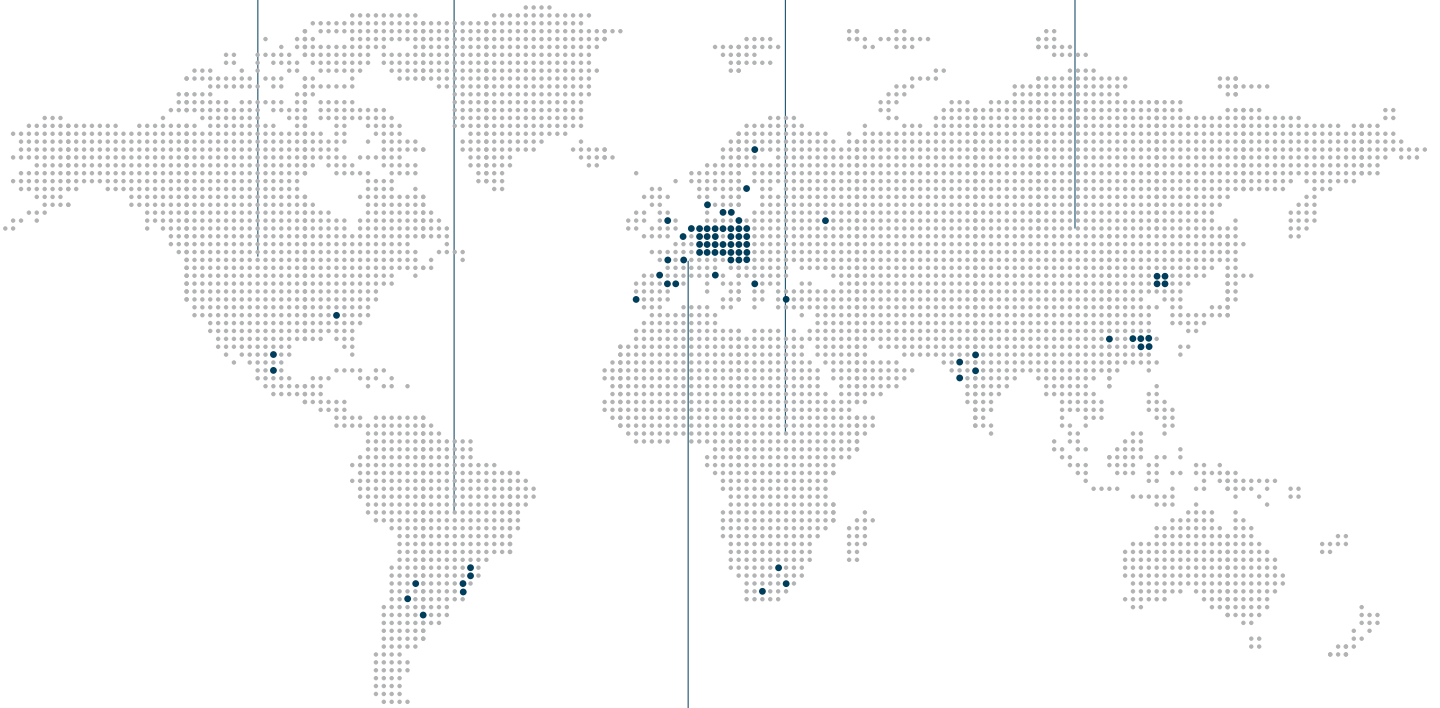
VOLKSWAGEN FINANCIAL SERVICES  
AKTIENGESELLSCHAFT

**North America**  
 Chattanooga (USA)  
 Puebla (MEX)  
 Queretaro (MEX)

**South America**  
 Anchieta (BR)  
 Cordoba (AR)  
 Curitiba (BR)  
 Pacheco (AR)  
 Resende (BR)  
 São Carlos (BR)  
 São Paulo (BR)  
 Taubaté (BR)  
 Tucumán (AR)

**Africa**  
 Olifantsfontein (RSA)  
 Pinetown (RSA)  
 Uitenhage (RSA)

**Asia**  
 Aurangabad (IN)  
 Changchun (CN)  
 Changzhou (CN)  
 Chengdu (CN)  
 Dalian (CN)  
 Nanjing (CN)  
 Pithampur (IN)  
 Pune (IN)  
 Shanghai (CN)



**94** production facilities worldwide

**8.36** million vehicles sold in 2011

**Europe**

Angers (F)  
 Ankara (TR)  
 Augsburg (D)  
 Barcelona (ES)  
 Berlin (D)  
 Bratislava (SK)  
 Braunschweig (D)  
 Brussels (B)  
 Chemnitz (D)  
 Copenhagen (DK)  
 Crewe (UK)  
 Deggendorf (D)  
 Dresden (D)  
 Emden (D)  
 Frederikshavn (DK)

Győr (HUN)  
 Hamburg (D)  
 Hanover (D)  
 Ingolstadt (D)  
 Kaluga (RUS)  
 Kassel (D)  
 Krakow (PL)  
 Kvasiny (CZ)  
 Luleå (SE)  
 Martin (SK)  
 Martorell (ES)  
 Meppel (NL)  
 Mladá Boleslav (CZ)  
 Molsheim (F)  
 Munich (D)

Neckarsulm (D)  
 Nuremberg (D)  
 Oberhausen (D)  
 Oskarshamn (SE)  
 Osnabrück (D)  
 Pamplona (ES)  
 Plauen (D)  
 Polkowice (PL)  
 Poznan (PL)  
 Prat (ES)  
 Rheine (D)  
 Saint-Nazaire (F)  
 Salzgitter (D)  
 Sant'Agata Bolognese (I)  
 Sarajevo (BA)

Setubal (PT)  
 Slupsk (PL)  
 Södertälje (SE)  
 Starachowice (PL)  
 Steyr (A)  
 Velka Bites (CZ)  
 Vienna (A)  
 Vrchlabi (CZ)  
 Winterthur (CH)  
 Wolfsburg (D)  
 Zurich (CH)  
 Zwickau (D)  
 Zwolle (NL)

Some locations host several production facilities. 06

**475,073** improvements suggested  
 by employees in 2011,  
 rewarded with €33 million

**79** g/km CO<sub>2</sub> emissions  
 from the new ECO up!

**501,956** employees worldwide

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## Responsibility increases with commercial success.

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Dear Reader,

Last year was the most successful in the history of the Volkswagen Group. We set new records for all the key indicators, with 8.3 million vehicles delivered – over one million more than in the previous year – sales revenues of almost €160 billion and an operating profit of €11.3 billion.

For a company like Volkswagen, however, it is not enough to make a profitable business out of building superior vehicles, particularly in times like these that are marked by such fundamental economic and social change. Our Group squares up to the questions of our times. And what is more, we provide answers to those questions.

The Volkswagen Group and its over 500,000 employees around the world adhere to the principle of responsibility:

- in the interests of our customers, employees, business partners and shareholders;
- in the interests of secure, good jobs at our facilities around the world;
- in the interests of the training and prospects of the younger generation;
- in the interests of education, science and the arts;
- in the interests of a society in which every individual can fulfil their personal potential;
- and above all in the interests of an intact environment.

Mobility is an inherent and fundamental human need. And mobility is a key driver of freedom and growth, here in Europe and across the globe. Our job, our responsibility, is to safeguard the future of widespread personal mobility, keeping it affordable, safe and environmentally compatible.

That is why we recently gave the go-ahead for the far-reaching ecological restructuring of the Volkswagen Group: as a Group we are setting the bar much higher in terms of sustainability and at the same time setting ourselves new and ambitious goals. In overall terms we are going to reduce the CO<sub>2</sub> emissions of our European new vehicle fleet by 30 percent by 2015, compared to 2006. As a result, in 2015 for the first time ever our fleet will be below the key threshold of 120 grams of CO<sub>2</sub> per kilometre. Each new generation of our vehicles is on average 10 to 15 percent more efficient, and we are making our efficiency technologies – such as the start-stop system and recuperation – standard equipment in all new models.

We are also aiming to make production operations at our plants around the world 25 percent more eco-friendly by 2018. In concrete terms that means 25 percent less energy and water consumption, emissions and waste. One major contributory factor here is the €600 million invest-



Prof. Dr. rer. nat.  
Martin Winterkorn



Bernd Osterloh

ment we are making in energy from renewables, including solar and hydroelectric power and wind energy. This will lead to a 40 percent drop in CO<sub>2</sub> emissions from energy supplies to our production plants. We have also taken the pioneering step of appointing a Group Chief Officer for the Environment, Energy and New Business Areas.

Just how seriously we mean business is underlined by our worldwide investment programme: of the €62.4 billion that we will be investing by 2016, plus an additional €14 billion in China together with our joint venture partners, more than two thirds will flow directly and indirectly into increasingly efficient vehicles, powertrains and technologies, as well as into environmentally compatible production at our plants around the world.

This report is designed to inform you about how we lived up to our responsibility in the 2011 financial year and the tasks we have set ourselves for the future. So along with the major guidelines provided by our sustainability strategy, you will find many informative examples from the economic, environmental and social sectors. To provide you, our readers, with maximum transparency, we have again had this report audited in accordance with the AA1000AS standard. And the Global Reporting Initiative (GRI) has again awarded us its highest rating "A+", which means our reporting is also compliant with the requirements of the German Sustainability Code. Our commitment to sustainable development is further confirmed by our inclusion in international indexes such as the Dow Jones Sustainability World Index or the FTSE4Good, by the Carbon Disclosure Project and by our outstanding performance in attaining third place in the Sustainalytics DAX 30 rating.

In all of this we continue to take our lead from our commitment to the UN Global Compact, the world's largest initiative for businesses that support sustainability and responsibility, the protection of human rights and the battle against corruption.

We hope you find this report makes interesting reading and provides you with a wealth of informative insights into the present and future world of the Volkswagen Group.

Sincerely,

Prof. Dr. rer. nat. Martin Winterkorn  
Chairman of the Board of Management of Volkswagen Aktiengesellschaft

Bernd Osterloh  
Chairman of the General and Group Works Councils





# Strategy

# Global responsibility.

By 2018 the Volkswagen Group aims to be the most profitable, fascinating and sustainable automobile manufacturer in the world. We are ready to accept the responsibility that goes with this status. Across the globe.

Automobile engineering and mobility systems are on the cusp of fundamental changes. During the “second half” of the automobile era we will see innovations that are at least as far-reaching as those in its history to date. We are about to experience a veritable mobility boom: the number of cars worldwide is set to increase from roughly 1 billion at present to around 1.3 billion over the next ten years. We need to take a responsible approach to this growth. ☞ 07

More than ever, mobility is the driving force behind economic development in dynamic growth markets. Individual mobility enables people to participate in this progress and improve their prospects. This means that our Company, with over 500,000 employees producing more than eight million vehicles a year over 90 production sites worldwide, has a growing responsibility to make a sustainable contribution to a global mobility system.

Thanks to our competitiveness and innovative strength, the number of jobs in the Volkswagen Group showed a marked rise of 103,000 last year. This was due not only to the acquisition of MAN and Porsche-Holding Salzburg, but also to organic growth: the Company created 28,000 jobs worldwide, including 11,000 in Germany alone.

The Volkswagen Group with its ten brands provides solutions in all vehicle segments from sub-compact cars to heavy-duty trucks and buses. We use the most efficient technologies and pave the way for fundamental innovations.

We take our guidance here from sustainability and responsibility – the basic principles underlying Volkswagen’s corporate activities.

At Volkswagen, we view corporate social responsibility (CSR) as the contribution our Company makes to sustainable develop-



The eT! research vehicle from Volkswagen shows how, from 2020 onwards, courier, parcel and postal services will be able to work more efficiently and with less impact on the environment. At 4.09 metres long and with a steering wheel that turns through 365 degrees, eT! will fit into (almost) any parking slot. Its lithium-ion battery gives it a range of 100 km, which is plenty for urban logistics and delivery firms. An on-board tablet PC guides the driver along his route, warns of congestion and even reminds him where he is likely to meet an aggressive dog. And with the “drive stick” the driver can get the van to follow him along automatically from one house to the next at 6 km/h and in almost complete silence.

ment on our planet. In line with our Model of Sustainable Development, our way of doing business and our consumption of resources may not compromise opportunities for future generations. We pursue ecological, economic and social goals in the same measure and are thus an integral part of efforts to create a sustainable economic order on a global level.

Sustainability is the foundation of corporate policy at Volkswagen. This means that sustainability is integrated along the entire value chain of our Company. Corporate responsibility at Volkswagen means always considering the impact on society and the environment. Sustainability also safeguards the Company's long-term future. In order to make an effective contribution to sustainable mobility, and as a company with global responsibility, Volkswagen is working hard to develop technologies for the cleanest, most fuel-efficient cars and efficient mobility concepts. And in all of this, Volkswagen is always aware of the need to reconcile job security with economic efficiency.

### **New sustainability objectives**

The Volkswagen Group has set itself ambitious new sustainability objectives:

- CO<sub>2</sub> emissions by the European new vehicle fleet will be reduced by some 30 percent during the period from 2006 to 2015 – emissions will be below the threshold of 120 grams CO<sub>2</sub>/km for the first time by 2015.
- Every new vehicle generation will be an average of 10 to 15 percent more efficient.
- Efficiency technologies such as start-stop and recuperation systems will be standard equipment in all new models. The new Audi A3 and the next Golf will lead the way.
- 2013 will be the year of electromobility with the Volkswagen e-up!, followed by numerous other hybrid and electric vehicles from the Group's brands.

These aimed ambitious product objectives are joined by far-reaching goals aimed at sustainability in the production sector:

- Our worldwide production operations will become 25 percent greener by 2018 compared to 2010. Specifically, this means a

25-percent cut in energy and water consumption, and in waste and emissions.

- A 40-percent reduction in greenhouse gas emissions due to energy supplies to the production sector by 2020 compared to 2010.
- To this end some €600 million will be invested in the expansion of renewable energy from solar, wind and hydro power.

This marks the start of a fundamental ecological restructuring of the Volkswagen Group. By 2016 the Volkswagen Group is to invest €62.4 billion worldwide. In addition, together with our partners we will be investing a further €14 billion in China. Well over two thirds of this investment programme will go directly or indirectly into more efficient vehicles, powertrains and technologies, and into environmentally friendly operation of our production sites.

### **First-class team – responsibility for every individual**

To achieve these ambitious targets, Volkswagen needs a first-class team. The 500,000 people currently working worldwide to ensure the day-to-day success of the Volkswagen Group are 500,000 individuals with a great variety of talents, qualifications and experience. And we foster each one of them. This is a responsibility we take seriously by focussing on our employees' health, skills and commitment.

Ensuring that all employees can develop their full potential and use their talents in a manner that creates value calls for responsible leadership, individual personnel development and training.

Vocational training is crucial to developing a top team at Volkswagen. In recent years, the Group has strengthened its commitment to the German dual model of vocational training and brought further locations into its vocational training system. With the aid of the Student Talent Bank, the StartUp programmes and a number of other networked measures, Volkswagen is making sure of its next generation of expert staff. Volkswagen Coaching GmbH offers employees a wide range of made-to-measure opportunities to qualify for all occupations within the Group. And the AutoUni also offers extensive continuing professional development programmes.

## MILESTONES OF SUSTAINABILITY: VOLKSWAGEN AND GLOBAL CONFERENCES



At Volkswagen, both career and family life are considered extremely important, which is why the Company is redoubling its efforts to create a family-friendly environment. Family-friendly HR policies are one of the keys to becoming a top employer. This commitment has a long track record: in 1989, Volkswagen was the first major German company to formulate guidelines on advancing women, underpinned by tailored programmes. As early as 2007, Volkswagen AG had set specific targets for increasing the proportion of women in the Company. In spring 2011, the Group set differentiated targets within the framework of voluntary undertakings to achieve sustainable growth in the proportion of women working for the Company in Germany. The Company's "Woman DriveING Award" is designed to attract the best female engineers from the fields of mechanical engineering, electrical engineering, vehicle technology and mechatronics.

The Volkswagen Group takes its social responsibility seriously outside the factory gates as well, for example by promoting regional growth initiatives in the areas where it operates. One example of this is Wolfsburg AG, which since 2009 has been partnering with "projekt Region Braunschweig GmbH" project to form the "Alliance for the Region". The aim of the Alliance is to focus skills and resources for regional development more effectively. The main goal of the collaboration is to develop structures centred on creating and safeguarding jobs and improving the quality of life.

As a good corporate citizen, the Volkswagen Group sponsors not only regional development, but also a large number of worldwide CSR projects in the fields of art, science and education, health promotion, sport and nature conservation.

### Sustainability requirements for suppliers

Sustainability and responsibility are also becoming more and more important in relations with suppliers. Our suppliers are subject to the same stringent ecological and social standards

and anti-corruption principles as our own production locations. Since its implementation in 2006 this concept has been developed steadily and systematically on the basis of regular evaluation. The foundation for effective monitoring of its implementation is provided by a newly developed digital questionnaire.

### Sustainable mobility – solutions today and tomorrow

As a responsible global player with a strong tradition of social and ecological innovation, the Volkswagen Group is working intensively on an overall approach to the sustainable mobility of the future, which is already beginning to take shape in numerous pilot projects. The car continues to be the central means of transport. Further optimisation of internal combustion engines, hybridisation and powertrain electrification point the way forward. Ultimately the backbone of the vehicle fleet will consist of zero-emission electric vehicles, mainly as feeder traffic within conurbations, as well as plug-in hybrids, which will operate in electric mode in urban areas but with their efficient internal combustion engines can also be used for travel out of town.

Particularly in urban core areas, provision of additional mobility solutions will encourage more frequent switching to alternatives such as buses, rail or two-wheeled transport. Our customers will increasingly expect tailor-made transport solutions and, as far as possible, a seamless mobility chain. New vehicle concepts tailored to very specific mobility requirements, and optimally integratable into the wider public/private mobility system, will add to the range of options. Cars will communicate and cooperate with other vehicles and with alternative modes of transport, leading to increased multi-modal mobility and improved overall transport efficiency. Services such as car-sharing, rental services or logistics optimisation will round off the transport picture, ensuring that the mobility of the future offers greater overall diversity, efficiency and sustainability.

### Strategy 2018 – firmly on course

A very successful year for the Volkswagen Group in 2011 confirms that the course we adopted in Strategy 2018 to permanently establish our Company among the world's most successful automakers was the right one. And by "most successful" we mean in terms of profitability, customer satisfaction, product quality, market development and volume growth, as well as our attractiveness as an employer.

The driver of our progress towards becoming the most successful automaker remains our vision of being the most profitable, fascinating and sustainable automobile company in the world by 2018.

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## Sustainability management

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There are currently three core developments that impact on companies' approach to sustainability management:

- At the political level there are efforts under way to intervene in corporate sustainability reporting and give it a more binding character. Expectations and requirements in terms of transparency and quality are on the increase.
- Customers – and key account or fleet customers in particular – are demanding verifiable compliance with strict sustainability criteria.
- Financial market participants are increasingly basing their recommendations and decisions not only on the financial numbers, but also on companies' CSR and sustainability profiles. In other words, for analysts, CSR and sustainability performance are becoming key indicators of forward-looking corporate leadership.

These trends go hand-in-hand with much higher expectations of companies' sustainability management. Without abandoning the foundations provided by a voluntary and thus competition-driven approach, for corporate players it is increasingly a question of putting in place a holistic and strategic sustainability concept. In this sense, CSR means "the responsibility of enterprises for their impacts on society" as defined in the Renewed EU Strategy 2011-14 for Corporate Social Responsibility.

Given the evolution of its corporate culture, Volkswagen is better placed than the vast majority of companies to successfully

## The Modular Transverse Matrix (MQB)

In the course of 2011, Volkswagen finalised its preparations for the launch of the Modular Transverse Matrix (MQB). The MQB, which will be introduced in 2012 for the Audi, Seat, Škoda and Volkswagen brands, is one of the biggest development initiatives in the history of the Group, and will achieve significant improvements not only in production efficiency but also, and above all, in sustainability, safety and comfort. The Modular Transverse Matrix is based on a flexible vehicle architecture that allows defined variations in some key concept-defining dimensions of Group products such as wheelbase, track width, wheel size and seat position, while some dimensions such as the distance between the pedals and the centre of the front wheels are fixed, resulting in a standardised front-end system.

### Benefits for design

Front wheel repositioning towards the front of the car results in very balanced styling proportions and space-maximising interior packaging. Partly due to the ability to vary wheelbase and track width, a modular matrix principle also offers much more potential than a platform for creating widely differing types of vehicle, including niche models with a strong emotional component.

### Environmental benefits

Completely redeveloped engine families with a strict focus on reducing CO<sub>2</sub> output – measures include standard-fitted start/stop and recuperation systems, cylinder deactivation on the four-cylinder units (which include EU6-rated versions), and CNG versions – significantly reduce emissions. Along with millions of customers, the environment benefits as well – the MQB will cut CO<sub>2</sub> emissions by more than one million tons a year. The electrically powered Golf Blue-e-Motion, which will go into production in 2013, will also be MQB-based.


### Weight benefits

Thanks to an intelligent multi-material mix and state-of-the-art construction methods, the MQB will reverse the prevailing trend towards heavier vehicles. For example despite including tremendous advances in the field of comfort and safety, the next generation of the Golf will weigh roughly the same as the fourth-generation model (1997-2004).

## THE CSR & SUSTAINABILITY STEERING GROUP



merge a modern understanding of responsibility and sustainability with the traditional values underlying entrepreneurial activity. As a globally active company, Volkswagen is able to integrate the fine tradition of shouldering responsibility in the sense of helping the needy (the traditional but restricted take on CSR as “charity”) with the new model of responsibility and sustainability. This new model unites the challenges of the 21st century, and in particular resource conservation and climate protection, with intra- and intergenerational fairness. The modern view of CSR sees responsibility and sustainability as two sides of the same coin, because sustainability calls precisely for an equitable ultimate balance between the economic, ecological and social dimensions.

With its integrated CSR concept, the Volkswagen Group seeks to prevent risks, ensure timely identification of growth opportunities and enhance the Company’s reputation. Thus, CSR makes an important contribution to safeguarding the long-term future of the Company and increasing its value over time.  08

### Corporate social responsibility and sustainability

Group activities in the area of CSR and sustainability have been coordinated by a CSR office since 2006. Its responsibility is to align CSR activities strategically and optimise sustainability management. The idea of the office as a guidance unit has proven itself with respect to both internal management processes and dialogue with external stakeholders. The CSR office coordinates the regular interchange between brands and regions in

the Volkswagen Group. It reports to the CSR & Sustainability Steering Group, which includes all central Group business areas and the Group Works Council. They are joined by representatives of the brands and regions. The objective of the work in the steering group is to network the internal units and improve exchange processes between the technical departments. The Board of Management is kept regularly informed on the subjects of sustainability and responsibility. Our CSR project teams carry out cross-functional work on topical issues such as the enhancement of the Group’s sustainability reporting; since the creation of a Group-wide CSR body in 2009 there has been a regular international exchange of information with the CSR coordinators of the brands and regions. Coordination of the activities of environmental managers across the Group is also assisted by the Group Environmental Conference and a Corporate Environmental Steering Group. The appointment of a Group Chief Officer for the Environment, Energy and New Business Areas will help prepare the ground for an ecological restructuring of the Volkswagen Group in the long term.

With the introduction of the IT-based sustainability management system and the further integration of the KPI (Key Performance Indicator) system, we have created the basis for comprehensive and timely CSR and sustainability reporting in the Group. The control efficiency and transparency of the KPI system allow Volkswagen to meet the increasing expectations of its stakeholders for an up-to-date, differentiated presentation of the Company’s CSR and sustainability performance.

### Stakeholder dialogue

For Volkswagen, the ability to help shape national, European and international corporate networks is an important component of the permanent dialogue with key social groups and actors. Volkswagen contributes its technical and social capacity here and supports numerous projects. The Group is represented on the board of the leading European business network for corporate social responsibility, CSR Europe. At a national level, we are involved in econsense, the Forum for Sustainable Development of German Business. Along with numerous other companies, Volkswagen has signed the “Code of Responsible Conduct for Business” initiative. 09

### Global Compact

Since 2002, Volkswagen has been committed to the largest and most important CSR initiative in the world, the Global Compact. The 7,000 participating companies from over 135 countries work together to shape a more sustainable and equitable world economy. Volkswagen makes a significant contribution to this initiative and publishes an annual Communication on Progress regarding its diverse international CSR projects. In 2011 we attained Global Compact Advanced Level.

Ten principles governing human rights, labour standards, environmental protection and the fight against corruption describe the values of the Global Compact. At all locations of our Company, we again guided our business activities by these principles in 2011. With our expertise, we also help other companies in the Global Compact to embrace their global responsibility. An example of this is our active participation on the advisory board for the “Sustainable Supplier Chain” project. Volkswagen will also be committing to the Rio+20 campaign process. 10

### Cooperation with NABU

Over the last ten years and more, Volkswagen and Germany’s largest environmental organisation, the German Nature and Biodiversity Conservation Union (NABU), have built up a unique cooperation based on three components: a) advice, b) dialogue, and c) projects. In the course of this cooperation, the success of which is founded on the mutual respect of existing differences of interest, we raise society’s awareness of environmental and sustainability issues, for example through jointly-run fuel-saver courses. The efficient fleet management project run by Volkswagen Leasing GmbH, meanwhile, is a success in both ecological and a commercial terms. It involves using the Group’s most fuel-efficient models in each case. Here, cutting CO<sub>2</sub> emissions goes hand-in-hand with cost savings for the fleet operators. The project also helps to fund a moorland protection initiative,

which is a particularly efficient form of climate protection, given that moorlands are significant carbon sinks. 11

### Code of Conduct and policies

With our Code of Conduct we provide our employees with a guideline that brings together the key basic behavioural principles underlying our activities and helps them master the legal and ethical challenges of their daily work. The Code of Conduct constitutes a Group-wide guideline that is binding for all of our employees and members of executive bodies. Each individual bears equal responsibility for ensuring compliance with the Code.

Based on these principles,

- > we act responsibly, for the benefit of our customers, shareholders and employees;
- > we consider compliance with international conventions, laws and internal rules to be the basis for sustainable and successful economic activities;
- > we act in accordance with our declarations;
- > we accept responsibility for our actions.

The Group’s values – “closeness to the customer, superior performance, value creation, renewability, respect, responsibility and sustainability” – are the basis for Group-wide collaboration and have been incorporated into our Code of Conduct.

Along with our corporate values, we base our actions on a number of conventions, laws and internal regulations drawn up by international organisations. They are primarily addressed to the respective member states, not to individual companies. They do, however, constitute important guidelines for the behaviour of an international corporate group and its employees. We therefore attach great importance worldwide to ensuring that our corporate activities are in keeping with these guidelines. The main conventions of this kind are listed below:

- > The Universal Declaration of Human Rights, dating from 1948 (UNO)
- > European Convention on Human Rights, 1950
- > International Covenant on Economic, Social and Cultural Rights, 1966
- > International Covenant on Civil and Political Rights, 1966
- > Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy, ILO (International Labour Organisation) 1977
- > ILO Declaration on Fundamental Principles and Rights at Work, 1998 (especially the following topics: abolition of child labour; elimination of forced or compulsory labour; ban on discrimination; freedom of association; and the right to collective bargaining)

- > OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, 1997
- > “Agenda 21” on sustainable development (final document of the groundbreaking United Nations Conference on Environment and Development, Rio de Janeiro 1992)
- > Principles of the Global Compact for more social and more ecological globalisation, 1999
- > OECD Guidelines for Multinational Enterprises, 2000

ECPI Ethical Index EMU, ECPI Ethical Index Global, Ethibel Sustainability Index (ESI), FTSE4Good and STOXX ESG Leaders Indices.

We also profess our commitment to the “Declaration on Social Rights and Industrial Relationships at Volkswagen” (Volkswagen Social Charter) and the Charter on Labour Relations concerning fundamental social rights and principles. [↻ 12](#), [↻ 13](#), [↻ 14](#)

On the way to sustainable mobility it is only by taking a longer-term view of the future that we will be able to integrate underlying social and technological trends into our research and development activities. It was with this in mind that Volkswagen Group Research formulated its “Research Visions” in 2010. The topics are mobility, energy, the driving experience, safety, cost-effectiveness in the product life cycle, and the environment. And with our Environmental Radar we have also created a separate early-warning system for evaluating ecological risks.

### **Volkswagen in sustainability ratings and indexes**

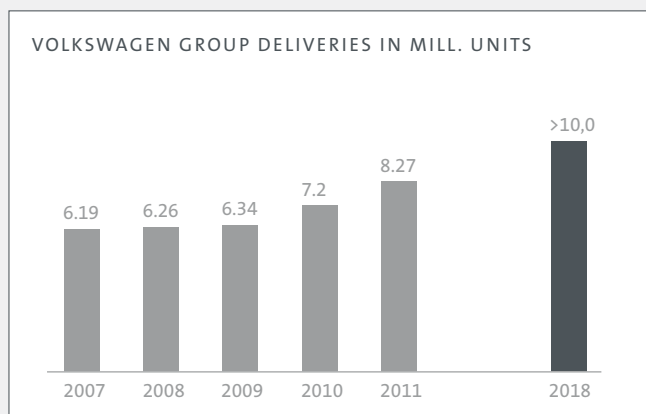
Financial market participants increasingly base their recommendations and decisions not only on the financial numbers, but also on companies’ CSR and sustainability profiles. Analysts and investors view CSR and sustainability performance as leading indicators of forward-looking corporate leadership. Sustainability ratings are particularly well suited to capturing the environmental, social and economic performance of a company. If the highest scores are achieved in these ratings, it not only sends a clear signal to stakeholders but also raises the company’s attractiveness as an employer externally and the motivation of its existing employees internally. As in the previous year, in 2011 Volkswagen was again able to maintain its position among the leaders in its sector in the most important international ratings and indexes.

Volkswagen is one of only three automobile companies listed in the Dow Jones Sustainability World Index. In the assessment by Swiss asset management company SAM on behalf of Dow Jones, Volkswagen scored top marks especially for environmental management and employment growth, as well as for risk management, social commitment and stakeholder relations. As of December 31, 2011, Volkswagen was represented in the following sustainability indices: Advanced Sustainability Performance Index (ASPI), Carbon Disclosure Leadership Index (CDLI), Dow Jones Sustainability World Index, ECPI Ethical Index Europe,

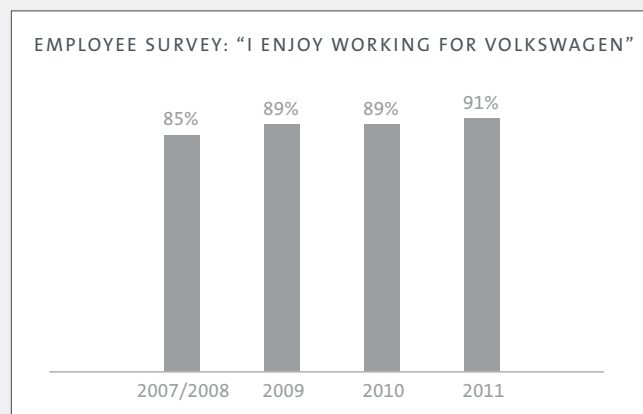


# Interim Report: Strategy 2018.

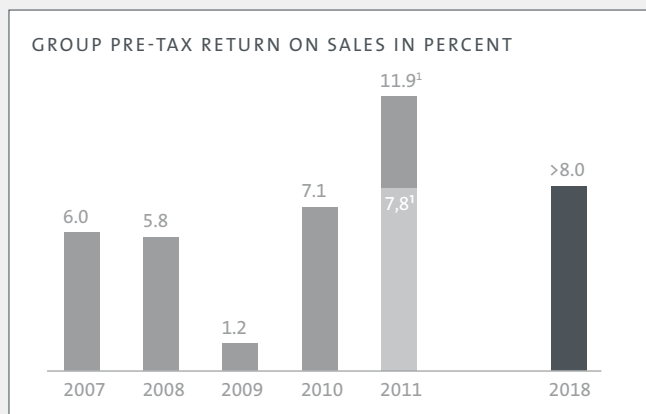
## VOLUME GROWTH



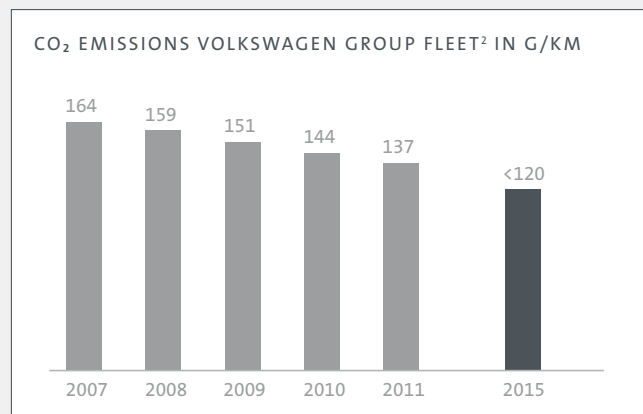
## TOP EMPLOYER



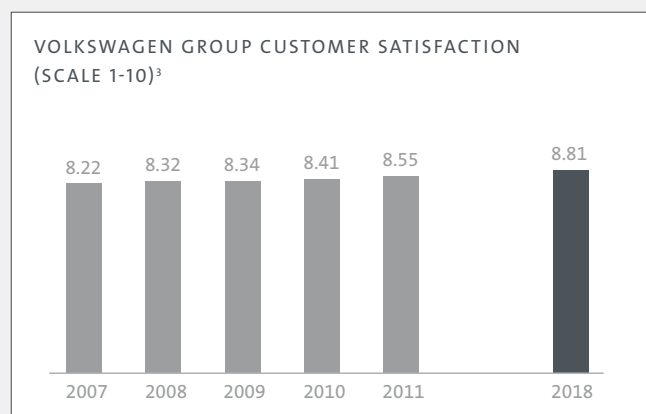
## PROFITABILITY



## ENVIRONMENT



## CUSTOMER SATISFACTION



<sup>1</sup> Group Profit before tax margin excluding the nonrecurring effect from the remeasurement of the Porsche put/call options  
<sup>2</sup> CO<sub>2</sub> emissions of European (EU 27) new car fleet  
<sup>3</sup> Own figures from the leading auto industry study on customer satisfaction with dealers, after sales and new vehicles

Market shifts

Localisation **Customer satisfaction** Compliance  
**RESPONSIBILITY** CSR  
 Raw materials Human rights Supplier relations

Hunger

Efficient production **Climate** Biodiversity  
**ENVIRONMENTAL** Air quality  
**PROTECTION** Energy  
 Resource efficiency Vehicle recycling Water

Land take

Urban mining

Food

## New challenges

We subjected the findings of the materiality analysis we conducted last year – see Sustainability Report 2010 – to close scrutiny. As well as using the tried and tested process of analysing international and current sustainability studies and requirements, we were also quick to engage in dialogue with the key stakeholders. The aim was to undertake a critical review of our current views. At a workshop with representatives from the fields of politics and local government, financial analysis, environmental associations, trade unions, the Works Council and academia, we discussed in detail the main challenges facing the automobile industry and our Company. In a second step we evaluated potential approaches and formulated expectations.

The outcome was that key findings from last year were reaffirmed but some were assigned greater or lesser importance. Important topics included the greater future significance of water, of networked mobility solutions and of innovative approaches to providing job security. This procedure enabled us to enhance both the transparency and quality of our agenda.

Noise

Urbanisation

Plug-in hybrid  
 Efficient powertrain & fuels  
 Car-sharing  
**SUSTAINABLE MOBILITY**  
 Micro-mobility Electromobility  
 Vehicle safety

Sickness

Segment shifts

Demographic change  
 Attractiveness as employer  
 Health  
**EMPLOYMENT**  
 Diversity  
 Training Social engagement Ergonomics

Full details of the evaluation can be found in the online report. In what follows, in the interests of greater clarity we have grouped the main challenges facing the Company in four clusters:

- > Responsibility
- > Climate and environmental protection
- > Employment
- > Sustainable mobility.

On the pages of this report, the Company's position on these topics is set out in detail along with the relevant measures. Top-

ics that cannot be directly assigned to one of these clusters should by no means be considered unimportant on the general sustainability agenda. It is just that they are either largely outside our sphere of influence or have yet to have any substantial impact on the Company's performance. [🔗 15](#)



## CHALLENGES

CUSTOMER SATISFACTION

SUPPLIER RELATIONS

ECONOMIC STABILITY

RAW MATERIALS

LOCALISATION

RISK MANAGEMENT

COMPLIANCE

EMPLOYMENT

DEMOGRAPHIC CHANGE

ADVANCING WOMEN

AND PROMOTING DIVERSITY

SOCIAL RESPONSIBILITY

SUSTAINABLE MOBILITY

ENVIRONMENTAL MANAGEMENT

EFFICIENT POWERTRAINS AND FUELS

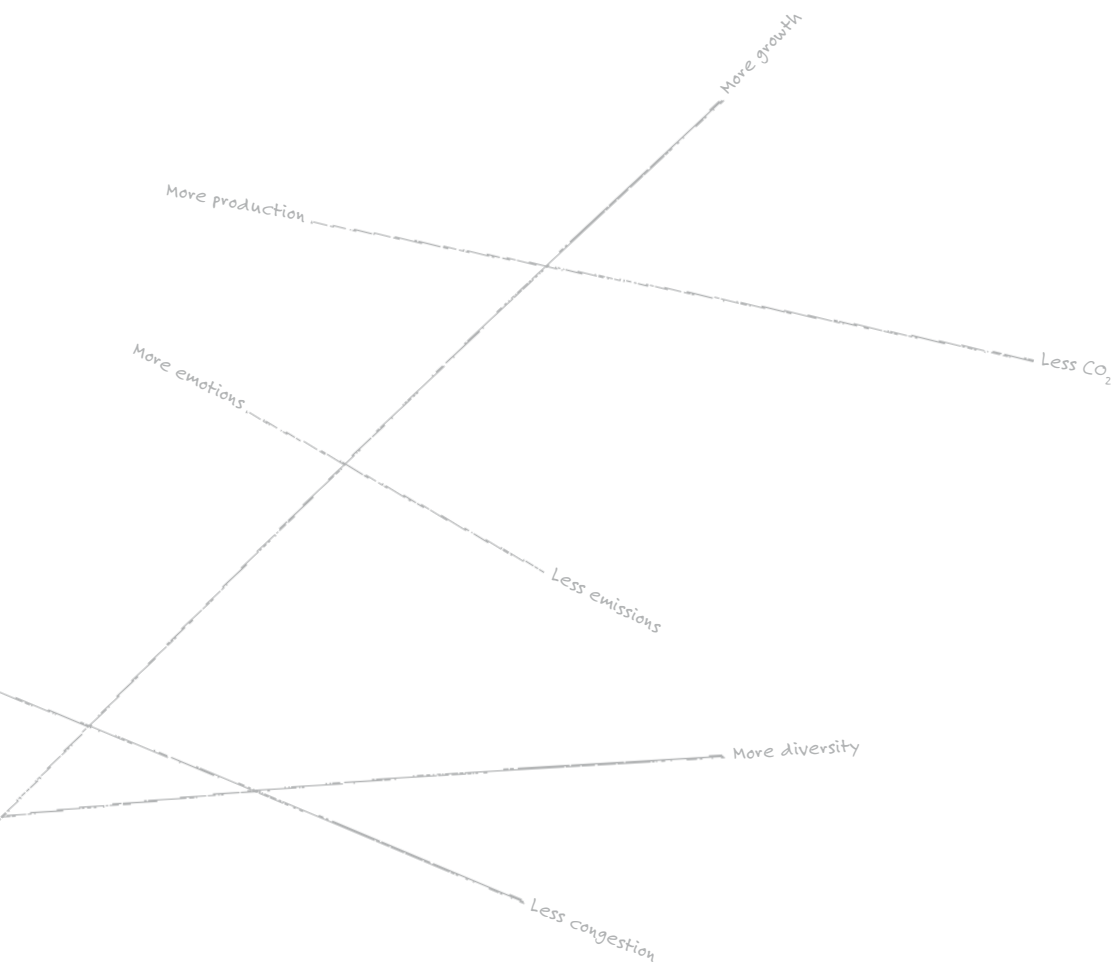
ELECTROMOBILITY

CLIMATE PROTECTION

BIODIVERSITY

WATER

RESOURCE EFFICIENCY



# Economy

# Attaining leadership.

Volkswagen is on its way to becoming the top automaker. By 2018 the Group is aiming to be the No. 1 in the automobile industry – both economically and ecologically.

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## Customer satisfaction

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Satisfied customers are a top priority. And from a sustainability perspective, customer satisfaction is a key indicator of how well product developments and model facelifts cater to the needs of stakeholders. The Volkswagen brand, for instance, has made customer satisfaction a key component of its “Mach 18” strategy. Against this backdrop, we invariably gear our sales activities toward boosting customer satisfaction. In 2011, we continued to implement effective measures and introduced processes that will enable us to further increase the satisfaction of our vehicle-buying and aftermarket customers, as well as our dealers.

**1** million more vehicles sold than in the previous year marks the highest growth rate of any automaker.

In the European core markets, the Audi brand occupies a top position in customer satisfaction. Around the world, satisfaction with the Volkswagen brand is also high. In 2011, the Volkswagen brand evaluated customer satisfaction in 19 markets and in three front-line categories: the purchasing process, the workshop visit and the use of the vehicle. Since launching its customer satisfaction programme in 2009, Volkswagen has improved on the competition as follows (averaging all markets): satisfaction with the dealer up 6 places (from 17th to 11th), satisfaction with the workshop up 4 places (from 13th to 9th) and satisfaction with the product (vehicle) up 7 places (from 12th to 5th).

To obtain data for analysis, we conduct market studies, define needs in customer workshops and evaluate posts in online discussion forums. Our findings are reported to the Board of Man-

agement up to six times a year. In China, for example, Volkswagen started a very special “People’s Car Project” (PCP) in 2011. This initiative actively involves customers in designing the products of the future.

In view of the ranking performance quoted above, our objective remains realistic – by 2018 we aim to rank as one of the world’s top three automakers in terms of customer satisfaction. Our interim goal for 2012, to be among the top five, remains unchanged. To measure how successful we are in meeting these objectives, we refer to the New Car Buyer Study (NCBS) and the International Aftersales Customer Satisfaction Study (IACS).

Complaint handling is essential to boosting customer satisfaction. An example from the USA illustrates our commitment in this area: here, every complaint is analysed, all the way to a face-to-face meeting with the customer if necessary. The goal is to understand the complaint and what the customer expects. Next, clear responsibilities are defined to eliminate the complaint: the plant concerned is responsible for all complaints relating to quality; any complaints about the purchasing process are used to optimise sales organisation procedures; and complaints related to the vehicle concept are forwarded to the Technical Development department, where they are used to derive measures for the next model generation. All complaints and derived measures are centrally monitored and tracked. They are immediately integrated in existing processes and subsequent projects, thus preventing faults from reoccurring.

In this way, customer wishes and expectations influence product development. But meeting these individual needs in various markets is a challenge for a Group that also strives for efficiency. Volkswagen resolves this issue through its global modular strategy, which enables models to be manufactured around the world while also taking account of local customer needs and wishes regarding technology, equipment and price. One example from 2011 shows how this works: while the Passat for the

Chinese market primarily caters to customers looking for an exclusively-equipped car in the higher price segment, the new Passat for the USA above all meets customer wishes for a comfortable sedan at an attractive price.

When taking customer wishes into account, Volkswagen is always aware of another conflict of objectives: even a pared-down model with basic equipment must meet the standards that customers rightfully expect from a global technology leader such as Volkswagen. This awareness is a prerequisite for achieving our goal, which is not only to meet customers' expectations, but to delight them with our products.

#### “Think Blue.”

“Think Blue.” is the Volkswagen brand's stance on environmental sustainability. Behind this mindset is Volkswagen's claim to shoulder responsibility above and beyond offering environmentally compatible products and solutions. The aim here is to inspire and motivate everyone to optimise their environmental behaviour in everyday life in a way that is fun and does not involve doing without. The brand's holistic approach to “Think Blue.” includes ecologically meaningful projects and initiatives around the world.

The aim for 2011 was to establish “Think Blue.” as the mindset of the Volkswagen brand in the long term, based on increasing internationalisation. Also, with “Think Blue.” we reached out to all our stakeholders, from employees to consumers. Another important part of our activities was to anchor “Think Blue.” along the entire value chain. A whole series of measures were put in place, including Eco Incentive seminars for importers and dealers and POS campaigns for the trade, as well as an in-house ideas competition and other initiatives for employees. In our customer communications too, numerous projects were realised around the world: from an interactive exhibition at the Autostadt in Wolfsburg to the inspiring and educational “Think Blue.” camps in Spain and the international fuel-saving challenge, the “Think Blue. Championship 2011”. “Think Blue.” was also given a stronger online presence in the shape of informative international websites, as well as engaging dialogue platforms like the German-language website [mythinkblue.de](http://mythinkblue.de).

➤ 16, ➤ 17, ➤ 18

A number of other long-term projects along “Think Blue.” lines were also kicked off in 2011. These included the communications that accompanied such innovative mobility services as the car-sharing project Quicar in Hanover or cooperation with selected initiatives to step up the involvement of young people, such as “YOUTHinkgreen”. These and many other projects are being continued in 2012. At trade fairs and consumer shows in



#### Customers design cars of the future.

Keeping the customer satisfied is all about being sensitive to their needs and identifying their wishes, understanding these wishes and responding to them. With this in mind, in 2011 Volkswagen China 2011 launched a special initiative called the People's Car Project (PCP). This actively involves customers in the design of future products. Via an online platform everyone can give free rein to their creative ideas and develop their own vehicle concept.

The project is made up of different phases. In 2011 participants were asked to submit ideas in the categories of Design and Customisation. This is being followed in 2012 by the categories Connectivity and Ecology. All participants can evaluate one another's ideas and suggest improvements. At the same time, an agency monitors the ideas submitted and announces a winner every day. This way, the participants get direct feedback on their concepts. In February 2012, Volkswagen China and Tongji University together staged a screening of the ideas submitted so far. Of the 111,907 submissions to date, 26,265 contain material with potential for Volkswagen.

These ideas also revealed initial trends: participants are keen to see a higher level of customisation for their vehicles as well as better adaptation to inner city motoring. Safety concepts are also high on the agenda. Now the relevant ideas are to be discussed with the Research & Development departments at a final workshop, to enable them to be fed into the product development process.

Geneva, Paris and Hanover, for example, “Think Blue.” formed an integral part of the Volkswagen products and services on show. And “Think Blue.” can also be experienced at the wheel: the “Think Blue. Trainer.” system in the up! is designed to lead the driver towards an eco-friendly driving style in an entertaining way. 19

## Supplier relations

Since 2006 Volkswagen has been implementing its “Sustainability in Supplier Relations” concept, which is built on four pillars:

- > Sustainability requirements for suppliers, which all suppliers must read before submitting quotes
- > An early warning system for minimising risk
- > A transparent procurement process
- > A supplier monitoring and development process

From the very start, the concept has undergone continuous, systematic development. Regular evaluations of all concept structures and components ensure that it continues to evolve.

To effectively monitor implementation, a newly-developed, cross-functional process was put into action in 2012. It is based

on a digital questionnaire, which is mandatory for all suppliers. If the entries made do not meet Volkswagen’s specifications, the supplier is requested to provide a written statement. Ad-hoc teams of experts from the various brands and regions evaluate suppliers’ answers. The focus is on supplier development through dialogue. Available documents are analysed, and suppliers may also be visited on site. If a supplier does not demonstrate sufficient willingness to develop, the Volkswagen Group has in the past suspended the business relationship and will continue to do so in future.

Even so, twelve possible violations in the areas of pay, occupational health and safety, working hours, discrimination, freedom of association as well as environmental protection were reported in supplier operations during 2011. All cases were clarified, corresponding measures were introduced and any deficits eliminated. Throughout this process, Volkswagen seeks to provide its suppliers and partners with practical support.

The regular meetings and videoconferences held by the “Sustainable Procurement Network” include reports on how concept implementation is progressing in the brands and regions. In light of this, Volkswagen India organised a third series of supplier development events, focusing on supplier awareness and development opportunities. The network’s activities centre on collectively taking the concept forward while catering for regional differences.



Volkswagen strives to keep the dialogue with its business partners and suppliers as simple as possible. To this end the Volkswagen Group Supply online platform was redesigned in 2011 and can now be easily called up on mobile devices.



**12** suspected cases of non-compliance by suppliers in respect of pay, industrial health and safety, working hours, discrimination, human rights, freedom of association and environmental protection were successfully clarified by Volkswagen.

In 2011, the central business platform [www.vwgroupsupply.com](http://www.vwgroupsupply.com) was successfully relaunched. Featuring improved navigation, the platform promotes direct, global exchanges between Volkswagen and its suppliers. The “Sustainability in Supplier Relations” concept has become integral to this portal – parallel to the relaunch, a globally-accessible eLearning module was developed in nine languages. This module will be available on the Group business platform in 2012. [↻](#) 20

Volkswagen also works on sustainability in supplier relations from the inside out, educating its own employees. New hires in Procurement participate in the WISTA familiarisation programme, which includes skills related to sustainable supplier relations.

In the year under review, Volkswagen further developed and intensified relations with its business partners – strengthening the foundations for fair, stable, long-term partnerships with suppliers. The Volkswagen Group Award, honouring suppliers who excel in topics such as sustainability and environmental protection, once again highlighted particularly successful partnerships.

To take the concept of “Sustainability in Supplier Relations” forward, Volkswagen actively engages in dialogue with other organisations and companies, for example in the Forum for Sustainable Development of German Business (econsense). In 2011, Volkswagen took on a leading role in the “Supply Chain” project group.

In the next few years, the ongoing development of our suppliers will become an increasingly decisive factor in implementing our sustainability concept. [↻](#) 21

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## Economic stability

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Global growth continued in 2011, with some loss of momentum. The Asian emerging markets remained highly dynamic, though their pace of growth slowed somewhat. Meanwhile growth remained weak in the world’s industrialised markets and especially in Western Europe, where the worsening national debt crises in the southern European states proved a major hindrance. This weak phase is set to continue into 2012: unresolved structural problems in many states and a widespread loss of confidence in economic policy have prompted growing uncertainty among producers and consumers and ongoing volatility on the financial and currency markets. Eurozone markets under severe pressure include not just Greece and Portugal but also Spain and Italy in particular. Sustainable growth cannot be anticipated in Western Europe until clear progress is made towards resolving the national debt crises and restoring trust in the political process and the markets.

Volkswagen is set to face significant challenges in the medium term, resulting on the one hand from emerging global economic trends, and on the other from the growing size and complexity of the Company itself and from increasingly intense market competition.

### Global economic trends

In the coming years the emerging markets – and the BRIC states in particular – will become increasingly significant in both economic and political terms. This effect will be further amplified if the traditional industrialised markets fail to get to grips with their economies’ structural problems and to optimise what is already a reduced capacity for growth.

China and India in particular are set to see further dynamic growth, while Brazil and Russia will also make further headway in the rankings of the major economic players. This shift towards new centres of global economic growth will increasingly impact international trading and finance flows as well as the energy and commodities markets. The BRIC countries will also exert a greater influence on global politics in order to safeguard their economic interests.

Rapid economic progress affecting broad sections of these populations, with the associated increase in household incomes, opens up significant opportunities for the automotive industry in terms of sales volumes – as previous years have clearly shown.

In the medium term the global economy and global trade will show further growth, although the danger of economic crises remains high.

Key risk factors here include the high and growing levels of national debt in many countries, structural mismanagement in numerous national economies, the high vulnerability of the international banking and finance system, ongoing trading and current account imbalances, the increase in protectionist trends and growing inflationary trends which could spread from the commodities and oil markets in particular.

### **Increasing competition**

Competition continues to intensify in the global automotive markets. During the past year the American manufacturers already showed clear signs of recovery from the effects of the financial and economic crisis. In the current year, Japanese suppliers are looking to recapture market positions which were lost when sales volumes fell due to the natural disasters in Japan and Thailand. The Korean manufacturers are set to continue their global expansion strategy and Chinese automakers, too, will become increasingly important, primarily in the emerging markets.

Measured against its competitors, the Volkswagen Group advanced to second place in the global deliveries rankings for 2011, achieving the highest growth of all automakers with more than one million additional vehicles delivered. At the same time the Group recorded a significant improvement in its operating profit. These results show that we are well on course to achieve the goals we have set ourselves for 2018.

### **Operating sustainably means taking responsibility**

Volkswagen already has a strong presence in many important markets and is profiting from global growth. In view of the global trends and risks outlined here, in future it will be even more important to improve the conditions for sustainable growth and develop new growth opportunities.

We must further extend our technology leadership and mitigate the risks arising from currency fluctuations and protectionism by systematically developing local value creation. Increasing localisation in our products and financial services will be a central prerequisite for achieving appropriate quality standards worldwide and improving our competitiveness over the long term. For the coming years Volkswagen is therefore planning the highest investments in the Company's history, accompanied by a further increase in workforce numbers.

A high level of flexibility and financial independence is absolutely essential for dealing successfully with economic risks. Here, our outstanding liquidity position and our comprehensive safeguards against price fluctuations in the currency and commodities markets will continue to help us in the future. At the same time efficient utilisation of production capacity and rigorous cost management have a key role to play in ensuring that the Group remains robust and crisis-proof over the long term.

We emerged from the global economic crisis more rapidly than expected and stronger than most of our competitors. We can only continue along the path to global automotive leadership mapped out in our Strategy 2018 by operating responsibly and sustainably. As the Volkswagen Group grows in size and complexity, the level of responsibility – for the Company and its employees – will increase further. Volkswagen can only achieve sustainable success by taking more and more responsibility for the environment and for social developments, particularly in emerging markets. Every single employee has a part to play here: through our skills and commitment, we shoulder our responsibility for the Group's ongoing development and future success.

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## Raw materials

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The topic of raw materials has a twofold relevance for the Volkswagen Group: on the one hand there is the ecological angle; on the other hand the commercial perspective. Because for a corporate group that processes millions of tons of steel, plastics and other materials every year, secure and economic supplies of these materials are of vital importance – and at the same time a core commercial parameter.

Volkswagen controls this parameter via its raw materials management strategy. Raw materials risk analyses help evaluate long-term strategic indicators for the materials. Factors identified and evaluated for Volkswagen include supply risk and cost relevance, leading either to concrete orders being issued to R&D for the development of alternative materials and substitutes or to recommendations being issued to Central Procurement and Treasury to help safeguard raw material supplies.

The analysis system, originally introduced in 2007, was again expanded in 2011 and used for example to conduct a long-term raw-materials risk forecast related to electromobility. The geostrategic risk involved in the extraction of lithium was identified, while at the same time mathematical algorithms were used to factor in

issues such as market power resulting from industry concentration. This enabled concrete recommendations to be derived, so that while for cobalt, for example, hedging via the stock exchange is an option, for lithium the strategic goal must be to arrive at diversity of suppliers. Consequently, raw materials risk analysis is a key tool in enabling more secure and economic supplies of raw materials to be assured for as long as possible. The system won our in-house research award in 2011.

To identify early on any risks to secure long-term supplies arising from corruption, Volkswagen regularly engages in dialogue with the Extractive Industries Transparencies Initiative (EITI).

## Localisation

Volkswagen believes in systematic localisation, so wherever possible, the local production plants themselves handle the value-added processes, supported by local and regional suppliers. The benefits are not just logistical but commercial, as well. Localisation reduces currency risks and on the purchasing front ensures prices in line with local market conditions, with no additional costs for transport or customs duties. Above and beyond this, localisation also generates immense growth potential in the respective regions; jobs are created and new companies spring up in the vicinity of our plants, while secondary and tertiary effects have a positive impact on the infrastructure. At our Indian plant in Pune, 58 new supplier operations

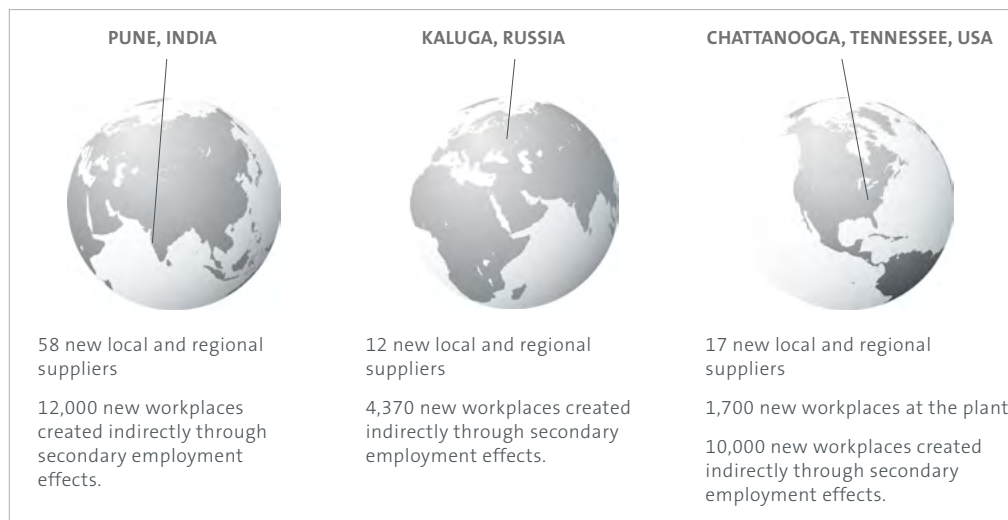
were set up and 12,000 new workplaces created indirectly through secondary employment effects. Volkswagen also witnessed similar developments at its Kaluga plant in Russia, where 12 new supplier firms were established and 4,370 jobs created. And at the Chattanooga plant (USA) 17 new companies were established in the vicinity of the new Volkswagen plant and 1,700 jobs were created. In the long term, Volkswagen will be able to offer employment to 10,000 people at this site. Another effect of localisation is that establishing a new plant and selecting the relevant suppliers will often lead to new alliances with schools and universities, trigger social projects and foster cultural diversity. In short, it drives up local prosperity, benefiting both the business sector and society. So for Volkswagen, localisation not only has economic benefits; it also improves the prospects of sustainable structural development in the regions concerned.

## Risk management

The Group's risk management system is designed to identify potential risks at any early stage so that suitable countermeasures can be taken to avert the threat of loss to the Company, and so that any risks that might jeopardise its continued existence can be ruled out.

The risk management system is an integral part of the Volkswagen Group's structure and workflows and is embedded in its


### EXAMPLES OF SUCCESSFUL LOCALISATION



Boosting the local economy is one effect of the policy of localisation that Volkswagen systematically pursues around the world, raising levels of value-added in the regions where its production facilities are located.

daily business processes. Events that entail a risk are identified and assessed on a decentralised basis in the divisions and at the investees. Countermeasures are introduced immediately, their effects are assessed and the information is incorporated into the planning in a timely manner. The results of the risk management process are used to support budget planning and controlling on an ongoing basis. The targets agreed in the budget planning rounds are continually verified in revolving planning reviews.

At the same time, the results of risk mitigation measures that have already been taken are incorporated into the monthly forecasts on further business development in a timely manner. This means that the Board of Management always has access to an overall picture of the current risk situation through the documented reporting channels.


We are prepared to enter into transparent risks that are proportionate to the benefits expected from the business.  22

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## Compliance

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In line with the German Corporate Governance Code, the Volkswagen Group ensures that its compliance efforts keep pace with the economic growth of the Company. In 2011 additional chief compliance officers, compliance officers and representatives were appointed. Around the world, they are responsible for making sure that all preventive compliance measures are put in place on site. They support the Group Chief Compliance Officer, who in turn reports directly to the Chairman of the Board of Management. Complementing their efforts, the Compliance Council – a body of opinion leaders – started work in 2011 at top management level. Along with the Core Compliance Team, the Council forms an important part of the Group's compliance organisation.

The basic content of all activities undertaken by the compliance organisation is defined by the "preventive concept for ensuring compliance within the Volkswagen Group". This takes its lead from the contents prescribed in the voluntary auditing standard of the Institute of Public Auditors in Germany (IDW) for the verification of compliance management systems (IDW PS 980). Another pillar of the Group's compliance work is the Code of Conduct of the Volkswagen Group. A variety of measures based on the Code were implemented in the reporting period.  14

In a standardised and integrated risk management and control process, each year all substantial risks, countermeasures and controls are registered and evaluated at some 100 business units (companies and central departments) of the Volkswagen Group, which together account for the majority of the consolidated balance sheet and income statement. In this context, compliance risks such as corruption are specifically addressed for each business unit involved and evaluated at the units. This evaluation forms a central pillar of the annual compliance programme.

In 2011 one focus of compliance activities was on competition and anti-trust legislation. Using documents on the subject and a variety of communications channels, specific groups of employees were provided with readily comprehensible support in anti-trust matters. An appropriate mission statement from the Chairman of the Board of Management was also distributed to top and senior management.

Another focal point of compliance work was the implementation of measures to prevent corruption. An online tuition programme on the subject was rolled out at all Volkswagen AG locations as well as at additional Group companies, enabling a



Forbidden fruit: Volkswagen alerts the workforce to the dangers of corruption.

total of over 40,000 employees of Volkswagen AG and Group brands to benefit from training. Also in 2011, some 6,000 Volkswagen brand employees were informed about compliance-related topics in almost 200 in-depth on-site seminars. In addition to these events, employees also receive regular updates on compliance through internal communication channels.

2011 also brought completion of the pilot version of a Group-wide IT-based information, advisory and reporting system. The system will be installed at Volkswagen AG in 2012 before being progressively rolled out to other Group companies.

At Volkswagen, the role of ombudsman is played by independent lawyers. They act as the first point of contact for employees or third parties wishing to report suspected instances of corruption in a straightforward and confidential way. In 2011 the ombudsmen passed on 36 reports to the internal Anti-Corruption Officer at Volkswagen AG. All such reports are followed up. In the course of 2011, Volkswagen AG issued three dismissals on

account of violations of the internal regulations prohibiting the exploitation of business contacts for personal gain.

Against the backdrop of the global growth of the Group, in 2012 the prevention of corruption in growth markets will be the key focus of compliance activities. Preventive measures remain a cornerstone of compliance work across the Group. 23



## CHALLENGES

CUSTOMER SATISFACTION

SUPPLIER RELATIONS

ECONOMIC STABILITY

RAW MATERIALS

LOCALISATION

RISK MANAGEMENT

COMPLIANCE

EMPLOYMENT

DEMOGRAPHIC CHANGE

ADVANCING WOMEN

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SOCIAL RESPONSIBILITY

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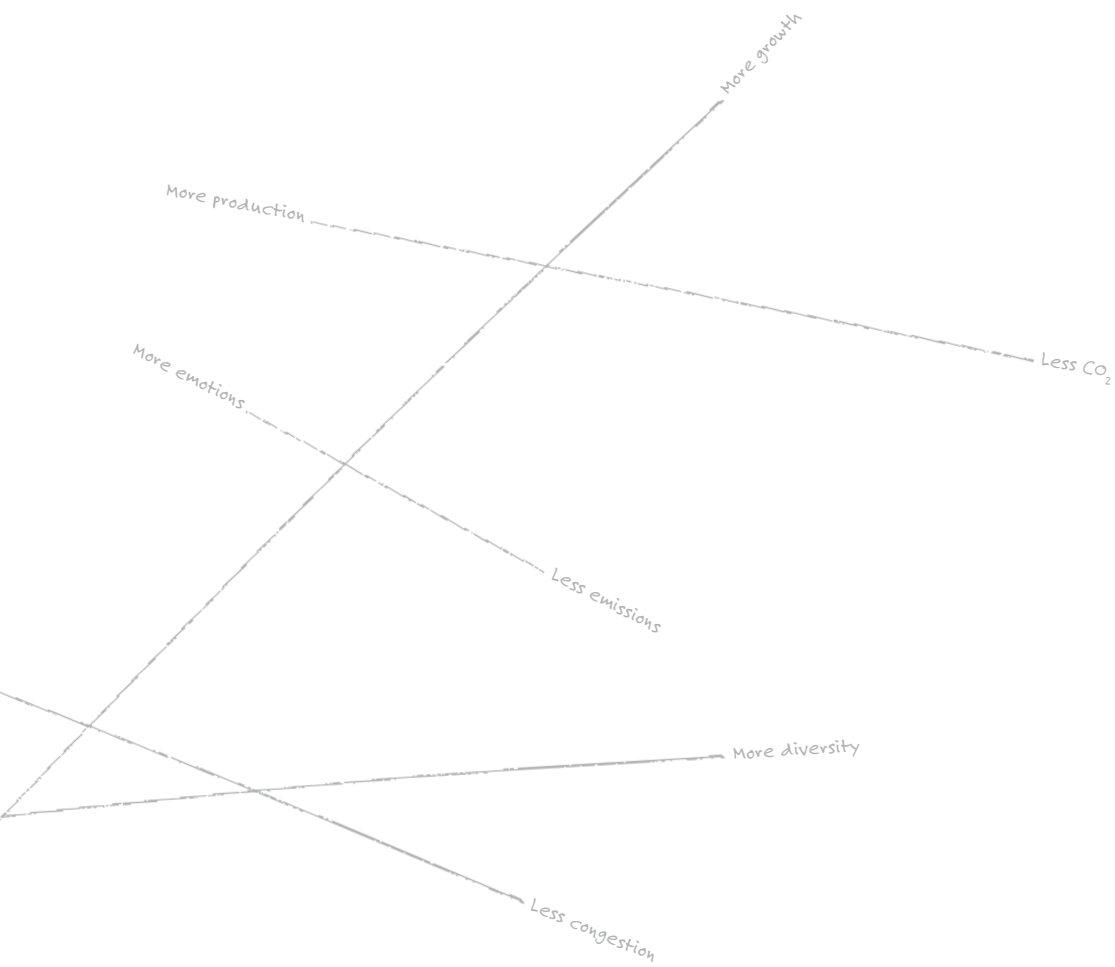
ELECTROMOBILITY

CLIMATE PROTECTION

BIODIVERSITY

WATER

RESOURCE EFFICIENCY



# Society

# Everyone counts.

501,956 people now work for the Volkswagen Group. That means 501,956 individual contributions to its day-to-day success and 501,956 individual sets of talents. And we foster each one of them. It's a responsibility we take seriously by focussing on our employees' health, skills and commitment. And we are aware that our responsibility is growing – for ourselves as a company and for each individual within it.

## Employment

The Volkswagen Group's Strategy 2018 sets out how it intends to achieve its goal of becoming the car industry's global market leader in terms of unit sales and topping the rankings in terms of customer satisfaction and profitability. On top of that, Volkswagen also wants to be the most attractive employer in the automotive sector by 2018. The Group's business strategy is a multi-dimensional stakeholder strategy that balances the interests of customers, shareholders, employees and other stakeholders.

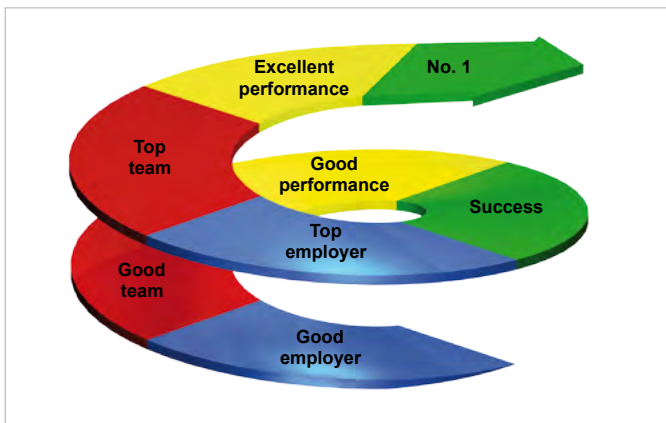
Volkswagen has continued to develop at great speed in 2011: the Group opened new locations, launched new models in the market, and further expanded its technological advantage. As the Volkswagen Group grows, so does its responsibility – for customers and society, for product and the environment, for every employee and for the entire Company. However, it can only meet present and future challenges if its employees – from apprentices to top managers – consistently turn in an outstanding

performance to ensure that innovation and product quality remain at the very highest level in the long term.

Securing outstanding performance, generating success and giving employees a share in the profits are central to Volkswagen's HR strategy. Securing the outstanding performance required to assure Volkswagen of pole position in the international automobile industry means having a top team, an HR principle that applies across the Group's global operations. And it is a principle that is particularly important when the Group is growing, as it has done over the past few years. Including the Chinese joint ventures, the Volkswagen Group employed a total of 501,956 people on December 31, 2011, 25.7 percent more than in December 2010 (399,381 employees).

Volkswagen fulfils its responsibility for its employees with personnel management that promotes the health, skills and dedication of every individual. Ensuring that all employees can develop their full potential and use their talents in a manner that creates value means responsible leadership, individual personnel development and training.

### THE CIRCLE OF SUCCESS



The circle of success from our "Strategy 2018" shows that only an attractive employer can recruit a good team and develop it into a top team. And only a top team can turn in excellent performance.

### Training and skills development

Skills levels across the Group are already outstanding, but to ensure that they are maintained despite rapid growth, Volkswagen sets great store by being a learning and teaching organisation. Vocational training is crucial to developing a top team at Volkswagen. In recent years, it has strengthened its commitment to the German dual model of vocational training and brought further locations into its vocational training system. In December 2011, the number of employees in vocational training across the Volkswagen Group exceeded 15,000 for the first time, including 10,779 in Germany.

At the end of 2011, Volkswagen AG was training 4,667 apprentices and students in 33 professions and 20 courses at its six German locations alone (Wolfsburg, Hanover, Braunschweig, Kassel, Emden and Salzgitter). Volkswagen Osnabrück GmbH had already taken on apprentices and students from the insolvent



Wilhelm Karmann GmbH in 2010, enabling them to continue their training in a work setting, and in 2011, it created more training places: a further 29 apprentices or students were taken on; 11 of them are women in industrial or technical occupations. At the end of 2011, Audi AG was training 2,349 apprentices and students in 22 professions, 2,225 in industrial or technical areas and 124 in commercial areas.

The German dual model of vocational training has now been adopted in many locations outside Germany, while others are developing the system. For example, Volkswagen Group Rus's Kaluga plant put its second cohort into this training system in 2011. Three new professional profiles – automotive painter, construction mechanic and production mechanic – have been added to the existing training professions (motor vehicle mechatronic technician and general mechatronic technician). In Volkswagen's Indian plant in Pune, a three-year training programme for mechatronic technicians based on the dual model was launched in 2011. In the future, more than 100 apprentices who have been trained at state Industrial Training Institutes as welders, painters, fitters, electricians, tool and machine maintenance technicians, vehicle mechanics or automation specialists will be guided through a year-long practical experience each year. In the USA, meanwhile, the second cohort of 20 apprentices at Volkswagen in Chattanooga have begun training as motor vehicle mechatronic technicians in a programme run jointly with the local partners, the Tennessee Technology Center and the Chattanooga State Community College. Also, a modern training centre has been built at Volkswagen Navarra in Pamplona, which will be opening in spring 2012. Building this training centre and Volkswagen's commitment to training are recognised in this part of Spain as a major contribution to social responsibility by the Company.

The focus of Volkswagen's vocational training is to develop technical skills, but apprentices also benefit from a wide range of additional training programmes and events. In Germany, these include cooperation between Volkswagen's vocational training division and "Jugend gründet", a nationwide online business/high-tech competition offering a prize for the best product or business idea. The Company also organises the "ProTalent" and "ProMechaniker" competitions, which offer apprentices and students within the Volkswagen Group an opportunity to combine their technical talent with their passion for motor sport.

It's not all about work on the factory floor or in the back office, though. For more than 20 years, Volkswagen apprentices have been involved in the Auschwitz Memorial and Museum. Volkswagen sends four groups of apprentices to Auschwitz each year to spend two weeks working with young Poles at the Memorial

# 15,021

apprentices were employed across  
the Volkswagen Group at the end of 2011.

and Museum. The groups are briefed and supervised by the International Auschwitz Council and our subsidiary, Volkswagen Coaching GmbH. Almost 2,000 young Germans and Poles have so far taken part in this programme. Volkswagen AG's sustainable pedagogical and political commitment to the scheme is recognised across the world, and at the General Works Council's suggestion, it broadened its involvement in the Memorial and the International Youth Meeting Centre in Auschwitz in 2008. As a result, four groups of managers, management trainees and supervisors now take part in a four-day seminar there each year, also overseen by the International Auschwitz Council.

Volkswagen is also nurturing particularly talented vocational trainees in talent groups for young specialists. These groups are an invaluable tool to support technically and intellectually gifted employees as they make the transition from training to professional work. Talent groups have been in place at all Volkswagen AG sites and at Volkswagen Financial Services AG since the end of 2010. 203 talented young employees embarked on this two-year development and skills training programme in December 2011, and 71 employees have so far completed it.

Since 2006, on completion of their training, young people at the start of their career have also had the opportunity to take part in the "Wanderjahre" (years abroad) programme; the name alludes to the tradition among newly-qualified craftsmen of travelling the world and gaining experience. Participants spend twelve months at one of the Group's international locations. So far, over 270 young employees of the Volkswagen Group have taken up this opportunity to gain their initial work experience outside their home country. In 2011, twelve participants came from locations abroad to gain a year's experience in Germany, while 50 participants from Germany travelled abroad. 23 Volkswagen Group companies in 16 countries now participate in the "Wanderjahre" programme.

Outstanding apprentices in the Group are given special recognition each year when the Group Board of Management and the Group Global Works Council present the "Best Apprentice Award" to the Group's top trainees. The 2011 ceremony – the eleventh – was held in Stuttgart in late November 2011, and awards were presented to 27 former apprentices representing twelve countries. For five Volkswagen Group companies – Auto-

mobilmannufaktur Dresden GmbH, Volkswagen Osnabrück GmbH and Volkswagen Motor Polska, along with Shanghai-Volkswagen and FAW-Volkswagen from China – this was the first time that their best apprentices had been among the award-winners.

### Developing every employee

Individual personnel development includes cultivating employees and giving them the opportunity to acquire and enhance new skills. Volkswagen offers every employee this opportunity within “Berufsfamilien” (vocational groups). A “Berufsfamilie” includes all employees with related specialist skills who work together regardless of their level of experience or development. Learning and teaching involves the Company’s own experienced employees offering their expertise within the framework of both tried-and-tested and innovative training formats. This ensures that learning processes are more geared to the specific processes and technical skills requirements of a particular “Berufsfamilie” than in conventional training programmes and enables knowledge to be transferred in the most efficient and tailored way.

In 2011, this model of cooperative learning was established in further areas of the Company: more and more divisions are setting up “Berufsfamilien” and their own academies, in which the development of skills is organised. For example, the Procurement Academy provides mentoring, talks from experts, and materials for self-study at the workplace. From the beginning, employees receive practical knowledge of the topics relevant to their “Berufsfamilie”. The creation and development of “Berufsfamilie” academies means that sites outside Germany are increasingly involved in this skills development model.



A “Components Academy” has been set up, for example; the academy’s structure and manpower will be reinforced in 2012. Competency centres combine Components, specialist knowledge and that of other departments; thereby creating knowledge databases. This competence development strategy means that Volkswagen in collaboration with the Works Council takes responsibility for its employees and safeguards employment. Over the last five years, strengthening the Components division has enabled Volkswagen to combine competencies and open up new technological fields, like electric traction, thixomolding and dry machining.

Initial and in-service training of Meister (foreman/group leader) is a particular priority for the Volkswagen Group. Meister qualifications are currently being adapted to uniform worldwide standards. As part of this initiative, Basic Meister Qualification was offered at a number of locations for the first time in 2011. This programme prepares the Meister of tomorrow for the responsibilities they will face. In the Pune plant in India, a total of 39 Meister completed their qualification in three courses, adding to the 49 who completed it the previous year. The Kaluga plant in Russia organised seven Basic Meister Qualification courses in 2011, training around 100 employees. The Chattanooga plant also launched its Basic Meister Qualification in 2011.

Volkswagen prepares its future supervisors for their leadership role by means of Basic Leadership Qualification training, followed by an examination. Both elements are being rolled out across all Group companies: the Pune and Kaluga plants began implementing the system in 2011, and Volkswagen in Poznan completed implementation in the same year. Employees’ development into management roles is supported by the management selection process, which was further developed in 2011: in a comparative discussion with the relevant specialist department, management candidates are selected on the basis of their technical competencies, while their entrepreneurial skills are assessed in a Company-wide Management Assessment Center. This system enables the specialised departments to take a high level of responsibility for the selection of their own management trainees within a Company-wide selection process.

The Group also has a broad range of tailored skills development opportunities for other professions. Volkswagen Coaching GmbH is Volkswagen AG’s central in-service training provider and offers employees a wide spectrum of training measures, including HR development programmes, crossfunctional seminars and courses, as well as specialised training programmes geared to the specific requirements of individual “Berufsfamilien”. This ensures that each employee is able to develop his or her skills on an individual and tailored basis. The systematic development of the workforce is also promoted in relation to the goals set by the Company and its specialised departments. During 2011, more than 70,900 employees received in-service training in 8,232 seminars organised by Volkswagen Coaching GmbH, making a total of 198,547 participant-days. In the area of specialist skills development (e.g. factory automation, robotics and applications engineering or management), 48,817 employees were involved in 6,286 seminars over 139,290 participant-days. Meanwhile, in the field of “crossfunctional skills development” (which includes leadership skills and personal development), 22,133 employees attended 1,946 training courses, representing 59,257 participant-days. 423 new programmes and courses were developed over the course of the reporting

# 70,950

employees attended skills development courses organised by Volkswagen Coaching in 2011.

year to ensure that the Company's in-service training provision continued to meet its needs.

Volkswagen is also launching and developing training academies and training centres to meet the high demand for initial training, skills training and skills transfer, especially in new locations. The training academy that opened at the Chattanooga site in 2010 expanded its capacity when the Volkswagen plant there began operating in May 2011. Tried-and-tested Volkswagen Group HR development tools, including the Basic Leadership Qualification and the Management Assessment Center, have been adopted in Chattanooga. In spring 2011, Shanghai Volkswagen in China began building a training centre for its Yizheng factory in addition to the existing centre at the Nanjing location. The new FAW-Volkswagen site in Foshan is currently also being equipped with a training centre.

### The Global Labour Charter

Skills development is also central to the further development of employee participation at locations outside Germany. The Volkswagen Global Labour Charter, which came into force in autumn 2009, combines rights to consultation with shared responsibilities, requiring employees to demonstrate first-class skills and a highly developed sense of responsibility. The Charter applies globally and provides for phased rights to information, consultation and codetermination for employee representatives of the brands, companies and locations represented on the Group Global Works Council.

Since then, many locations have begun to flesh out the Charter with declarations of intent and outline implementation arrangements agreed between management and employee representatives. In 2011, the plant-level codetermination rights laid down in the Charter were developed and enhanced, with the first-ever general Company meetings and symposia being held in many locations outside Germany. In some cases, the work of local employee representatives is now being coordinated or developed within special committees, ensuring that the participation rights set out in the Charter are made more effective.

A good example of how the culture of cooperative action at Volkswagen is implemented internationally is the "Employee-

Friendly Employer" award given to Volkswagen Poznan in October 2011. This national award was presented by the President of Poland and accepted jointly by representatives of the Board of Management in Poznan and the local trade union, Solidarnosc. 24

### Career prospects for graduates

Since 1998, some 2,000 students who have demonstrated outstanding technical and personal abilities during their internships at Volkswagen have been included in the Student Talent Bank, Volkswagen's HR development programme for university students. Volkswagen supports and nurtures these former interns while they complete their studies with events such as specialist presentations, seminars or visits to Volkswagen sites, building ties with talented students in the process.

In 2008, Volkswagen launched the StartUp Direct programme to give university students a head start in the Company. Over a two-year period, participants in the programme not only work in their own department and familiarise themselves with the Company but also have an opportunity to attend supplementary training seminars. The programme also includes placements of a few weeks in production and sales as well as an optional foreign placement. University graduates with an international focus may opt for the StartUp Cross programme instead. This 18-month international programme includes a three-month international placement. Over 1,400 trainees have acquired their initial experience with Volkswagen on one of these two programmes since they were launched in 2008.

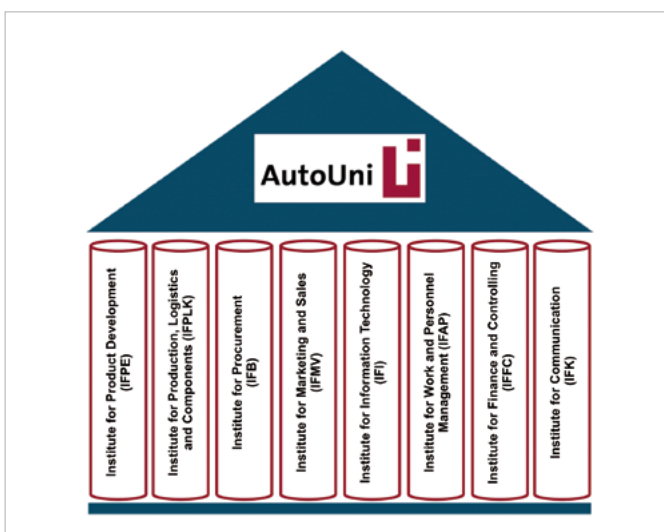
The Student Talent Bank, the two StartUp programmes and a range of further, linked measures make Volkswagen in Germany very attractive to students: in May 2011, the Company won the "Employer Branding Award", presented for the best marketing to universities. Volkswagen intends to intensify this area in future to ensure that, on the way to becoming the world's leading automobile manufacturer, it is able to recruit and retain top graduate talent. The Škoda brand is also using innovative marketing tools to recruit up-and-coming talent as well as more experienced staff: against the backdrop of the Company's strategy for growth and increasing globalisation, its film "Curriculum Vitae" is a specific tool for recruiting graduates for projects abroad and in vehicle development. The creative strengths of the film were recognised when, in May 2011, it was awarded the "Deutscher Werbefilmpreis", a prestigious award for filmed commercials. Meanwhile, to make itself even more attractive as an employer, Škoda has redesigned its Assessment Centre, which advises and supports potential employees. 24

## The AutoUni

Volkswagen AutoUni ensures that the Group has access to specialist knowledge and research expertise. It works in conjunction with individual departments within the Group and partner universities to offer in-service training tailored to the needs of the “Berufsfamilien”. The AutoUni has eight institutes, which between them offer a wide range of lectures, conferences, seminars and, more recently, cooperative study modules at university level. These cooperative study modules cover technical subjects in detail, and participants take a final examination at the end of each module. In 2011, one particular focus of these modules was electric traction, in which 159 employees received further training. Programmes run by the AutoUni, which is based in Wolfsburg, have been expanded internationally over recent years. The study module International Financial Reporting Standards was, for example, made available in both English and German to employees in the Chinese joint ventures in 2011.

Almost 12,700 participants attended 200 AutoUni events in 2011. One third of these events took place outside the Company’s Wolfsburg headquarters. As part of Volkswagen’s regional outreach, about 40 percent of the events were open to the general public. For example, a series of public lectures on the theme of corporate social responsibility not only tackled cultural history aspects and current issues but also explored and discussed whether the impact of sustainability measures can be measured in economic terms.

### THE AUTOUNI



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Over and above this, the AutoUni is intensively involved in the Group’s doctoral student programme, in which over 400 doctoral students were supervised in 2011 by the various companies within the Volkswagen Group in Germany. All these doctoral students work on ambitious PhD thesis topics with relevance for the Company. Under the doctoral student programme, students typically complete their thesis within three years, during which time they work closely with their own department in the Group, which also appoints a supervisor from within the Company. Completed theses may be published as part of the AutoUni’s publication series.

The AutoUni’s cooperation with partner universities was substantially expanded in 2011. In October 2011, Volkswagen AG endowed a Chair of Human Resource Management at the Technical University of Braunschweig, and the Company also helped the institution to deepen its expertise in economics and business education, in particular by arranging a series of lectures on “Strategic Human Resource Management within Company Leadership”. In China, meanwhile, Volkswagen and Shanghai’s Tongji University intensified their long-standing cooperation. Volkswagen has already endowed two Chairs at the University and added a third in 2011, a Chair in Human Resource Management at the Chinesisch-Deutsches Hochschulkolleg (Sino-German University College). The Company also promotes the Dual Master Program run jointly by Tongji University and the Technical University of Braunschweig. This programme enables ten Chinese students a year to study for a dual master degree in automotive engineering and mechanical engineering in Shanghai and Braunschweig on a programme including two industrial placements in Volkswagen’s Wolfsburg factory. These initiatives are boosting Volkswagen’s attractiveness as an employer in China and also helping to meet the skills shortage there. In China, 1,000 graduates from partner universities were selected and hired out of more than 70,000 applications in 2011.

### Promoting performance and sharing profits

The Volkswagen Group sees its wide range of in-service training and skills development provision as a key part of its development of a top team. The systematic fostering and recognition of good performance is another key part of our strategy, along with redesigning our pay systems to ensure that employees have a sustainable share in the success and profits of the Company.

Since 2010, Volkswagen AG has had detailed standard criteria for skills development and performance assessment. These criteria cover the entire workforce, from apprentices to top managers, and are underpinned by concrete incentive systems within the pay structure. The pay system for Volkswagen AG employees covered by collective agreement comprises three main components:

# 82,221

appraisals were carried out in  
Volkswagen AG in 2011.

- › Basic pay in the form of each employee's monthly salary.
- › An entitlement to profit-sharing, which is laid down by collective agreement; 10 percent of the Volkswagen brand's operating profit is channelled into profit-sharing.
- › Performance-related components in force since early 2011, which represent an additional reward for individual performance.

As part of the introduction of a performance-related pay component, Volkswagen AG and its unions have agreed that each employee should have an annual individual appraisal with his or her line manager. This appraisal has two elements: performance assessment and development planning. Each employee is given feedback on his or her performance and clear guidance on career prospects. Recognising and valuing good performance is just as important in this context as individual potential or any specific further training needs. 2011 was the first year in which the entire workforce was appraised. Volkswagen AG supervisors showed enormous commitment in carrying out 82,221 appraisals, with a further 4,158 appraisals using the same criteria being carried out within Volkswagen Financial Services AG and Volkswagen Immobilien Service GmbH. The successful rollout of appraisal means that over 86,000 employees now receive individually determined performance-related pay components.

In February 2010, the Company and the German metalworkers' union IG Metall also agreed that the collective agreement on sustainable location retention and employment protection would remain in force until at least December 31, 2014, giving all Volkswagen AG employees employment security until that date. The Innovation Funds set up at the initiative of the General Works Council, and governed by the same collective agreement, represent a major contribution to safeguarding employment. Since 2007, Innovation Fund I has helped to further develop existing skills areas at the various Volkswagen locations. Innovation Fund II, by contrast, began operating during the reporting year and was set up to fund the development of new areas of business across the automotive value production chain and beyond. The fund's major emphasis is on sustainability, with a view to long-term employment protection and creation. Its funding is focused on promising projects, such as the recycling of testing equipment or the use of gravity-based conveyor systems.

The agreement also stipulates that there will be no reduction in the recruitment of apprentices until December 31, 2014, and that apprentices will, subject to performance, be taken on permanently on completion of their training. The decision is based on the model used to assess Volkswagen apprentices and on their performance in the examination run by the chambers of industry and commerce. Former apprentices who meet specific performance criteria will be given permanent employment with Volkswagen AG. Former apprentices who do not meet these criteria will initially be offered a fixed-term, two-year contract. After two years, the performance assessment from the annual individual appraisal forms the basis of the decision as to whether to take them on permanently. The standard criteria for performance assessment create clarity and consistency for every employee in his or her professional development.

The pay system, which now includes a performance-related component, has proved effective in enabling employees to share in Volkswagen AG's success. It also helps to ensure fair pay and reward individual performance while preserving competitiveness. The three components of the pay system are being rolled out across the Group and form the model for collective agreements concluded outside Germany. Over 35 such agreements were negotiated across Volkswagen Group locations in 2011 and bargaining was underpinned in all cases by an active information and communication process. A local dispute culminating in a vote for strike action arose at just one location but was resolved by agreement between management and the local union.

Management employees also earn part of their salary in the form of a personal performance bonus, which rewards individual performance. The Company bonus enables management staff to share in the success of their own part of the Company. Since 2010, the Long Term Incentive (LTI) has been available in addition to other bonus components. The LTI is calculated over a four-year period, making it a long-term management remuneration tool that reflects the positive and sustainable development of the Company. This means that it complies with the aims of the 2009 legislation on remuneration of Board of Management members but is applied more widely, to the whole of Volkswagen's management worldwide. The Long Term Incentive is linked directly to the goals set out in the Group's Strategy 2018 and rewards Volkswagen management for their contribution to implementing the Strategy's goals of attaining top employer status and leading the field in terms of customer satisfaction, sales and profitability. In this way, the LTI helps ensure that Volkswagen management consistently pursues the multi-dimensional and sustainable goals set out in the Company's stakeholder strategy.

In order to consistently provide even more intense support and tailored development to its employees in the long term, Volkswagen is reorganising its personnel management in collaboration with the specialised departments and the Works Council. Knowing each individual employee and his or her talents, the HR specialist is an important sparring partner for the managers and works in an atmosphere of mutual trust with the Works Council as well. Both sides gain from this collaboration: the Company has a motivated and productive workforce, while individual employees can be deployed in a way suited to their personal qualifications and fitness. At Volkswagen, personnel management means, among other things, leading people responsibly, developing staff into a top team, and giving each employee the opportunity to produce excellent performance.

### Employee opinion survey

The employee opinion survey is a proven and extensively used tool to involve employees actively in what is going on in the Company. Employee satisfaction is measured each year using the Volkswagen Group's employee opinion survey, which is standardised and covers the entire workforce. Once the survey is complete, the findings are jointly discussed by supervisors and employees, a process that raises complaints and problems on the one hand and suggestions for improvements to work processes on the other. Improvements agreed upon are then implemented before the next year's survey.

The employee opinion survey was conducted for the fourth time in 2011. It covered 77 corporate locations and companies in 26 countries, and over 308,000 employees took part out of a possible 346,000, a response rate of 89 percent. The 2011 survey showed an improvement on the previous year. More than 60 percent of employees saw the employee opinion survey as

### EMPLOYEE OPINION SURVEY STATEMENTS

- > Volkswagen is viewed positively in public and by friends and acquaintances.
- > I'm well informed about current developments at Volkswagen.
- > Sufficient steps are being taken to ensure quality in our organisational unit (OU).
- > Flaws or disruption in the work process are quickly resolved in our OU.
- > Collaboration in my OU/group is good.
- > Collaboration with colleagues from other OUs/groups is good.
- > Collaboration with my direct supervisor is good.
- > I can deal comfortably with performance pressure and work-related demands.
- > I like my job as it is.
- > I like working for Volkswagen.
- > Our OU benefited from discussing the results of the employee opinion survey.



The employee opinion survey asks employees to give their views on 11 statements. This involves them actively in what is going on in the Company.

a "useful" or "very useful" tool for improving their work. Respondents also considered that discussion of the results helped the teams and organisational units to achieve sustainable improvements to employee satisfaction at work.

### The "Volkswagen Way"

The "Volkswagen Way" is another tool that relies on the commitment of the workforce for its success. It is aimed at the comprehensive optimisation of all Company processes. The core of the "Volkswagen Way" is a process of continuous improvement (German abbreviation as KVP) which aims permanently to develop productivity and efficiency as well as communications, teamwork and leadership. Since the "Volkswagen Way" came into force in 2007, Volkswagen employees have been receiving training in how to identify and eliminate waste. In 2011, the main focus was on optimising processes, in particular in relation to product quality and quality of work. By involving the workforce, different departments within the Company have been able to explore potential for improvement and increased not only the quality but also the stability of their processes.

The other brands within the Volkswagen Group have similar programmes for boosting efficiency. For example, all brands across the Group are now using a standardised production system. Using the KVP cascade system – a tiered approach to change – standardised methods are being used to optimise processes and structures both in production and non-production areas right across the operation and across all sites.

### Ideas management

Volkswagen sets great store by enabling its employees to make suggestions for improving work organisation and production processes. Employees' suggestions and ideas are considered and assessed centrally in the Volkswagen "Ideenmanagement" unit, which is represented at all the German sites. The first suggestion scheme at Volkswagen was introduced back in 1949, and employee commitment to improving products and processes has since become a key measure of the workforce's creativity, expertise and motivation. Volkswagen also offers training and skills development to systematically promote a culture of ideas within the Company. The continual improvement process set out in our Company agreement, "The Volkswagen Way", is also supported by the ideas management process, which equips managers with a vital tool for managing and motivating employees.

In 2011, Volkswagen employees across the Group submitted a total of 475,073 suggestions for improvement, 21.2 percent more than in 2010 (391,880). Adopting 340,960 of these suggestions

# 475,073

suggestions for improvements were submitted across the Group in 2011. 340,960 ideas were adopted, earning their originators some €33 million.

over the reporting period helped substantially to drive up the quality of our products and the efficiency of our processes, reducing costs in the Group by a total of €325.5 million. Bonuses worth some €32.7 million were awarded to staff whose ideas were adopted in acknowledgement of their creativity and involvement in the life of the Company.



The ideas management process also helps to make working at Volkswagen both safer and healthier. The challenges of demographic change are given a high priority, with special consideration given to suggestions for ergonomic improvements. The suggestions adopted are generating continuous improvements in occupational health and safety, and in 2011, 5,432 suggestions for improvement related solely to safety at work, of which 2,400 were adopted.

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## Demographic change

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Volkswagen continued to push forward a wide range of measures for ergonomic improvement in 2011. Ergonomic improvements across the entire product development process ensure that workplace quality and the stress and strain on employees caused by production processes are taken into account at the planning and design stages. After hosting an initial conference of the German Institute of Ergonomics in Wolfsburg in September 2010, in 2011 the Company joined forces with the Technical University of Chemnitz to develop the framework for its integrated ergonomic strategy based on the triple elements of people, technology and organisation. The joint aim is to draw on research and scientific knowledge to combine state-of-the-art ergonomic workplaces with innovative working processes.

In cooperation with Volkswagen's manufacturing plants, integrated approaches to good ergonomic design of workplaces and

working processes are being developed. Examples of good practice are being adopted in other plants, and against the backdrop of demographic change, it has been agreed that each Volkswagen location will organise an Ergonomics Day once each year. Volkswagen Poznan in Poland has, in fact, so far held two such days, in April and October 2011, at which working groups discussed fields of action for designing ergonomic workplaces and working hours, as well as changes to health management, staff deployment planning, HR development, and team-building.

A number of Volkswagen AG plants took an important step towards reducing the impact on health of shift work by reorganising shift patterns. The reorganisation has drawn particularly on research findings relating to shift design and adapted these to the needs of the automotive industry. Medical experts favour forward-rotating shift patterns with frequent changes, because short-cycle patterns facilitate the body's transition from one set of working hours to another: the forward-rotating shift pattern mimics gradually lengthening days and so is more in line with human biorhythms than a pattern that mimics shortening days.

- At the Wolfsburg plant alone, more than 18,000 employees moved in early 2011 to shift patterns that imposed less stress on their health. Over the course of the year, other Volkswagen AG locations also made appropriate adjustments to their shift patterns.
- Shift patterns are agreed with the Works Council and their impact is then assessed using employee feedback. These findings form the basis for further improvements to shift organisation and processes for introducing new shift patterns.
- A two-shift pattern is now in operation particularly for employees with performance impairment. These employees now work an early and a late shift in alternate weeks and are no longer required to work night shifts.

Volkswagen AG is particularly committed to helping employees with reduced capacity or disabilities. People with disabilities made up 6.67 percent of the total workforce of Volkswagen AG in 2011, once again well above the statutory 5 percent quota. Volkswagen orders goods from workshops for people with disabilities, which also helps to improve employment prospects for the disabled outside the Company. During the reporting year, these orders totalled almost €23 million.

Over recent decades, Volkswagen mobility aids have also helped to give people with disabilities greater independence and autonomy. The Company directly supplies a comprehensive range of driving aids for its vehicles and offers a 15 percent discount

on Volkswagen special vehicles. Special features available include rotating and swivel seats, manually operated accelerator and brake controls, an EDAG automatic wheelchair loading device, and the FRANZ hands-free driving system. These aids can be fitted to virtually all Volkswagen cars, from the Polo to the Touareg.

Work2Work is a key programme across all our plants and creates new job opportunities for employees with performance impairment. 2011 marked the tenth anniversary of the programme's introduction in the Wolfsburg plant, and Work2Work's success has been underpinned by constant improvements to the programme. Over the past ten years, some 1,600 employees have benefited from the scheme, and around 700 people are now employed in Wolfsburg in 89 different fields of activity that have been adapted to their specific capacity. One of Work2Work's aims is to reintegrate employees who have suffered illness or injury into Volkswa-

wagen's production and specialist departments, and it already has over 400 successes to its credit. The Company knows that many performance-impaired employees have talents and expertise that can be developed with targeted support. Once these skills are identified, it is often possible to move the employees concerned to a different, but high-quality, job within the Company. Work2Work is based on three principles – personal responsibility, independent initiative and solidarity – and the Company intends to continue it and to make further improvements.

The Group's social responsibility commitment also earned recognition in its international operations. In 2011, for example, Škoda was acclaimed for its exemplary policy of employing people with disabilities or with reduced capacity. The Company won two prestigious awards in the Czech Republic, the "Employer without Barriers" and "Most Responsible Company" prizes, for its wide-ranging measures to provide employment for those with disabilities and in particular for its six sheltered workshops that employ over 200 people with disabilities at the Škoda production plants in the Czech Republic. Working closely with OS KOVO, the local trade union, Škoda has created new employment prospects for employees whose health is impaired. 24

## Company pension plan

Volkswagen AG, all its brands and all its subsidiaries run Company pension schemes to ensure that former employees have a source of income in retirement. In Germany, these are direct pension commitments. In addition to these employer-funded pensions, employees can also build up their own pension provision through a salary conversion scheme. Since 2001, payments to Volkswagen AG's Company pension scheme have been invested in the capital markets by the scheme, which is administered in trust by the Volkswagen Pension Trust e.V. At the end of 2011, 21 other Group companies in Germany were also using these arrangements. At year-end 2011, the Company's pension fund had total assets of €2,589 million for employees' retirement and disability pensions and death benefits.

Since 1998, Volkswagen AG's Time Asset Bond has offered employees the chance to bring forward their retirement age by making contributions from their gross salary or their working time credits. Their contributions are invested in the capital markets by the Time Asset Fund, which is administered in trust by the Volkswagen Pension Trust e.V. The Time Assets accumulated can then be used to enable employees to take paid time off in the run-up to retirement. At the end of the reporting year, the Time Asset Fund had assets of €1,132 million.

## Staying fit, healthy and safe

Healthy, capable and competent employees are crucial to top performance and to enabling Volkswagen to boost its market position and competitiveness. Protecting and promoting good health is therefore not just a social responsibility and part of Volkswagen's corporate culture, but is also vital to the Company's ongoing economic health and viability.

Volkswagen has for many years taken an integrated approach to health management and this was extended and widened in 2011. The Volkswagen Checkup, a high-quality, comprehensive medical examination and advice session available to all employees, was introduced in 2010. Its aim is to help maintain and improve the health, fitness and performance of all employees. All Volkswagen AG plants now offer the Volkswagen Checkup on a regular basis, using state-of-the-art procedures. Employees appreciate the high diagnostic quality of the Volkswagen Checkup, with more than 28,000 Volkswagen employees having so far taken advantage of the scheme on a voluntary basis. A similar scheme, the Audi Checkup, has been running since 2006 and has been taken advantage of almost 43,700 times, including some 5,800 follow-up measures. In 2011 alone, over 8,000 employees took an Audi Checkup. Following the successful introduction of the Checkup in plants in Germany, the Company's priority in 2011 was to broaden the range of both internal and external preventive health measures linked to the scheme. Furthermore, the rollout of the Volkswagen Checkup started across many Group



# 28,187

employees had taken advantage of a Volkswagen Checkup by the end of 2011.

locations abroad. For example, during the reporting year, Volkswagen de México's Puebla plant opened a modern health centre, which will now be offering around 4,000 Volkswagen Checkups a year to employees free of charge. 2011 also saw Volkswagen continue its international commitment to combating infectious diseases, for example through measures to combat HIV/AIDS and tuberculosis. 24

Assistance and mentoring opportunities for employees with mental health or psychosomatic problems and help with rehabilitation were also expanded in 2011. Among other measures, employees with health problems have access to psychological support and specific consultation arrangements for psychosomatic diseases. A tailored rehabilitation programme has been developed to reintegrate employees after serious and/or long-term illness, offering early intervention and job-related support. Evaluation of the arrangements by medical experts has endorsed the contribution this scheme makes to reintegrating employees into the working process. Efforts also continue to improve ergonomics in all workplaces. Deploying ergotherapists to production lines has enabled employees to access advice and guidance in situ on how to do their jobs more ergonomically. Further improvements to the workplace management system have made it a tool that helps workplace profiles to be reconciled with the deployment options of individual employees, taking health and strain factors into account.

As part of management development, supervisors in the Company are being made aware of the need to take greater account in the way they do their job as managers of the links between leadership and employees' health. A basic seminar has been designed to help them to do this, and compulsory skills modules on occupational safety have also been developed and introduced for all trainee managers. On the basis of the Group's occupational safety management system (KAMS) which was introduced in 2010, all Group brands and companies also carried out a comprehensive analysis in 2011 of the way they organise occupational safety and the processes involved. Examples of good practice identified across the Group are being systematically integrated into improved occupational safety processes. 2011 also brought further success in reducing the number and severity of industrial injuries. Safety representatives at German loca-

tions have been trained under a standard occupational safety programme since 2009, and this is also helping to reduce the frequency of accidents and the resulting negative impact.

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## Advancing women and promoting diversity

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At Volkswagen, both career and family life are considered extremely important, which is why the Company is redoubling its efforts to create a family-friendly environment. For Volkswagen, family-friendly HR policies are one of the keys to becoming a top employer. This commitment has a long track record: in 1989, Volkswagen was the first major German company to formulate guidelines on advancing women, underpinned by tailored programmes. As early as 2007, Volkswagen AG had set specific targets for increasing the proportion of women in the Company. In spring 2011, the Volkswagen Group set differentiated targets within the framework of voluntary undertakings to achieve sustainable growth in the proportion of women working for the Company in Germany. These measures represent a systematic approach by Volkswagen to setting specific targets for all relevant levels in the Company's hierarchy and timescales for their achievement. This differentiated approach puts Volkswagen on course to promote equality of opportunity in a way that is realistic and makes business sense.

Quotas for graduate recruitment are a key tool. Volkswagen takes as its starting-point the proportion of female graduates in each discipline, so that, for example, around 10 percent of all mechanical engineers it recruits should be women. For electrical engineering, the proportion is also 10 percent, rising to 15 percent for information technology and to 50 percent in business areas. When all the disciplines relevant to Volkswagen's work are averaged out, differentiated quotas produce a recruitment target of at least 30 percent female graduates.

Volkswagen makes links with female students early in their academic careers to persuade them of the attractions of the engineering professions. From 2012, it will be working with universities to offer a six-month placement for female students with the Abitur (Germany's school-leaving examination), designed to encourage young women to take up courses in such areas as mechanical engineering, electrical engineering, vehicle technology, and mechatronics. Since 2004, the Company has been running the "Woman DrivING Award", aimed at the best female engineers from these disciplines. The competition is held across Germany every two years and is designed to encourage young female graduates into employment in technical areas where they can contribute to designing and producing the cars

of tomorrow. Entries for the fourth award open to female entrants in spring 2012.

Having a higher proportion of skilled women joining the Company is helping to secure a steady increase in the proportion of women managers at various levels of management over the next few years. The aim is that by 2020, 11 percent of all top managers in the Volkswagen Group in Germany will be women. For senior management, the target is 12 percent; for management, it is 15 percent. Since 1998, Volkswagen has offered a mentoring programme aimed at increasing the proportion of women in management positions. Having been through 19 cycles with a total of well over 300 participants, this is a recognised development programme in the Group. 45 women took part in the Volkswagen AG Mentoring-Programme in 2011.

Volkswagen is also aiming to increase the proportion of female skilled workers and Meister to at least 10 percent by 2020. To help it achieve this goal, the Company has for more than five years supported talented female skilled workers with a tailored mentoring programme designed to help them to progress to Meister grade. In 2011, 25 women were supported by the Volkswagen AG Meisterinnen-Mentoring-Programme.

Women accounted for 26.4 percent of all apprentices in 2011, including 20.4 percent of apprentices in industrial or technical areas. This means that the Volkswagen Group in Germany has one of the highest proportions of female apprentices of any automotive company in the country. The Company wants to increase the proportion to nearer 30 percent, however, and is actively seeking to recruit talented women. The tools it is using include special information days on industrial or technical vocational training at Volkswagen and hands-on experience days for young women. For the past eleven years, the Company has

taken part in a national initiative, “Girls’ Day”, and during the reporting year, it offered more than 2,000 female school students practical insight into the careers offered by the automotive industry.

HR development programmes for women, measures to help them combine work and family, and flexible working time models support Volkswagen’s system of differentiated quotas. Meetings for employees on parental leave, initiatives to ease the transition back to work after parental leave, information on childcare providers on the intranet, and telecommuting options make it easier to balance job and family at Volkswagen.

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## Social responsibility

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Volkswagen is particularly active in exercising its social responsibility by promoting regional growth initiatives in the areas where it operates. Wolfsburg AG, a public-private partnership between the Company and the town of Wolfsburg set up in 1999, takes a leading role here. Since 2009, it has been partnering with another organisation to form the “Allianz für die Region” or Regional Alliance; its partner, the “Region Braunschweig GmbH” project, takes in the towns of Wolfsburg, Braunschweig and Salzgitter and the surrounding rural areas as well as regional businesses. The aim of the Alliance is to focus skills and resources for regional development more effectively, and the main goal of the collaboration is to develop structures centred on creating and safeguarding jobs and improving the quality of life. In addition to a broad range of measures to promote business, the initiative also contributes towards educational, health, leisure and energy goals. By improving local facilities for residents and businesses, the Alliance is boosting a sense of well-being and identity and making the area more attractive as a business location and to skilled workers. Networking with educational and research bodies and supraregional partners, along with implementation of inspirational pilot projects, are also pointing the way to new approaches to sustainable regional development. The work of the Alliance has been continued and expanded in 2011, with a wide range of new initiatives.

Volkswagen is also actively involved in education in the region. The “Neue Schule Wolfsburg” project, an initiative designed to set up a new school in Wolfsburg in partnership with the town and local businesses, opened its doors in August 2009. The primary and secondary school, which is open to all children from the town of Wolfsburg and the surrounding region, designs its curriculum around five key themes: a strong international focus, science and technology, business, the arts, and the pro-



# 26.4

percent of apprentices in the Volkswagen Group in Germany are female.

motion of talent. The school's mission was developed by an international panel of experts and is delivered by 42 committed teachers who work closely with business and educational experts and a wide range of extramural institutions. In the current (2011/2012) school year, the school has 382 students in years 1 to 3 and 5 to 7 (those aged between 6 and 8 and between 10 and 12).

But Volkswagen wants to support the older members of society as well as the youngest. Several thousand Volkswagen employees retire each year, and the Company's HR policy is to support them as they make the transition from employment to retirement. About two years before they are due to retire, older employees take part in events facilitated by HR staff to help them move smoothly into this new phase in their lives. They are told about volunteering opportunities, for example working in schools to help children with reading or as learning support assistants. A Group-wide "Senior Expert" scheme was established to provide this service across all locations. Former employees are offered the opportunity to pass on their skills and experience to others, whether at regional, national or international level, for example by teaching technology and maths in schools or by helping to train specialists and management staff. Since the project began in September 2010, some 180 retirees have signed up with the Senior Expert scheme.



Active employees are also often keen to do voluntary work, and Volkswagen supports its employees as they take up or carry out voluntary roles. The "Volkswagen Pro Ehrenamt" (Volkswagen Supports Volunteering) initiative is a highly successful clearing house, linking community initiatives looking for volunteers with Volkswagen staff wanting to help in a social capacity. "Volkswagen Pro Ehrenamt" works not only within Volkswagen AG locations but also in the surrounding regions in partnership with some 680 organisations and bodies. The core aim is to boost the profile of volunteering in the public perception, and support for volunteering has become firmly embedded in the Group's sustainability strategy over the past few years.

In 2011 alone, line managers had more than 500 debriefings with volunteers that highlighted the value of social responsibility and skills development outside narrow technical areas. Since the project was set up in late 2008, it has registered over 2,800 volunteer openings and placed some 1,200 volunteers. The idea behind "Volkswagen Pro Ehrenamt" has already been adopted by Group subsidiary AutoVision GmbH, and the plan is to roll it out at other Group companies.

As well as giving their time and talents, Volkswagen employees also show sustainable commitment to charitable giving. For several decades, the Company has operated an employee donation scheme to benefit those in need in the areas in which it operates, and employees have supported it generously. In Wolfsburg alone, employees donated over €400,000 in 2011 to support social welfare organisations. The Company also demonstrates its social responsibility through its recently-created foundation, the "Volkswagen Belegschaftsstiftung" (Volkswagen Employees' Foundation). This body, set up by Volkswagen AG in 2011, is intended to support social projects benefiting socially disadvantaged children and young people across all Group locations, with a particular emphasis on vocational training. The Board of Management and the Board of Trustees took up their posts during the reporting year. They have decided, in conjunction with the Volkswagen Belegschaftsstiftung's cooperation partner, the children's and adolescents' charity "Terre des Hommes", to develop a vocational training centre for socially disadvantaged young people in India. The centre is due to begin operating in 2012.

### Fairtrade

At the suggestion of the General Works Council, Volkswagen has been selling Fairtrade products in its catering facilities via its catering provider, Service Factory Gastronomie und Hotellerie, since 1999. Fairly traded products help producers in developing countries to earn an independent and dignified livelihood, and support for Fairtrade has been growing across the Group: an ever-wider range of products is available, and new sales stands and product information help raise awareness and boost sales. In 2011, for example, sales of Fairtrade coffee were 13 percent up on the previous year, and in all, the Company bought 51 tons of coffee, beating the record of 49 tons set in 2006.

The following links provide further examples of Volkswagen's commitment to social development and sustainability. 24

# CSR projects worldwide.

Giving back to society is one good tradition of successful business. This is best done in the community where the company is active. Thus the global activities of the Volkswagen Group go hand-in-hand with local projects around our production facilities. The philosophy of helping others to help themselves has led to successful and sustainable partnerships between the Company and local actors.

Around the globe, the Volkswagen Group supports numerous CSR projects related to the arts, sciences, education, health promotion, sports and nature conservation as well as local infrastructure development. While the management of projects in the various brands and regions is decentralised, they are all guided by shared values and basic principles. The following list of the Volkswagen Group's CSR projects provides examples and is by no means exhaustive. [↗](#) 25

<b>Grupo de Voluntarios</b> (Argentina)	With the logistical support of the Company, Volkswagen employees in this "group of volunteers" provide aid to impoverished citizens of the Pacheco region and beyond – ranging from clothing donations to making furniture.
<b>Ferdinand Porsche Institute</b> (Argentina)	Volkswagen provides funding to the Ferdinand Porsche Institute, which was established by the National University of Technology in Pacheco. Unique in Argentina, it offers a degree programme for engineering and technology that focuses specifically on the automobile industry.
<b>Fuel-saver courses</b> (Australia)	To help ease pressure on the wallet and the environment, Volkswagen Australia and Audi Australia offer free fuel-saver courses for drivers. The average drop in fuel consumption achieved by the participants is 19 percent.
<b>Sustainable Life Programme</b> (Brazil)	In specially constructed eco-houses, qualified environmental trainers teach Volkswagen employees to reduce their environmental impact, while at the same time training them to serve as multipliers for sustainable practices.
<b>Volkswagen Fundação</b> (Brazil)	In the last ten years the Volkswagen Foundation for Education and Development has benefited over one million school and university students. Volkswagen do Brasil invested some R\$50 million during this period.
<b>Hydroelectric power plants</b> (Brazil)	With the construction of the Anhanguera hydroelectric power plant, Volkswagen do Brasil is forging ahead with alternative means of renewable energy generation. During the construction of the plant more than 500 direct jobs and 5,000 indirect jobs were created. A second power plant, Monjolinho, is scheduled to come on stream in 2013.
<b>Sewing the Future</b> (Brazil)	These sewing classes for disadvantaged women not only recycle used work clothing from the Volkswagen workforce, but also teach valuable sewing skills. In addition, organisational and business basics are taught in theory and practice, with the goal of empowering the women to set up and manage their own businesses.
<b>Nature and species conservation projects</b> (Brazil)	Volkswagen displays equal commitment to species conservation at all its locations. Near the São Carlos plant, for example, through reforestation efforts Volkswagen is supporting the reintroduction of indigenous vegetation in a conservation zone.
<b>Dental Trailer</b> (Brazil)	With the goal of preventing periodontal disease, since 2008 MAN Latin America and Interodonto have been cooperating to offer truck drivers free dental check-ups as well as training in dental and oral hygiene.
<b>Water pump project</b> (Brazil)	Initiated by Volkswagen do Brasil in 2005, the water pump project has since installed 698 pumps, giving over 105,000 people in arid regions continuous access to water.
<b>Volkswagen Road Safety TV</b> (China)	Volkswagen Group China is already producing the fourth series of a road safety television programme that aims to counteract the high number of traffic fatalities in China. Initiated in 2007, it is broadcast by 30 television stations across the country as well as on the internet.

<b>Green Future Environmental Education Initiative</b> (China)	The three-year environmental education programme sponsored by Volkswagen Group China in cooperation with the Center for Environmental Education and Communications (CEEC) has entered its second round. From 2007 to 2009, young people from 40,000 schools were given the opportunity to participate in programmes such as the Green Junior Journalist Competition.
<b>Accident research</b> (China)	In 2007 Volkswagen Group China joined forces with Tongji University to conduct accident research. Activities have focused on road safety and driver behaviour. The results are fed into the ongoing development of active safety systems such as ABS and ESP.
<b>Renaturation of moorlands</b> (Germany)	Only in recent years has the negative climate impact of the cultivation of moorlands been recognised. Nature conservation organisation NABU and Volkswagen Leasing GmbH have joined forces in the renaturation of moorlands such as those in Neudorf-Platendorf in northern Germany.
<b>Work2Work integration project</b> (Germany)	Employees who are not able to return to their original job following illness or injury are reintegrated into work processes at Volkswagen. The Work2Work programme identifies suitable new positions for them.
<b>Centers of Competence e.V.</b> (Germany)	This business network in north-western Germany and the neighbouring region of northern Netherlands was co-founded by Volkswagen in 2004. Currently numbering 48 member companies, the network organises the active transfer of knowledge between the companies, which also benefits regional development.
<b>Volkswagen Pro Ehrenamt</b> (Germany)	To encourage volunteering by Volkswagen employees, in May 2007 Volkswagen set up the “Volkswagen pro Ehrenamt” office in Wolfsburg. It liaises between community organisations and employees who are interested in volunteering.
<b>Senior expert assignments</b> (Germany)	Volkswagen helps retiring employees prepare for this new phase of their lives and offers them the opportunity to work as volunteers to share their expertise with others within the Company, in the region or worldwide. For example pensioners can teach in schools’ vocational or professional training programmes.
<b>Eco-friendly use of resources</b> (Germany)	Audi has made 11,600 square metres of roof area on several buildings at its Ingolstadt plant available to the Munich-based Green City Energy company for the installation of photovoltaic modules.
<b>Helping children in Braunschweig</b> (Germany)	Based in Braunschweig, Volkswagen Financial Services AG founded the “Our Children in Braunschweig” foundation in 2008 to offer assistance to disadvantaged children. Since then it has provided the foundation with €1 million in funding.
<b>Neighbourhood dialogue</b> (Germany)	This stakeholder forum was initiated in 1998 by Volkswagen Commercial Vehicles in Hanover, Germany. It encourages transparency and builds mutual understanding and trust between the Company and its neighbours.
<b>Nature and Species conservation project</b> (Germany)	In Germany too, Volkswagen is committed to helping conserve indigenous species. The NABU-Volkswagen project “Welcome Wolf”, for instance, provides factual information to enlighten the general public in the interests of reintroducing wolves to the wild in Germany.
<b>Audi 24-hour race</b> (Germany)	In May 2011, Audi again organised a charity run over a new course through vehicle assembly at the Ingolstadt plant. Over 2,000 enthusiastic runners covered a total of 35,000 kilometres and raised a sum of €73,715 for the charity Sternstunden e.V.
<b>Green Travel Plan</b> (United Kingdom)	To make employees’ commute to and from work more fuel-efficient and cut travel times on the busy roads of Crewe, in 2004 Bentley launched software that facilitates carpooling. Also popular among employees is the bike-to-work scheme.
<b>Volkswagen India Academy</b> (India)	Following the successful German dual education model, since autumn 2010 the training academy in Pune has offered employees vocational qualifications and continuing professional development in vehicle and production technology. This represents one of Volkswagen India’s contributions to sustainable regional development.
<b>Bilateral training</b> (Israel)	The third intake of young Israelis and Palestinians from Hadassah Neurim Youth Village can already celebrate successful completion of their bilateral training as car mechanics, gaining them roughly the equivalent of a master mechanic’s certificate under the German system. Volkswagen supported part of their training at the vocational school of the Automobile Guild of the State of Hesse in Germany.

<b>Solar power plant</b> (Italy)	Since 2010 Lamborghini has operated one of the largest photovoltaic systems in the Emilia-Romagna region, covering some 17,000 square metres. It cuts CO <sub>2</sub> emissions by 30 percent, which represents annual savings of 1,067 tons.
<b>Biodiversity</b> (Japan)	Volkswagen has been showing its support for biodiversity since 2007 – for example at events such as the 10th Conference of Parties to the UN Convention on Biodiversity held in Nagoya, Japan in 2010. Volkswagen Group Japan also supports animal protection organisations such as Polar Bear International (PBI).
<b>Izta Popo Project</b> (Mexico)	Not only Volkswagen de México is making a contribution to protecting groundwater in Iztaccíhuatl-Popocatepetl National Park. Thirty-nine suppliers have joined forces to reforest an additional 200 hectares of land, with a total of 420,000 trees planted and US\$500,000 invested since 2008.
<b>A Day for the Future</b> (Mexico)	Since 2002 Volkswagen de México employees have been helping impoverished children in the vicinity of the Puebla facility through this programme in which they donate one day's salary. The Company matches each employee's contribution.
<b>Wind-diesel power plant</b> (Netherlands Antilles)	With 12 wind turbines, the world's largest wind-diesel power plant provides the 15,000 residents and tourists on the Caribbean island of Bonaire with green electricity. When there are storms or no wind, electricity is produced by MAN diesel generators.
<b>Education initiatives</b> (eastern Africa)	In Addis Ababa, the capital of Ethiopia, SOS Vocational Training College Kality provides vocational programmes that train young people as car mechanics, craftsmen and woodworkers. MAN Truck & Bus has supported the school since 2008.
<b>Children and Career</b> (Poland)	Volkswagen Poznan helps employees to balance families and careers. Its "Future Mother" scheme, for example, offers pregnant women special workstations and break rooms, as well as flexible working hours.
<b>Mini Handball Cup</b> (Poland)	In the 2011/2012 school year the Volkswagen Poznan Mini Handball Cup is being held for the third time. Boys and girls from the third grades of 11 elementary schools in the Poznan and Swarzędz region take part in the event, which not only helps to develop their motor skills, but also encourages fair play and teamwork.
<b>ATEC training centre</b> (Portugal)	In 2011 the Volkswagen Group teamed with other companies such as Siemens and Bosch to found the Advanced Technical Education Centre (ATEC). The goal is to assist the development of the low-infrastructure region by introducing a dual system of vocational training in local firms and theoretical instruction at ATEC.
<b>Dual vocational education</b> (Russia)	In September 2010 Volkswagen launched a German-style dual vocational education programme to train young people as mechatronics specialists. The programme will also benefit the region and the city of Kaluga.
<b>Sports sponsorship</b> (Russia)	Volkswagen Group Rus is the official automotive partner of the 2014 Olympic and Paralympic Winter Games in Sochi, Russia. Approximately 3,500 vehicles of different brands will be made available to the organising committee in advance of and during the Winter Games.
<b>Fun Theory</b> (Sweden)	As part of "Think Blue.", in 2009 Volkswagen Sweden initiated an internet campaign to address environmental education in a playful manner. Reaching 17 million internet users, the "Fun Theory" videos featured fun ideas such as a bottle bank that looked like a slot machine.
<b>Scania Driver Competition</b> (Sweden)	Scania organises the largest driver competition in the world with the support of the European Commission and the International Road Transport Union (IRU). It focuses on reducing fuel consumption, increasing road-safety awareness and lowering the environmental impact of vehicle operation.
<b>Inventory in Paradise</b> (Slovakia)	In the context of this EU project, scientists from 27 European institutions are working to catalogue the biological diversity of Slovakia's three national parks. The researchers and their technical equipment are being transported in Volkswagen Touareg SUVs.
<b>"Life" electromobility initiative</b> (Spain)	SEAT is a founding member and corporate driver of the pilot project "Logistic Implementation of the Electric Automobile". In the course of this public-private partnership, SEAT has supplied the project with twinDRIVE vehicles for example.

<b>SEAT in the Sun</b> (Spain)	SEAT is on track to install one of the largest photovoltaic plants in the world at its plant in Martorell. Covering 318,000 square metres, on completion the system will allow an annual reduction in CO <sub>2</sub> emissions of 6,200 tons.
<b>A Chance to Play</b> (South Africa)	Founded in 2008 and given additional impetus by the football fever generated by the 2010 FIFA World Cup, this project reaches more than 30,000 children in the area of the Volkswagen plant as well as in the Gauteng and Limpopo province in the north. Activities include the construction and repair of playing fields. The project is being continued with a view to the 2014 World Cup.
<b>Volkswagen Community Trust</b> (South Africa)	Year for year, Volkswagen of South Africa donates more than 3 million rand (€273,000) to this foundation. The funds are used to initiate and manage projects and programmes that promote health, education, jobs and sport and benefit young people.
<b>Show of Hands</b> (South Africa)	The workforce of the Volkswagen factory in Uitenhage shows how much lots of helping hands can accomplish. For example, the volunteer initiative completed improvements to the grounds of an elementary school in just four hours.
<b>AIDS Care</b> (South Africa/Brazil)	Since 2001 Volkswagen has been helping to fight HIV/AIDS in both South Africa and Brazil. In cooperation with the German development agency GIZ, much has been done in the Group's factories for the education, treatment and non-discriminatory reintegration of affected employees. Volkswagen also works closely with the authorities, NGOs and charities to help AIDS orphans in the region.
<b>One Tree per Car</b> (Czech Republic)	For every vehicle sold in the Czech Republic, Škoda employees plant a tree. As a result, more than 305,000 trees have been planted in the last six years. Thanks to Škoda's performance in 2011, a further 58,202 saplings will be added to the total in 2012.
<b>Na Karmeli</b> (Czech Republic)	To cope with the steadily growing number of students at Škoda Auto University in Mladá Boleslav, the largest corporate training centre in the Czech Republic was founded in 2007. It is also available for personnel development and management trainee programmes.
<b>Road safety awareness</b> (Turkey)	Since 2005 the Turkish Volkswagen importer Dogus Otomotiv has taken an unusual approach to road safety – for example organising rap festivals and concerts to educate people about seatbelt use and the dangers of speeding.
<b>Audi Kreativitiy</b> (Hungary)	Once a year, Audi Hungaria invites 400 schools in the Győr region to participate in a student competition. The young researchers are presented with the challenge of building a car that moves without using an internal combustion engine or electric motor.
<b>Oak forests store CO<sub>2</sub></b> (Hungary/Germany)	A joint research project by Audi, TU Munich and the state of Bavaria explores the CO <sub>2</sub> -binding potential of oak trees. Since 2009, 36,000 oaks have been planted in the vicinity of Ingolstadt. The project is being expanded to other Audi sites; 13,000 oaks have already been planted in Győr, Hungary.
<b>Partners in Education</b> (USA)	In cooperation with regional universities and (technical) colleges, since 2008 Volkswagen Group of America has invested in the next generation of engineers – providing scholarships, organising workshops and conducting joint research projects.
<b>MoMA Partnership</b> (USA)	Volkswagen launched a multi-year partnership with the Museum of Modern Art in New York in May 2011. Since then, an international modern art exhibition has been developed and the online education programme expanded and made available worldwide. In addition, Volkswagen supports MoMA's work by sponsoring artwork and exhibitions.
<b>VSA Arts</b> (USA)	Every year Volkswagen Group of America honours the artistic achievement of young artists with disabilities with the VSA Arts award. This complements the Company's diversity management activities. VWGoA has been working with Americans with disabilities for eleven years now.
<b>All for One</b> (Venezuela)	Employees of Volkswagen importer VAS Venezuela have often donated their time and effort to a worthy cause, for instance picking up litter in Morrocoy National Park on its environmental day.
<b>Junior Masters</b> (Zimbabwe)	At a football tournament specially initiated by Volkswagen in the capital city of Harare, boys in the age group of 10-12 years were selected for a team to enter the Junior World Masters championships. Here they will compete against teams from 22 other countries. The boys each receive a three-year scholarship to a football academy.

# Sustainable mobility.

Packed roads, climate change, urbanisation – these are some of the main background conditions against which the sustainable mobility of the future has to be developed. Based on a firm grasp of the mobility system as a whole, the car will have to be entirely rethought.

After more than 125 years, the automotive industry is in the midst of major changes: across the world, more and more people are moving into high-density urban environments, where land devoted to roads and parking must be used as efficiently as possible. And as the urban population grows, vehicle utilisation patterns are increasingly shifting from ownership to usage. City dwellers are showing a growing interest in inter- or multimodal solutions, i.e. solutions that allow users to choose the most appropriate mode of transport for their requirements. Modern information and communication technologies can help make this decision easier.

That said, for a large number of people around the world the desire to own a car, often for the first time, remains as strong as ever. At the same time, virtually everywhere, high environmental standards are expected. At the heart of the changes currently taking place is the emergence of electric drive. Far from being a solely technological phenomenon, electric drive has diverse implications – for the way we generate energy, for the transport infrastructure and for transport utilisation patterns. There has always been a fundamental conflict between the sheer popularity of the automobile and the excessive strain this places on the environment and infrastructures. On the one hand it is true that mobility – the movement of both goods and passengers – is indispensable for a functioning and prosperous society. And it is also true that the resulting strong, and globally expanding, demand for vehicles (cars, trucks, buses) is the basis on which the Volkswagen Group operates and does business. On the other hand, however, the steady growth in the vehicle population and traffic density also results in undesirable side-effects for people, the environment and the climate. In many places, particularly in cities, the downsides include rush-hour congestion, accidents and adverse impacts on local communities.

A car manufacturer aiming to promote sustainable mobility must not view mobility simply from a technology-centric, or car-centric perspective. Cars are components within complex systems, in particular mobility and energy systems. We aim for solutions in which our vehicles and services are optimally integrated into these systems, or contribute to improving these systems. The aim of the mobility research carried out by Volkswagen is to obtain a holistic understanding of automotive mobility

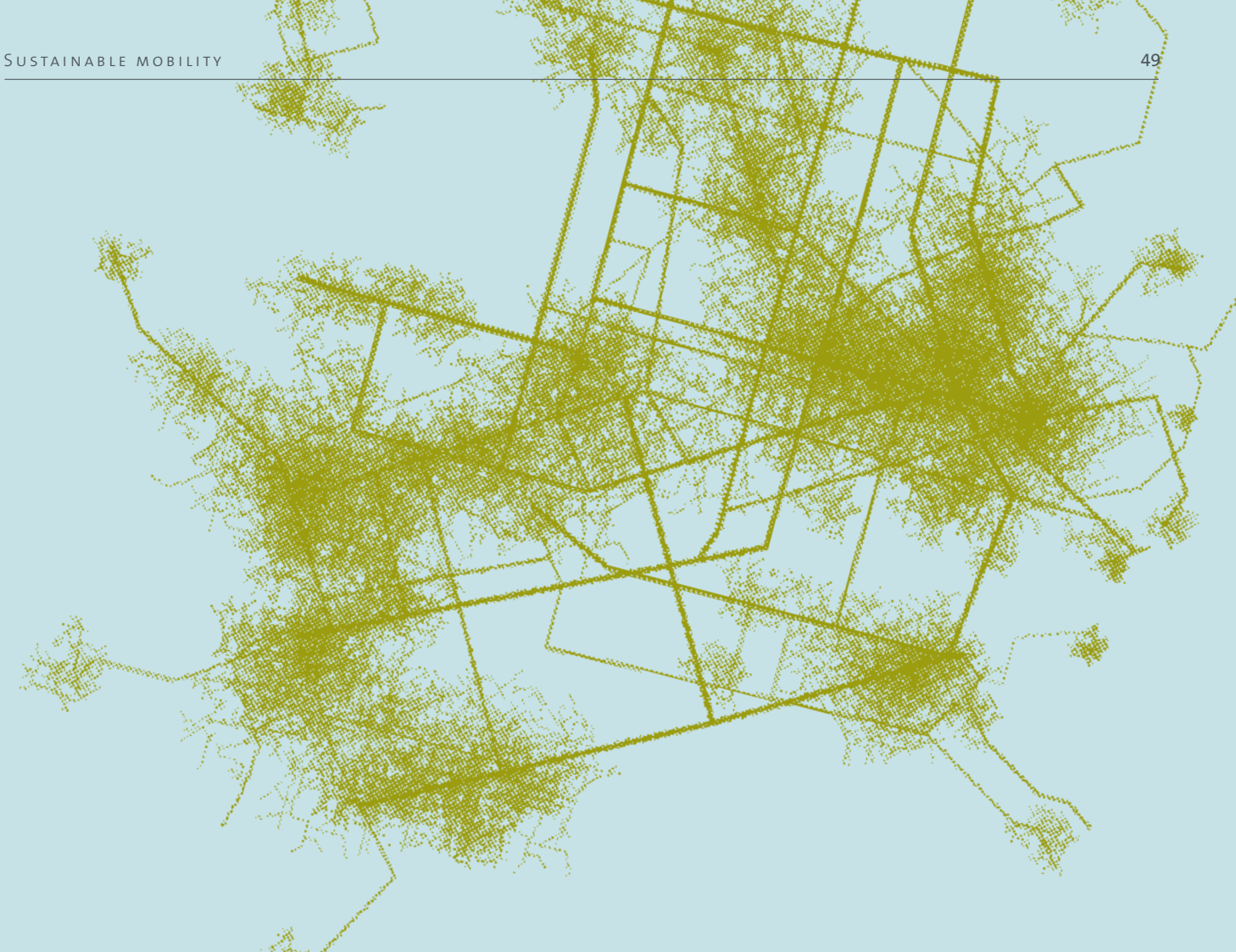
within the wider context of alternative modes of transport, human settlement patterns, transport infrastructures, public policy, urban development and other factors. Mobility services like car-sharing or vehicle networking (V2X) technologies, for example, are heavily influenced by trends within the overall mobility system.

Within the energy system too, the changes currently taking place have a variety of implications for our Company. Renewable energies open up huge opportunities, while at the same time also presenting multiple challenges, such as the need to construct new power lines, the problem of intermittent output, and issues such as development of smart grid solutions and sustainable biofuels. In the “Audi balanced mobility” initiative, Audi is exploring ways of achieving carbon-neutral long-distance mobility. The aim is to use wind power to generate electricity which will either power electric vehicles directly or will be converted in an “e-gas” plant into hydrogen or synthetic natural gas. These gases could be used in future to power fuel-cell vehicles or Audi TCNG natural gas models. The Golf twinDRIVE research project too has a strong focus on integrating the vehicle into the wider energy landscape. Meanwhile, in Berlin, the Volkswagen Group will be taking part in the project Effizienzhaus Plus, which is aiming to demonstrate the feasibility of sustainable living and carbon-neutral driving. An Audi A1 e-tron and two Volkswagen Golf Blue-e-Motion models will be participating. [🔗 26](#), [🔗 27](#)

In 2011 the Volkswagen Group intensified its dialogue with critically-minded specialist institutions and experts. In workshops, personal discussions and conferences, we got together with scientific, political and urban and regional planning stakeholders to discuss challenges, solutions and practice recommendations.

The Audi Urban Future Initiative is an open forum to develop new perspectives for the sustainable city of the future, based on the synergy between mobility, architecture and urban planning. The conclusions and insights generated by the project “pillars” – Award, Summit, Insight Team and Research – are fed back into in-house projects. Together with experts from “EMBARQ: The World Resources Institute Center for Sustainable Transport”, Volkswagen Group Research conducted a “Sustainable Urban





Mobility” workshop whose topics included the optimal balance between public and private urban transport. Our MicroCity research project too is focused on the interface between the car, the city and the user. Here we are exploring the potential for multifunctional mobility centres, located in city centres and close to residential areas. The research is based on our own analyses and also on intensive discussions with local authority urban mobility planners from Berlin, Hamburg, Istanbul, Copenhagen, London, the Ruhr District and Zurich. We also hold continuous discussions with partners in the World Business Council for Sustainable Development (WBCSD), of which we are a member, on the subject of future sustainable mobility. In all these dialogues we get the impression of a high willingness on the part of urban stakeholders to discuss and test innovative solutions, in collaboration with Volkswagen. 29, 30

### **Mobility services**

The Volkswagen Group is taking a systematic and strategic approach to the development of mobility. Our strength lies in our ability to offer the combined expertise of vehicle experts from the brands and services experts from Volkswagen Financial Services AG. Our mobility products range from small cars to buses and heavy-duty trucks, which can be purchased, leased or rented as required. The range of vehicles and services will become even more diverse in future. Increasingly, special-purpose models will be offered alongside the multi-purpose vehicles of today. If every journey were carried out with the vehicle most suited to the purpose of that journey, transport efficiency would be significantly enhanced. Conceivably, in the long term,

customer demand for more flexible vehicle utilisation could lead to a situation where from case to case vehicles would be individually selectable at very short notice and usable for a very short period for a very specific purpose. During the year under review, in cooperation with Volkswagen Financial Services, the Volkswagen brand took its first step in this direction with the launch of the car-sharing service Quicar. The scheme was launched in Hanover in November, with a fleet of Golf BlueMotion models, which are available for pick-up and hire at various city centre locations. To use the scheme, customers must first complete a simple one-off registration process either online or via a smartphone. In addition to the short-term rental fleet, further “Quicar Plus” models are also available for longer periods, upwards of one day. Quicar is a service which makes personal mobility possible, using highly eco-friendly models, for all those customers who don’t need to own a car. 31

For companies with large fleets or large workforces, Volkswagen Financial Services also offers vehicles for long-term rental, for periods ranging from one to 12 months. Commercial fleets, for whom eco-efficient operation is becoming more and more important, are a further important stakeholder in new mobility concepts. The year under review saw Volkswagen Leasing GmbH and the German Nature and Biodiversity Conservation Union (NABU) successfully continue their cooperation on environmental and climate protection. The 77 participants in the second “DIE GRÜNE FLOTTE” (THE GREEN FLEET) environmental award saved 1,650 tons of CO<sub>2</sub> and just under 630,000 litres of fuel, with approximately 9,200 vehicles.

### Mobility research

Mobility research and stakeholder dialogues also reveal, however, the economic and institutional challenges involved in designing integrated, one-stop mobility concepts. The increasing customer demand for integrated all-in-one urban mobility incorporating various different modes of transport creates a need for action by many different stakeholders and a “system integrator”. For example the necessary road and rail infrastructures must be put in place. Another requirement is to ensure that public transport services are attractively located and that they run at convenient times. Four- and two-wheel vehicles must be made available at attractive urban locations and at attractive prices. Volkswagen is committed to playing an active role in this process. For example it is taking part in Lower Saxony’s bid to be involved in the national showcase programme “Schaufenster Elektromobilität”, amongst other things with a project on intermodal transport including a “mobility map”. ⑦ 32

Our main business is vehicle manufacturing. Our responsibility for sustainable future mobility is therefore centred mainly on our products. In 2011, Volkswagen significantly expanded its extensive range of eco-efficient models. New models included the Volkswagen up! Just 3.54 metres long and with low CO<sub>2</sub> emissions, this four-seater is an ideal solution for affordable, sustainable urban mobility. Another example is the SEAT Mii. Its emissions are just 97 g/km CO<sub>2</sub> for the Ecomotive version and just 86 g/km CO<sub>2</sub> for the future CNG/natural gas version, making the SEAT Mii one of the most efficient vehicles in the world. Škoda too presented a highly eco-friendly solution during the year under review: the Citigo.

One aim of the Volkswagen Powertrain and Fuel Strategy is to exploit the full potential of conventional internal combustion

engines. Parallel to that, this strategy is also focused on expanding our range of plug-in and full-hybrid vehicles. Volkswagen sees these models as a stepping stone on the way to an “electric age” of battery and fuel cell-powered vehicles.

Volkswagen is aiming to play a leading role in electric mobility by 2018. So the roadmap is clear. And a number of milestones on this map have already been achieved. In 2011, electrically powered cars from various parts of the Volkswagen Group took part in field trials. Since electric mobility involves big challenges for vehicle development and production, we shall be setting up competence centres to bring together our expertise in the fields of electrical systems, electronic systems and electric drive, at various special locations. We are also heavily involved in efforts to develop sustainable solutions for energy storage and for the integration of vehicles into the power grid. And obviously, green electricity needs to be available too, since electric vehicles are only genuinely carbon-neutral if they are operated on renewable power.

Looking further ahead, completely new mobility solutions may well emerge. Concept vehicles developed by Volkswagen Group Research are already pointing the way. The electric eT! van, for example, (see page 10) is a postal delivery vehicle designed to meet the needs of businesses operating in city centre areas. The Volkswagen brand’s “NILS” concept is a mobility solution for commuters. This electric vehicle is a lightweight (460 kg) electrically powered single-seater car. Both vehicles illustrate the potential for developing mobility solutions for very specific applications. ⑦ 33



The NILS concept car from the Volkswagen brand shows what the commuter vehicle of the future could look like. And in Hanover the Quicar project demonstrates how simple and convenient car-sharing can be.

### Vehicle safety

Sustainable mobility also means safe mobility. Volkswagen is working to improve vehicle safety with the aid of new technologies, materials and production processes, as well as through its work in the field of road safety education. The next step is to meet the EU goal of halving road accident fatalities by 2020. In the course of 2011, Volkswagen further improved and “democratised” its safety technologies – in other words, as well as improving mid-range and luxury-class vehicles, the Volkswagen Group is also making it a top priority to ensure that its future compact and sub-compact models benefit from state-of-the-art safety technologies too.

The Volkswagen up! is the first car in its class to feature an optional City Emergency Braking system, which is active at speeds of up to 30 km/h and ideally will apply the brakes automatically if the driver fails to notice a risk of collision. The new Škoda Citigo meanwhile is the first Škoda to offer head-thorax side airbags for driver and front passenger. In a further example, the SEAT Alhambra is equipped with seven airbags, including a driver-side knee airbag. As well as stability systems and electronic Brake Assist, this vehicle is also equipped with a tyre pressure monitoring system and Mobility Tyres, designed to maintain mobility after a puncture.

Volkswagen safety systems help to reduce reaction times and help drivers spot hazards sooner. If an accident proves unavoidable, the active safety systems respond pre-emptively, in order to reduce the risk of damage and injury for the vehicle’s occupants and for other road users. The active safety systems are backed up by an optimally designed passive safety system comprising a highly deformation-resistant passenger cell, defined front and rear crumple zones and safety-optimised interior design. This high level of all-round protection, and the systematic integration of state-of-the-art safety technologies into all vehicle classes, is reflected in the large number of awards and prizes Volkswagen picked up in 2011. 34

In the course of the year, Volkswagen also achieved new milestones in its development work on safety technologies of the future. In the framework of the European research project INTERACTIVE (Accident avoidance by active intervention for Intelligent Vehicles), Volkswagen presented an accident mitigation system which also incorporates the possibility of steering intervention. The intervention takes place at a point in time when the driver can no longer avoid an accident, but when it is still possible to reduce the extent of damage and injury. A further flagship project in which Volkswagen is taking part is simTD. The aim of this joint project is to develop solutions for V2X – vehicle-to-vehicle and vehicle-to-infrastructure – communication which would allow important safety-relevant infor-

### Rush hour – sustainably relaxed...

Here’s a good idea for sustainable mobility Swedish style: since the end of 2011, some 200 employees at truck maker Scania have regularly covered the 35 kilometres between Stockholm and the factory in Södertälje in comfort-class shuttle buses supplied by the company.

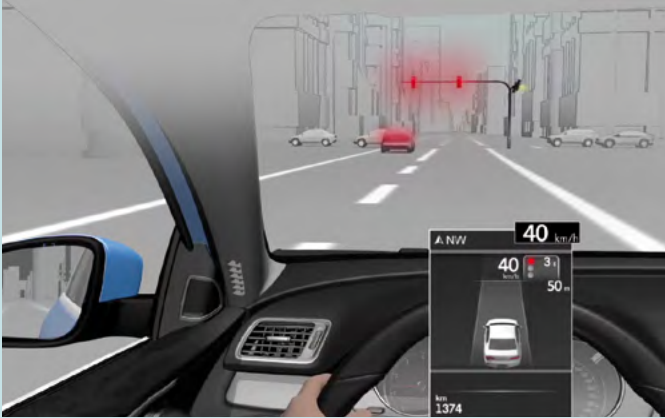


Instead of experiencing the frustration of gridlock or travelling by train, they spend the trip enjoying a freshly brewed cup of coffee, reading the paper or surfing the Web via a high-speed link. And thanks to all the car trips this saves, CO<sub>2</sub> emissions are reduced as well.

mation – for example about upcoming roadworks or congestion – to be transmitted direct to the driver’s vehicle via UMTS- or WLAN-based systems. In its work for this project, Volkswagen Group Research has developed various new functions. For example these functions can assess the current traffic situation in the area around the vehicle’s present position, visualise it using traffic webcams and combine this information with current weather data. Then there is the “intersection assistant” which can significantly improve safety when the driver is approaching a poor-visibility intersection. Because real-world mobility differs so much from country to country, Volkswagen has established its own accident research centre in China, with the aim of adapting Western knowledge in this field to the specific re-



Eye-catching looks for an urban lifestyle: the Audi urban concept.



The KOLINE project: communication between vehicle and traffic lights leads to fewer stops.

gional requirements. In the Czech Republic too, the Group has set up a Škoda accident research team and developed a Škoda regional research programme. The ultimate aim, of course, is to make accident investigation unnecessary altogether through accident prevention. And in view of the importance of road safety education, not just for children but also for adults, Volkswagen is taking action in this area too, where it is sponsoring a road safety programme – “The Seventh Sense” – for Chinese television. The programme is based on the format of the popular German TV series of the same name. 📄 35, 📄 36



“Road safety in China – courtesy of Volkswagen”

### Driver assistance systems

Driver assistance systems enhance driver comfort and convenience. In many vehicles of the Volkswagen Group, such systems proactively identify critical driving situations and take the necessary pre-emptive action, for example to prevent loss of grip. The Volkswagen brand’s active lane-keeping system Lane Assist, for example, helps to prevent accidents due to unintended lane departures. And if the lane departure is intentional, the Side Assist system can warn the driver of a vehicle hidden in the blind spot. The drowsiness monitor advises drivers when it’s time to take a break; in many vehicles ACC automatic distance control, which helps the driver maintain the correct distance from the vehicle in front, also features Front Assist with City

Emergency Braking function. Front Assist Ambient Traffic Monitoring detects hazards in front of the vehicle, primes the brake system for emergency braking, warns the driver and if necessary initiates automatic partial braking. In addition, innovative lighting systems like Dynamic Light Assist adapt the headlamp beam pattern to the traffic situation. In 2011, Volkswagen added to the range of driver assistance systems available for its current vehicle range, while continuing its vigorous research efforts. Future vehicles will not only be more aware of their surroundings, they will also be able to communicate with other vehicles. New assistance systems will also be able to help drivers when they are under-stimulated due to monotonous driving situations, or conversely when they are experiencing overload in complex and unclear situations. For assistance systems in general, design of the interface between user and technology is becoming an increasingly important factor in ensuring that the driver always maintains a full overview. We are therefore conducting extensive research into driver behaviour, to establish how assistance systems are experienced by the driver in practice, and how the ideal system should be designed. The general principle that applies to all driver assistance systems from the Volkswagen Group is that they must provide drivers with useful assistance, but never attempt to take responsibility away from them or to take full control of the vehicle. This applies even in the case of semi-automated driving. On this topical issue Volkswagen presented the “Temporary Auto Pilot” system at the final event of the EU research project HAVEit (Highly Automated Vehicles for Intelligent Transport). Monitored by the driver, this system can pilot the vehicle semi-automatically on motorways, at speeds of up to 130 km/h. The system marks a further advance on the assistance systems of today and a further step towards the vision of fully automated driving. 📄 37, 📄 38

The combination of a growing vehicle population and a limited road infrastructure presents a challenge, particularly in towns and cities. Appropriate scaling of the road and transport infrastructure is therefore a central theme of the debate on sustainable transport. Regardless of where that may lead, we are seeking to ensure more efficient usage of the existing road infrastructure by equipping our vehicles with traffic assistance systems. Traffic assistance systems are driver assistance systems that promote efficient and congestion-free navigation and driving. To ensure that the growing number of cars does not automatically mean more congestion, appropriate traffic infor-

mation is required, allowing optimal vehicle routing and traffic-synchronised driving in heavy or stop-go traffic. On the technical basis of state-of-the-art driver assistance systems and future inter-vehicle communication based on vehicle-to-vehicle and vehicle-to-infrastructure networks, we are developing innovative assistance systems which will bring significant improvements in traffic flow. In the framework of the research project KOLINE, a system for traffic-synchronised longitudinal vehicle control, i.e. speed management, is being developed on the basis of WLAN communication between vehicles and traffic lights. The first simulations show that time spent stopped at traffic lights, and the resulting environmental impacts, are significantly reduced, and journey times shortened. As with our Roadworks Pilot project (2010 research project) to direct drivers through motorway roadworks, this project has confirmed that smart driving strategies implemented by an intelligent, V2V-equipped vehicle can have the effect of significantly increasing existing road capacity, with benefits for all road users.

➔ 39

### Micro-mobility

Urban micro-mobility, comprising both short urban trips and last-mile solutions, is a further important development field at Volkswagen. Here too, a number of solutions were presented in 2011, including the Volkswagen e-Scooter. The main components of the e-Scooter concept, which will be rolled out initially on the Chinese market, are fleets of high-performance e-Scooters in urban areas, plus an innovative rental and charging station infrastructure. This concept, which will also incorporate e-Scooter apps for smartphones, is designed to provide flexible urban mobility. The e-Scooter is the latest in a range of urban micro-mobility solutions which also includes the “Kickstep” and the battery-powered “Bik.e” electric bike.



This website shows how an e-Scooter rental system could work.

With all these concepts, research activities and developments, Volkswagen is developing its vision of future mobility. Within this vision, the car will remain a key mode of transport. However, particularly in urban core areas, provision of additional mobility solutions will encourage more frequent switching to alternatives such as buses, rail or two-wheeled transport. Customers will expect tailor-made transport solutions and, as far as possible, a seamless mobility chain. Road transport itself will be eco-efficient or even emission-free. Electric vehicles will be integrated with the power grid. In some cases, future vehicles will operate fully automatically, making optimal use of the limited infrastructure – both when driving and when parking. Acci-

dents will be virtually eliminated, and assistance systems will support or even take over driving tasks. Close cooperation between vehicles and traffic lights will reduce the time vehicles spend waiting at lights, which in turn will reduce environmental impacts and journey times. New vehicle concepts tailored to very specific mobility requirements, and optimally integratable into the wider public/private mobility system, will add to the range of options. Meanwhile, the digital world of tomorrow will also be available in-car. Cars will communicate and cooperate with other vehicles and with alternative modes of transport, leading to increased multi-modal mobility and improved overall transport efficiency. Services such as car-sharing, rental or logistics services will round off the transport picture, thereby ensuring that the mobility of tomorrow offers greater overall diversity, efficiency and sustainability.

### Experience electromobility

Visitors to the Autostadt in Wolfsburg can really “hit the power” as they take a free, 30-minute or so test drive in and around Wolfsburg in one of the fleet of Golf Blue-e-Motion models that await them. The cars are charged with green power from Volkswagen’s own power utility, Volkswagen Kraftwerk GmbH, generated in hydroelectric plants in southern Germany and Switzerland. Along with this opportunity for hands-on experience, the topic of electromobility also features in the exhibition “LEVEL GREEN – the idea of sustainability”. In this permanent exhibition at the Autostadt, visitors can obtain comprehensive insight into topics such as the production and Life Cycle Assessment of an electric car, power generation and supplies, and the innovative technology on board the Golf Blue-e-Motion. In its educational offering for young people, the Autostadt also covers aspects such as how batteries work. ➔ 39

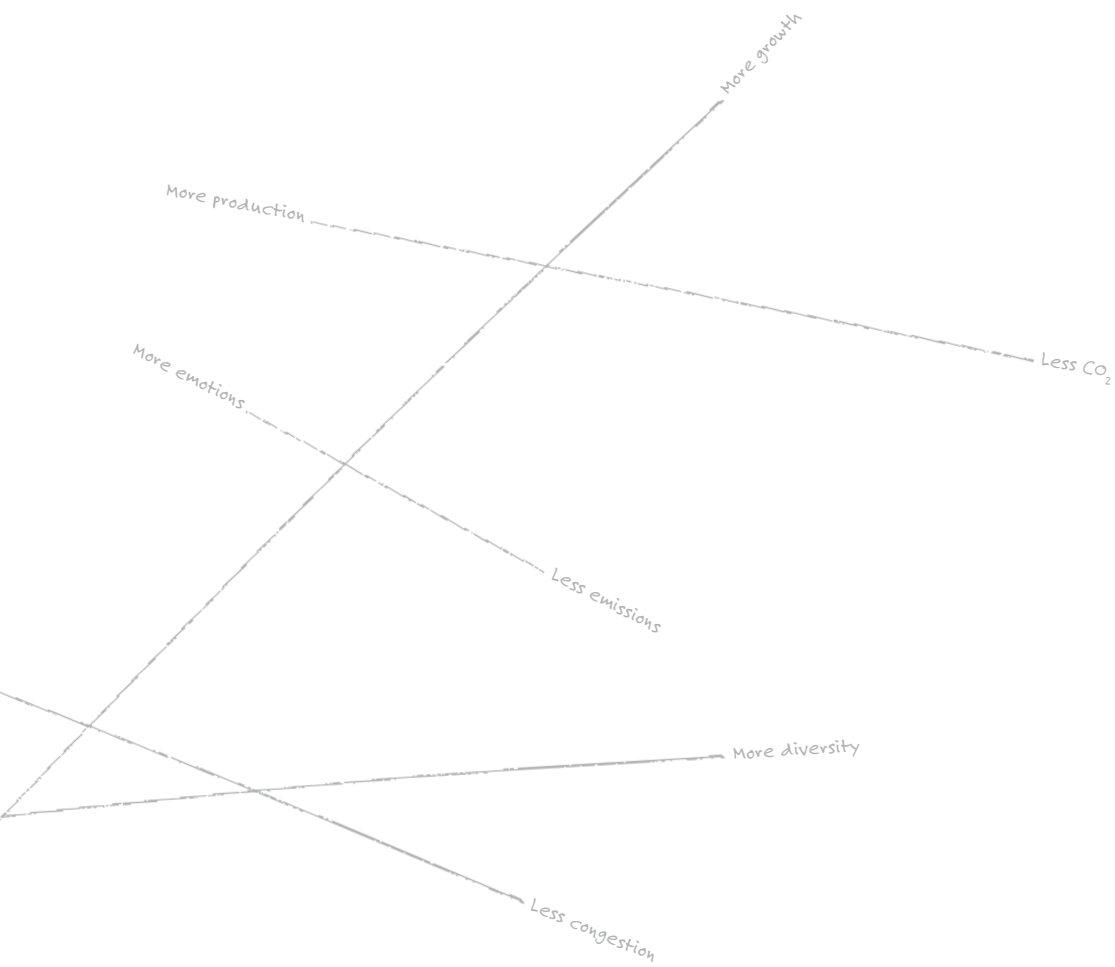
[www.autostadt.de](http://www.autostadt.de)





## CHALLENGES

- CUSTOMER SATISFACTION
- SUPPLIER RELATIONS
- ECONOMIC STABILITY
- RAW MATERIALS
- LOCALISATION
- RISK MANAGEMENT
- COMPLIANCE
- EMPLOYMENT
- DEMOGRAPHIC CHANGE
- ADVANCING WOMEN  
AND PROMOTING DIVERSITY
- SOCIAL RESPONSIBILITY
- SUSTAINABLE MOBILITY
- ENVIRONMENTAL MANAGEMENT
- EFFICIENT POWERTRAINS AND FUELS
- ELECTROMOBILITY
- CLIMATE PROTECTION
- BIODIVERSITY
- WATER
- RESOURCE EFFICIENCY



# Environment

# Environment-friendly front-runner.

The Volkswagen Group is about to embark upon a fundamental ecological restructuring programme. Over two thirds of the capital expenditure planned for the period up to 2016, amounting to over €62.4 billion, as well as an additional €14 billion to be invested together with partners in China, will be channelled into more efficient vehicles, powertrains and technologies, as well as into environmentally compatible production at our plants around the world.

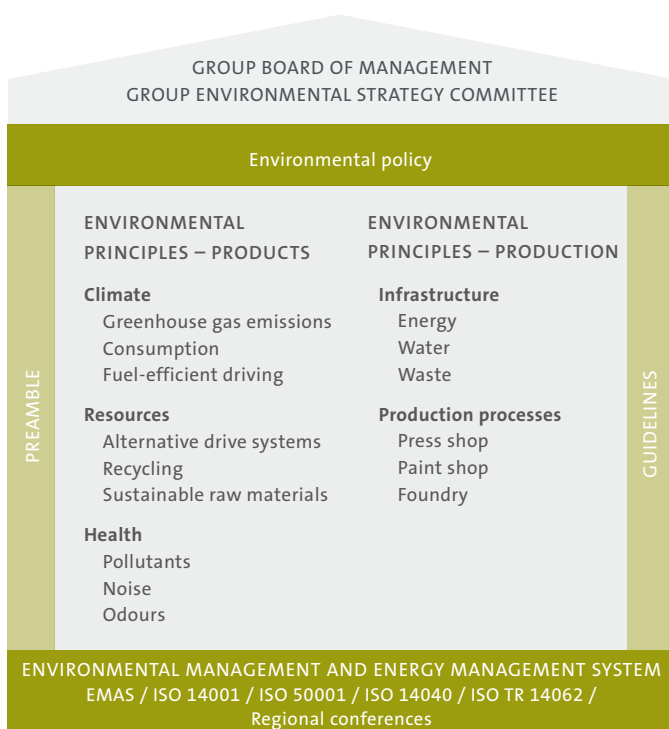
## Environmental management

At Volkswagen, the environmental aspects of sustainability are viewed as central strategic management tasks. Such tasks are handled for example by the central Energy Management function. This function ensures that all plants use energy as efficiently and sustainably as possible. It is developing and implementing a long-term strategy to increase the proportion of renewables in our

energy mix. The central Environmental Management function meanwhile ensures that all aspects of environmental sustainability are integrated directly into the Group's Environmental Policy. The main pillars of this Policy are the Group Environmental Principles governing our products and production operations, which apply worldwide. [↻ 40](#), [↻ 41](#), [↻ 42](#)

The Corporate Environmental Steering Group, reporting directly to the Board of Management, safeguards the long-term value of the Company and protects it against environmental risks.

### VOLKSWAGEN GROUP ENVIRONMENTAL STRATEGY



Since 1995, our German sites have participated voluntarily in the EU Eco-Management and Audit Scheme (EMAS), making Volkswagen the first automaker to get involved in this program, while our Group sites worldwide have participated in environmental certification processes in accordance with the international standard EN ISO 14001. The environmental management system of the Volkswagen Technical Development department has held EN 14001 certification ever since 1996, and DIN ISO/TR 14062 certification since 2009. Recertifications to these various standards have confirmed our pioneering role. For example, significant environmental aspects are identified at an early stage and integrated in the product development process. We also take environmental considerations into account at all stages of the product life cycle. [↻ 43](#)

Regular meetings of the environmental officers of the Group's European plants have been taking place ever since 1976. To ensure that Volkswagen's Environmental Policy is integrated into the production processes of our plants throughout the world, regular Regional and Group Environmental Conferences are held. The aim is to synchronise the work of all plants worldwide, and to implement concrete environmental action plans at local level. In 2010, Regional Environmental Conferences took





With CO<sub>2</sub> emissions of 79 grams per kilometre and consumption of just 2.9 kg of natural gas per 100 km, the new eco up! is set to become the new environmental front-runner in the autumn of 2012.

place at the Anchieta (Brazil) and Pacheco (Argentina) sites. A further such conference was held in 2011 at the Puebla plant in Mexico. Here an environmental action plan was drawn up with the aim of significantly enhancing energy efficiency as well as the effectiveness of local water resource management. In 2012, the 5th Group Environmental Conference will take place in Wolfsburg. The next Regional Environmental Conference is scheduled for May 2013, and will take place in China. Introduced in 1995, the Factory Agreement on Environmental Protection motivates employees to integrate the principles of environmental protection into their everyday work. To ensure that sustainable practices are implemented in all parts of the organisation, many sites have a network of specially trained environmental specialists. They assist the environmental officers and help to give environmental protection a broad foundation “on the ground”. At the Wolfsburg plant, Works Council members too receive training on climate-related, energy and environmental issues to ensure they are well qualified for their important role as multipliers and advisors on sustainable practices. Two series of training courses were held in 2011, and two more will be held in 2012. There are plans to extend this project to all the other Volkswagen plants in Germany as well. The Volkswa-

gen brand’s Internal Environmental Award, which in 2011 was presented for the eighth time, is an important management instrument in engaging employees and motivating sustainable behaviour. The purpose of this award is to commend eco-friendly production processes, materials and products which have already proved their worth in practice. Amongst other things, the award-winning solutions in 2011 resulted in an annual reduction in emissions of volatile organic compounds (VOCs) at the Braunschweig site from 490 g/litre to 154 g/litre, and reductions in CO<sub>2</sub> emissions and freshwater consumption at the Salzgitter plant of 963 tons and 1,340 m<sup>3</sup> respectively. At the Poznan plant in Poland meanwhile, employees developed an ingenious system for reducing hazardous waste, which also achieves cost savings of €65,000 a year. ☞ 44

#### Life Cycle Assessments

Volkswagen analyses the environmental impact of a vehicle over its entire life cycle, including development, production and recycling, as well as the vehicle’s service life. Not only internal but also external factors are taken into consideration, from the initial idea through raw material production to energy require-

**3.3** litres of fuel is all the Polo BlueMotion needs for 100 km, making it the world's thriftiest 5-seater.

ments for recycling. Volkswagen evaluates this data and, on the basis of the results, produces comprehensive Life Cycle Assessments (LCA) for vehicles, components and processes in accordance with ISO14040/44. These Life Cycle Assessments enable us to analyse the environmental impact of our vehicles and reduce it in a targeted way. Our aim is to ensure that each new model developed presents better environmental properties than its predecessor over the full life cycle – and is between 10 and 15 percent more efficient on average.

In order to make this progress clear to customers, since 2007 Volkswagen has been using Environmental Commendations to document the environmentally compatible development of new models. These Environmental Commendations consist of Life Cycle Assessments certified by TÜV Nord. The basic concept of

the Environmental Commendations was completely revised in 2011. The main change was the decision in favour of a modular publication approach. The system is now based on a 24-page brochure presenting basic information on the reasons for, background to and methods of Environmental Commendations. The basic brochure is supplemented by shorter brochures for specific products. In addition, as part of an evaluation process, dealers, NGOs and customers were asked for their views and wishes regarding the content of Environmental Commendations. This resulted in generally positive feedback, as well as a number of suggestions which Volkswagen will be taking up in future with a view to improving the communication concept. In 2011, apart from the new Volkswagen up!, new Environmental Commendations based on this concept were issued for the highly economical Passat BlueMotion and Passat EcoFuel models from Volkswagen. In the case of the Environmental Commendation for the up!, for example, it was shown that greenhouse gas emissions were reduced by 21 percent compared with the Volkswagen Fox, which served as the reference model. Digital versions of all Environmental Commendations and further information can be downloaded from [environmental-commendation.com](http://environmental-commendation.com). ⑦ 45



Performs well in practice: an Audi A1 e-tron gets a recharge during fleet trials in Munich.

Life Cycle Assessments are likely to become even more important in connection with the growth of electromobility, which will result in a shift in the sources of environmental impacts. With an internal combustion engine, the exhaust emissions produced during vehicle use are a major factor in the vehicle's environmental impact. With electric vehicles, by contrast, it is the emissions produced during the upstream process of power generation that will be decisive. While an electric car emits virtually no carbon dioxide during operation, most electricity is still generated using fossil fuels. "Green" power generation for electric vehicles will be an essential element in attaining carbon-neutral mobility.

Life Cycle Assessments will help identify new scope for optimisation. This makes them a key environmental management tool which will contribute to achieving Volkswagen's environmental policy objectives in the era of electromobility. Work on the Life Cycle Assessments for the Golf Blue-e-Motion, which is to make its debut in 2013, got off to a successful start in 2011.

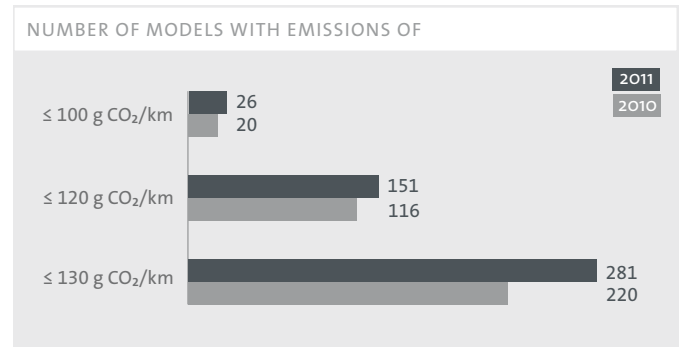
When it comes to the analysis and methodology of Life Cycle Assessments, Volkswagen attaches considerable importance to regular dialogue with other companies and institutions. This was one reason why Volkswagen was a co-organiser of the 2011 Life Cycle Management Conference in Berlin. [46](#)

## Efficient powertrains & fuels

The most effective way for a car manufacturer to reduce its environmental impact is by improving the efficiency of its products, i.e. its cars. The Volkswagen Group is an industry leader on fuel efficiency. Democratization of its efficiency technologies and their rollout in the various brands' volume-production models continues to make steady progress. The Volkswagen brand is also committed to improving the overall environmental performance of its products from one model generation to the next.

On this basis, 2011 saw further big advances. Fleet-average emissions for Volkswagen Group vehicles in 2011 stood at 136.9 g CO<sub>2</sub> per kilometre (EU27), an improvement of 7 grams over 2010. The Volkswagen Group offers 281 different model versions with emissions of less than 130 g CO<sub>2</sub>/km (2010: 220), including 151 which emit less than 120 g CO<sub>2</sub>/km – 35 more than the previous year. 26 models actually emit less than 100 g CO<sub>2</sub>/km – 6 more than in 2010. Technologies such as start-stop and braking energy recuperation have been widely introduced in current production models. The Volkswagen brand has steadily increased the number of models for which such BlueMotion Technology packages are available as straightforward add-on extras. Almost 90

## VOLKSWAGEN GROUP EFFICIENCY MODELS



The Volkswagen Group is making eco-friendly technologies available in more classes of car, as documented by the increasingly widespread presence of low-emission models.

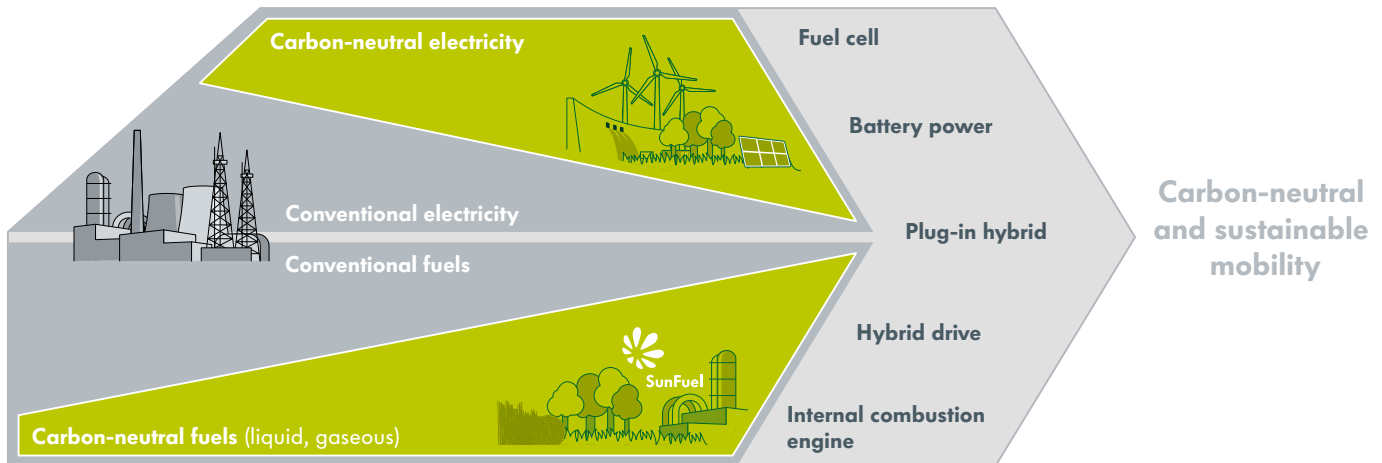
percent of Passat and Sharan models sold in 2011 were equipped with these packages. And we are now fitting these technologies as standard features on all newly launched models. [47](#)

These technologies bring important environmental benefits for key account customers too. For the Volkswagen Group as a whole, average CO<sub>2</sub> emissions of vehicles sold to key account customers in the first half of 2011 stood at 136 grams per km, according to a study by the Frankfurt market research institute Dataforce. For the Volkswagen Passenger Cars brand, the corresponding figure was 127 g CO<sub>2</sub>/km, well below the EU's 2015 target of 130 grams CO<sub>2</sub>/km. For this brand, emissions from vehicles delivered to key account customers have been below the EU guideline since 2006. [48](#), [49](#)

Volkswagen's Powertrain and Fuel Strategy is focused on further improving powertrain efficiency and on sustainable – and as far as possible carbon-neutral – fuel production. The long-term aim of the strategy is carbon-neutral, sustainable mobility, based on the continued coexistence of electric drive and the conventional internal combustion engine. Accordingly, in 2011 further milestones were achieved for both types of powertrain.

As far as conventional internal combustion engine powertrains were concerned, Volkswagen achieved new benchmarks during the year under review. The development and rollout of an all-new generation of three- and four-cylinder petrol and diesel engines took another leap forwards, one highlight being the market launch of the new up! The petrol engines for the up! have output ratings of 44 kW/60 hp and 55 kW/75 hp and are Euro 5-compliant. The average fuel consumption of the BlueMotion Technology versions is 4.2 l/100 km (60 hp) and 4.3 l/100 km (75 hp). Both these 1.0-litre engines emit less than 100 g CO<sub>2</sub>/km.

## POWERTRAIN AND FUEL STRATEGY



Derivatives of the new engine family have also been fitted in the Audi A5 since September 2011. And with the launch of the modular transverse matrix (MQB), further new engines are set to follow. They will set new standards of sustainable engine design with innovations such as needle bearing camshafts, combined direct and port injection and the integrated exhaust manifold. With the modular diesel engine system (MDB), the Volkswagen Group is also poised to introduce an all-new generation of three- and four-cylinder, diesel engines, which will first be unveiled in the new Audi A3 in 2012.

A further example of an efficient conventional powertrain solution is provided by the Passat BlueMotion, the most fuel-efficient Passat of all time, which was presented at the 2011 Geneva Motor Show. Thanks to its standard-fitted start-stop system, recuperation, low rolling-resistance tyres and ultra-aerodynamic bodywork, the saloon version of the 77 kW/105 hp 1.6-litre turbodiesel (TDI) model achieves fuel consumption of just 4.1l/100 km – corresponding to CO<sub>2</sub> emissions of 109 g/km. With the optimum driving style, this gives it a range of 1,707 kilometres without refuelling.

The launch of cylinder deactivation by the Volkswagen brand in 2011 marked a big leap forward in the drive towards greater fuel efficiency. Under low and medium load conditions, two of the four cylinders are temporarily shut down, reducing NEDC fuel consumption by 0.4 l/100 km. Potentially, depending on the driving situation, the saving may be as much as 1.0 litres. The system will debut in early 2012, in the new 1.4-litre TSI engine. At Audi, the Cylinder on Demand system, which deactivates four of the eight cylinders has been available for the S8, S7 and S6 since 2011. From 2012, the system will also be available for the A1 and A3 1.4 TFSI.

On hybrid technology too, which the Volkswagen Group sees as a stepping stone on the way to a future age of electromobility, Volkswagen set new milestones in 2011. In the United States the Volkswagen brand presented the Jetta Hybrid, which is due for European launch in 2013. Audi introduced hybrid-drive Q5 and A6 models in 2011, and in 2012 will introduce a similar concept for the A8. This will make Audi the first premium manufacturer to offer a hybrid model in the B, C and D segments. In parallel, Volkswagen is also working on plug-in hybrid technology, i.e. technology for externally chargeable full hybrid electric vehicles. The Volkswagen brand presented 20 Golf Estate twinDRIVE models to the German Environment Ministry in Berlin for a fleet study. Road testing of the research prototype demonstrates how smoothly the twinDRIVE concept combines zero-emission, all-electric operation around town with the driveability of a 116 hp internal combustion engine, which is ideal for longer distances. SEAT has also developed a prototype, the Seat Leon twinDRIVE, which combines the power of a highly efficient TDI engine with the smoothness and zero emissions of electric drive.

Over and above the cars themselves, our commitment to efficient powertrains and fuels also extends to various additional services which offer Volkswagen customers information on sustainable mobility and ways to save fuel. As in previous years, we held numerous fuel-saver training courses and published information material on this subject. 50

Since 2011, under the slogan “Know more, consume less”, Volkswagen has been offering its customers in Germany a “BlueMotion safety check”. In the course of this extended vehicle check, the Volkswagen service partner also checks the vehicle over for any issues which could cause unnecessary fuel consumption. In

the accompanying brochure, customers can read up on useful tips that can cut their fuel bills by up to 25 percent at no extra cost.

Mandatory introduction of fuels with a higher biofuel content was taken into account from the outset in the technical design of Volkswagen's current petrol engines. These engines are therefore capable of operating safely on E10. For owners of older Volkswagen vehicles, a list of E10-incompatible vehicles has been published. This list shows that only a small number of our vehicles are not capable of running on E10. 51

Volkswagen welcomes the development of advanced biofuels because such fuels, known at Volkswagen as SunFuel, have a higher greenhouse gas reduction potential across the entire vehicle life cycle than the biofuels of today. Volkswagen defines the term SunFuel as comprising pure biofuels and synthetically manufactured fuels that meet the EU sustainability criteria, have a CO<sub>2</sub> reduction potential of 60 percent and over, and whose fuel quality is compatible with the powertrain technology of the present or the foreseeable future.

### Efficiency brands

To give customers clear and transparent guidance when choosing a product, some Volkswagen Group brands use "efficiency brands" to highlight their most sustainable vehicles. At Volkswagen, the efficiency brands form part of the "Think Blue." philosophy, although this philosophy is not confined just to products and technologies. The Volkswagen efficiency brands comprise the labels BlueMotion (in each case the most fuel-efficient Volkswagen models in their class), BlueMotion Technology (with optional add-on efficiency packages), TSI EcoFuel (natural-gas powered vehicles which emit around a quarter less CO<sub>2</sub> than similar petrol models) and BlueTDI (models with

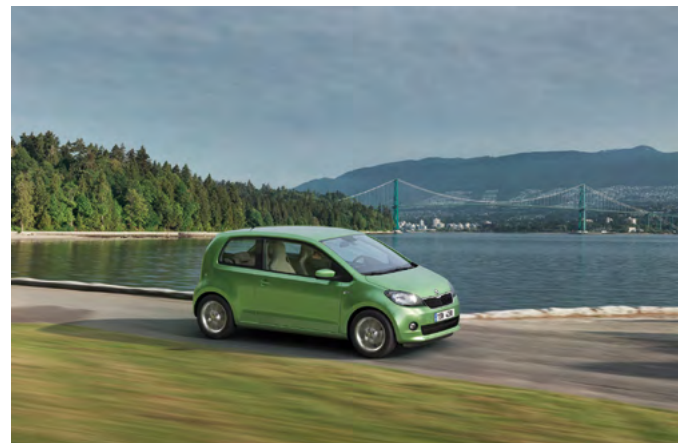
### VOLKSWAGEN EFFICIENCY BRANDS



special emission control technologies for very low nitrogen oxide emissions). At Škoda, extra-fuel-efficient models bear the GreenLine and GreenLine Technology badges, while SEAT uses the labels Ecomotive and E-Ecomotive. Audi equips its models with fuel-efficient technologies as standard. 52

Extra-fuel-efficient technologies are also used at the volume-selling end of the Volkswagen Group's model range. For example the 1.2-litre TDI-engined Volkswagen Polo (2011: 62,200 units) emits just 96 g CO<sub>2</sub>/km, the 1.6-litre TDI-engined Audi A1 (23,400 units) 101 g CO<sub>2</sub>/km, the Škoda Fabia 1.6l TDI (9,500 units) 109 g CO<sub>2</sub>/km and the 1.2-litre TDI-engined SEAT Ibiza (16,200 units) just 96 g CO<sub>2</sub>/km.

Demand for Volkswagen's efficiency models is growing. Sales of such models grew more than twelvefold between 2007 and 2010, from 32,500 to 402,400 units, and 2011 saw a further increase. A record 764,137 extra-fuel-efficient vehicles were sold to European (EU27) customers. This growth was driven by increased customer demand for vehicles which offer high environmental standards without compromising on driving enjoyment. Volkswagen is making concerted efforts to meet this demand. For example in 2011, the Volkswagen brand increased the number of models for which a fuel-saving BlueMotion Technology package was available as a straightforward, attractively priced add-on extra from 49 (2010) to 54. At the same time, the number of models in which such technologies are already fitted as standard increased as well.



Eco-friendly and economical thanks to efficient engine technology: the new SEAT Mii and the Škoda Citigo.

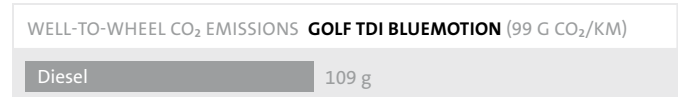
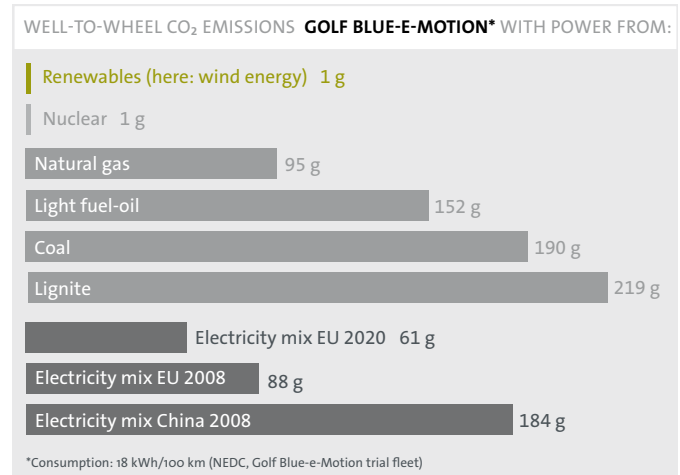
## Electromobility

In 2011, Volkswagen continued its preparations for volume production of a variety of electrically powered Group vehicles. The Group's first all-electric models – the Volkswagen Golf Blue-e-Motion and the Volkswagen e-up!, along with electric vehicles developed specifically for the Chinese market – will go into volume production in 2013, while low-volume production of the Audi R8 e-tron supercar will start as early as 2012. Ahead of this, various field trials are currently taking place. For example the Golf Blue-e-Motion is being trialled in Germany, Europe, China and the USA, the Audi A1 e-tron in Germany and the Audi A3 e-tron in the USA and China. In the Czech Republic, trials with the Škoda Octavia Green E-Line are already under way, and in Spain the prototype SEAT AlteaElectric is being tested. 53

But despite the current trials and future market launches, one thing is clear: it will still be years before electromobility can be introduced market-wide, to provide sustainable mobility for all. In the meantime, a number of challenges still have to be resolved, throughout the automotive industry. In particular, the issue of energy efficiency and energy storage has to be resolved, with a view to increasing the range of battery-powered vehicles. This is a major focus of Volkswagen's development work, particularly at its plants in Wolfsburg (development), Braunschweig (battery design), Kassel (electric motor design) and at the Electronics Research Laboratory (ERL) site in Belmont, California. Numerous alliances also exist with renowned battery manufacturers, while Volkswagen, Evonik Degussa and Chemmetall are jointly sponsoring a battery research fellowship at the University of Münster. But despite these provisos, the driving range to be offered by the Volkswagen e-up! and the Golf Blue-e-Motion in 2013 will already more than suffice for most private journeys undertaken in Germany. And since the average distance of such journeys is well below 100 kilometres, this even applies if no recharging infrastructure is available at the destination. For longer journeys, an appropriate option would be plug-in hybrids, which can operate both all-electrically and on an internal combustion engine.

A key challenge for electromobility is the question of how the energy is actually sourced. If the power is sourced from fossil fuels, then in life cycle terms electric vehicles too have a carbon footprint, to greater or lesser degree. The goal must therefore be to increase the amount of energy generated from renewable sources. The necessary policy framework for this can only be provided by government action. On its own initiative meanwhile, in the medium term Volkswagen is investing approximately €600 million in the expansion of renewables including solar, wind and hydroelectric power. The Company is directly

## RENEWABLES AND ELECTROMOBILITY



Today's electricity mix is largely based on the use of fossil fuels. So until the power required for electromobility is generated from renewables the potential of electromobility to reduce CO<sub>2</sub> emissions remains very limited.

involved in wind and solar power plant projects – for example at Emden in Germany, and in Brazil. It is also participating in various partnerships to actively advance the expansion of renewable energies, and within the short to medium term will also be partnering with utilities that supply renewable power. In the long term, this could allow Volkswagen to offer green electricity as part of a complete package, together with the car, and so to become an all-in-one supplier of zero-emission mobility. The Company's portfolio would then include not only the vehicle, financing models and mobile online services, but also electricity "made by Volkswagen".

A further challenge is to create an extensive charging station infrastructure, and to develop harmonised standards, particularly as regards connectors. For a successful rollout of electromobility, this harmonisation must be global. This is a task not only for the automotive industry but also for energy companies and policymakers.

A further decisive factor for electromobility is competitive pricing. To lower the price of what are still very costly components, such as the battery, electric motor and power electronics, Volkswagen's approach will involve standardising battery cell design, developing improved mass production technology and materials and passing on the resulting cost savings to consumers.

Electromobility will have significant impacts on vehicle development and production. For application in electric vehicles, almost every automotive component requires reassessment at the development stage. At the production stage too, new challenges need to be mastered – from overall factory design and new production methods to training employees to work on high-voltage systems.

To address all these challenges, in 2011 Volkswagen gave the go-ahead for the creation of an “E-Mobility Campus” at its Wolfsburg site, which will bring together all the Company’s expertise in the fields of electrical systems, electronic systems and electric drive. More than 1,700 people will work at this new centre of competence. Audi too will be opening an integrated electric-drive development centre, which will employ more than 800 people.

## Climate protection

Climate protection is a key priority of sustainability management at Volkswagen. A company that produces more than eight million vehicles a year has a special responsibility for the climate. The watchwords here are efficiency improvement and

increased use of low-carbon fuels, based on a clear roadmap: the Volkswagen Powertrain and Fuel Strategy.

As the contents of this report demonstrate, climate protection is the common denominator of a range of measures being carried out as part of Volkswagen’s commitment to greater sustainability. Such efforts are implemented at every stage in the automotive life cycle, starting at the production stage. Here Volkswagen is aiming for a 25 percent reduction compared to 2010 in environmental impacts from production at all its plants by 2018, in five different categories: energy consumption, waste, air-borne emissions, water consumption and, most importantly, CO<sub>2</sub> emissions. All these efforts have their part to play in protecting the climate.

Innovative efforts to reduce CO<sub>2</sub> emissions from our products are coordinated at Group level by a Corporate CO<sub>2</sub> Steering Group, whose aim is to develop efficient technologies for all brands and bring them to market as cost-effectively as possible, using modular toolkits. The CO<sub>2</sub> registry is one such instrument, which analyses the CO<sub>2</sub> emissions over the entire product creation process for every vehicle project across the Group. That way we can ensure that we meet the goal laid down in the Group’s Environmental Principles that every new model should represent an improvement in overall environmental performance compared to its predecessor.

### INVOLVEMENT IN CLIMATE PROTECTION BODIES

Organisation/Institution	Geographical context	Type of activity	VW participation
German Environment Ministry Working Group on Emissions Trading (AG Emissionshandel)	Germany	political consultancy	member
CEPS	EU	policy-relevant research	participation in selected working groups
CSR Europe	EU	political consultancy	member
econsense	Germany	political consultancy	member
Global Compact (GC)	international	political consultancy	member
International Energy Agency (IEA)	international	policy-relevant research	consultancy and reviewing
International Panel on Climate Change (IPCC)	International	basic research	consultancy
Lower Saxony Government Commission	Germany	political consultancy	member
World Business Council for Sustainable Development (WBCSD)	International	political consultancy	member

In 2011 Volkswagen made an active contribution to climate protection through national and international institutions.

# 25 percent less environmental impact at all Volkswagen Group plants by 2018.


In addition to efficiently managing its own climate protection activities, Volkswagen is also actively engaged in many external organisations and institutions dedicated to combating climate change. The aim is to establish a strong, evidence-based foundation for viable long-term concepts, both within the Company and in the wider political and social debate. In 2011, Volkswagen once again contributed actively to the climate protection efforts of the following national and international bodies and scientific institutions:


## Energy supply strategy

Volkswagen bears a responsibility for cutting emissions of greenhouse gases – in particular by saving energy. At the same time, these energy savings must not come at the cost of reduced productivity or continued growth. Volkswagen Kraftwerk GmbH ensures a stable balance between secure and at the same time eco-friendly energy supplies by means of its energy supply strategy. The main goal of this strategy remains to reduce greenhouse gas emissions by 40 percent over 2010 levels by 2020. This goal relates to Germany and thus concerns 45 percent of the Group's worldwide CO<sub>2</sub> emissions. To this end, Volkswagen will be invest-

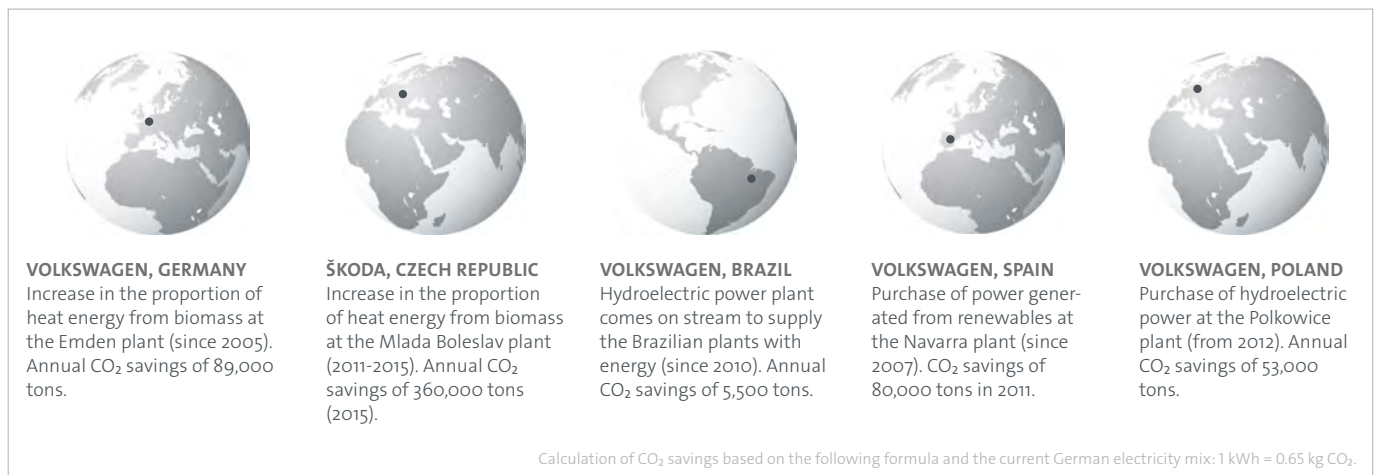
ing around €600 million in the expansion of renewable energy resources including solar, wind and hydroelectric power.

The Group continues to see great potential in the diversification of its power generation structure and undertook several measures to this end in the year under review.

In Brazil Volkswagen invested around €120 million in 2011 in the expansion of hydroelectric power generation. One hydroelectric plant has been on stream since March 2010; the second will be completed in 2013. Together they will have an output of 48.2 megawatts. This means they will be able to meet around 40 percent of Volkswagen's energy needs in Brazil. Volkswagen is the first automaker in Brazil to invest in the generation of clean renewable energy. In the course of construction, some 500 new jobs were created in the region.  56

At the Company's German sites too, power generation will in future be a whole shade greener: Volkswagen Kraftwerk GmbH and the Austrian power utility Verbund Sales GmbH concluded a power supply contract to this end in 2011. According to the contract, from 2013 onwards Volkswagen will cover around 10 percent of the power demand of the German Volkswagen Group facilities using power generated by the Austrian Group's hydroelectric plants. This will bring the proportion of the Group's power requirements that are met with energy from efficient combined heat and power and renewables plants to around 75 percent.  57

## EXAMPLES OF ENERGY GENERATION FROM RENEWABLES AT THE VOLKSWAGEN GROUP



All over the world, Volkswagen supports energy generation from renewable resources. In the medium term the Company will be investing approximately €600 million in this area.





## Clean cars. Clean factory.

### The “Think Blue. Factory.” initiative

“Think Blue. Factory.” is the logical extension of the Volkswagen “Think Blue.” philosophy to our production plants. “Think Blue. Factory.” is a broadly focused cross-departmental initiative for all plants of the Volkswagen brand worldwide. It covers the full range of resource efficiency and emission reduction measures. The aim is to make more efficient use of energy, materials and water, and to reduce emissions of CO<sub>2</sub> and pollutants. In all these areas, Volkswagen has set itself a target of reducing environmental impacts at every Volkswagen plant by 25 percent by 2018. The Think Blue. Factory. initiative is based on four pillars:

#### Society

We are committed to meeting the expectations of our customers, investors and other stakeholders. To position ourselves as an industry leader, we use five environmental performance indicators to measure the environmental impact of our production processes: energy input (MWh), water consumption, waste output, CO<sub>2</sub> emissions and solvent emissions. These five metrics make it easier to define realistic and binding improvement targets.

#### Efficiency

Here the focus is on production processes in our factories. The results can be seen for example in the paintshop at the Chattanooga plant (USA), where the new dry paint separation process reduces water consumption by around 75,000 litres of water per day compared with conventional processes. For this and many other eco-friendly solutions, the plant was awarded LEED® (Leadership in Energy and Environmental Design) platinum certification. The Chemnitz plant in Germany provides a further example. By combining a range of different measures to improve resource efficiency, this Volkswagen engine plant was

able to reduce specific energy consumption by 17 percent and drinking water consumption by 86 percent. These results helped earn the Chemnitz plant the “Factory of the Year 2011” award.

To encourage such efficiency improvements, the “Think Blue. Factory.” programme has developed an “eco-factory” vision of a model eco-friendly production plant where all processes are geared to ecological efficiency. This vision will provide a template for future new factory construction. In addition, roadmaps are being drawn up to migrate all existing factories to more ecological status by 2018.

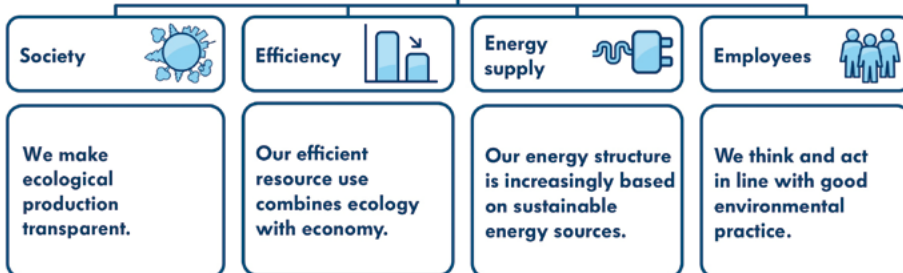
#### Energy supply

Volkswagen Kraftwerk GmbH is developing ways of reducing CO<sub>2</sub> emissions at the energy generation and supply stage. The approach will focus on diversification of the energy generation structure to reduce greenhouse gas emissions. Amongst other things Volkswagen is pressing ahead with the switch from coal to natural gas and is participating in renewable energy generation projects.

#### Employees

Under the umbrella of the “Think Blue. Factory.” logo, Volkswagen is committed to raising the awareness of all employees about responsible resource use and eco-friendly production. One example is the Wolfsburg plant’s “Energieweg” (energy path) initiative, which presents examples of successfully implemented energy efficiency projects, ranging from photovoltaic panels on factory roofs via energy-efficient heating pumps to the intranet-based virtual energy advisor. Such an initiative is a good way of motivating employees to develop their own ideas – and potentially be in line to win one of the Volkswagen Energy Cup awards, which are presented at the annual “Think Blue. Factory.” Day. 54

### Think Blue. Factory.



One initiative, four pillars: “Think Blue. Factory.” keeps employees informed and involved, smoothing the way to a comprehensively ecological factory.

## Cooperation with LichtBlick

The LichtBlick/Volkswagen home power plant is a cogeneration plant producing combined heat and power (CHP). In the town of Celle in Lower Saxony, these distributed CHP mini-power plants are now for the first time being used to heat an entire residential quarter. A total of 13 power plants are providing heating for 174 apartments in 36 apartment buildings.

The systems, which are installed in the cellars of these buildings, are Volkswagen EcoBlue natural gas-powered CHP plants with an efficiency of over 90 percent. The 13 home power plants in Celle have a total rated output of 0.24 megawatts. This flexibly generated distributed electric power is being fed into the grid to back up the intermittent output of wind farms and solar power plants.

To date, Lichtblick has installed approximately 400 CHP plants in Germany. Eventually, Volkswagen and Lichtblick plan to get 100,000 home power plants up and running nationwide. These systems will not only heat buildings but will also generate 2,000 megawatts of electric power – equivalent to the output of two nuclear power stations.

🔗 55

tools or production equipment. Also, for the past ten years the Corporate Environment Working Group has been promoting worldwide best practice sharing. Workshops, Environment and Energy Days or the Volkswagen Energy Cup, launched for the first time last year, are some of the ways in which such practices are showcased. The 2011 Energy Cup award in the category “Lowest Baseload” went to the Polkowice and Zwickau plants. In the category “Best Performance”, awards went to the Emden plant and the Production Unit 1 paintshop at the Wolfsburg plant. 🔗 58

The energy management systems at the SEAT production plants in Martorell and Barcelona (Zona Franca), along with the Technical Centre and Genuine Parts Centre, have now been certified to ISO 50.001 and UNE 16.001. SEAT is the first Spanish company to achieve ISO 50.001 certification, further strengthening the company’s position at the forefront of environmental protection efforts in Spain.

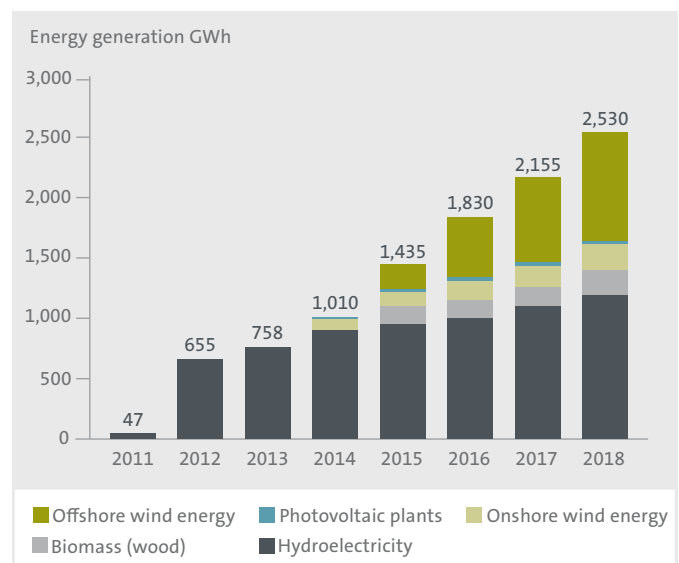
The virtual energy adviser, a Group-wide intranet application, offers employees information and tips on ways of saving energy and electricity. Model solutions, illustrated in a clear and easy-to-understand way, are presented for typical consumers in the management, production, planning and controlling sectors of a virtual factory. Background information, standards and tools are also provided.

## Efficient production

Volkswagen’s goal is to be market leader by 2018. Logically, therefore, production output will increase, driving up resource and energy consumption. However, since Volkswagen is also aiming to lead the environmental field by 2015, concrete action is required today to further improve production efficiency and thereby offset the effect of this future growth on resource and energy consumption. Under the “Think blue. Factory” programme, Volkswagen is aiming to make its production 25 percent more eco-friendly overall by 2018. That is to say, at all Volkswagen sites, energy consumption, waste, air-borne emissions and water consumption are to be reduced by one quarter. In 2011, Volkswagen implemented numerous specific measures at its production plants to help it achieve this goal.

Responsibility for energy-efficient production lies with the Energy Management Production team. This team develops energy efficiency standards for the whole Group, which require for example that plants must only purchase energy-efficient machine

## GENERATING ENERGY FROM RENEWABLES



The Volkswagen Group is driving forward the expansion of energy generation from renewables.

In October, the Volkswagen brand opened a new production plant in Chengdu, China. This plant sets new standards of efficiency and eco-friendliness. For example it sources 80 percent of its materials direct from the Chengdu region, reducing transport distances and therefore emissions. New welding technologies consume only around 50 percent as much energy as conventional technologies. The sheet aluminium used in forming processes is 100 percent recycled and reused. These and many other measures make the new Chengdu plant one of the greenest, and most productive, factories in the whole of China.

At the Audi plant in Neckarsulm, Germany, a whole series of relatively small-scale measures implemented in 2011 added up to big energy savings. Some 5 GWh of power is being saved just by using new diode lasers in body production for the Audi A6. A further 100,000 kWh is saved by using braking energy recuperation in the automatic storage/retrieval systems used in the new small parts store. The plant also uses waste heat from compressed air generation to heat one building, thereby cutting annual energy consumption by around 1.6 GWh. These and many other measures have cut energy consumption per vehicle produced from almost 3,400 kWh in 2003 to less than 2,900 kWh today.

The Emden plant in Germany is also setting new standards of efficient production, not least through the wind energy and photovoltaic systems installed on the factory site and an energy wood plantation: on 400,000 square metres of previously unused space at the site an “energy wood” has been planted. Comprising fast-growing trees such as poplars and willows, the wood is to be harvested every three to five years. The resultant biomass will be used to generate eco-friendly heat energy. Per year and hectare the trees replace approximately 5,000 litres of light fuel oil. This equates to savings of up to 18 tons in emissions of the greenhouse gas carbon dioxide. Also, new indoor air sensors are cutting ventilation energy costs by 75 percent.

Energy efficiency is built into new production plants right from the start. For example the LED exterior lighting system at the Chattanooga, Tennessee plant, which opened in 2011, uses approximately 68 percent less energy than conventional systems, saving 262,500 kWh of electricity a year. The plant also incorporates a range of heat insulation and heat recovery measures, all of which help to minimise energy consumption. For example, reflective white roof membranes reduce heat gain in the production shops by up to 10°C. The production buildings are also insulated with a 15-cm layer of mineral rock wool, resulting in annual energy savings of around 720,000 kWh. Thanks to these and many other features, the plant became the only car plant in the USA to earn platinum certification under the U.S. Green Building Council (USGBC)’s LEED® (Leadership in Energy and Environmental Design) certification system. ⑦ 59

One thing is clear: the most energy-efficient solutions are those that don’t consume energy in the first place. But even when the production lines are not in use, production plants go on consuming energy – for example because certain areas have to be lit at all times, due to legal and safety requirements. To ensure that no energy is wasted, apart from what is needed for such “baseload” functions, the Corporate Energy Working Group has developed a system of so-called “master weekends”, when energy consumption is reduced to an absolute minimum by rigorously switching off all non-priority plant and equipment in accordance with a “switch-off” list of non-essential consumers.

As well as reducing energy consumption, efficient processes and technologies also improve air quality. In line with European air quality policy, such measures are a top priority for Volkswagen. For example filtration and separation systems are used to capture overspray from painting, or welding fumes produced during laser welding. ⑦ 60

# 262,500

kWh of power is what the Chattanooga plant saves each year thanks to modern LED-based outdoor lighting.

The Braunschweig plant is operating two separate biological waste air treatment systems to purify solvent-polluted waste air from painting processes. These include the use of microorganisms, applied to a substrate material, to break down organic solvents. This method has the advantage of saving large quantities of natural gas which would otherwise be required if these pollutants were combusted in a thermal afterburner.

Air quality is also an important focus of in-house power generation at Volkswagen, for example at the Kassel plant in Germany, where modernisation of the power station including a switch to gas-fired operation resulted in significantly reduced emissions of particulates and nitrogen oxides in 2011, while at the same time improving efficiency. This Volkswagen power station also supplies district heat to the nearby town of Baunatal. There are also plans to generate green energy for consumption by the Kassel plant using a rooftop solar panel system comprising 5,580 photovoltaic modules.

### Environmental technology

On top of its measures to improve resource efficiency, Volkswagen has also adopted a wide range of technologies aimed at keeping unavoidable environmental impacts to an absolute minimum. Such environmental technology comprises waste/wastewater reduction technology and waste air filtration systems. All Group brands are continuously working to improve these systems, as the following examples of projects from 2011 demonstrate:

The Salzgitter plant switched from “wet” to “dry” machining of aluminium components. The new method, which works with an oil/air mixture instead of an emulsion, reduces water consumption by 90 percent, consumption of oleiferous media by 98 percent and CO<sub>2</sub> emissions by 54 percent.

Dry machining is also in use at the Polkowice plant in Poland. This plant has also introduced new air nozzles in compressed air generation, resulting in annual energy savings of 1,526 MWh and reducing CO<sub>2</sub> emissions by more than 1,300 tons.

The afterburner used in waste air treatment at the Zwickau plant has been equipped with new turbulators. The resulting redirection of airflow in the heat exchanger pipe increases the heat transfer coefficient of the internal pipe wall, thereby reducing the energy consumption of the afterburner by 449 MWh a year.

The new Chattanooga plant too set new standards in environmental technology in 2011. A primerless painting process reduces CO<sub>2</sub> emissions by around 20 percent. The Chattanooga paintshop is also the first in the world to use a dry separation process for top coat application. The resulting reduction in water and energy consumption also means reduced emissions. The plant also harvests rainwater and uses it for cooling and sanitation purposes. With these and many other environmental technology measures, the Chattanooga plant was able to achieve the highest possible certification under the U.S. LEED standard (“Leadership in Energy and Environmental Design”). ⑦ 59

Since 2008, Volkswagen has been using the “LEC” (Leakage and Energy Control) software to collect and monitor leak data for stationary refrigeration and air-conditioning systems. This method was first piloted at the Group’s German plants. Following successful completion of this test phase, in 2011 the monitoring system was also introduced at four sites in Spain. Now the plan is to roll the system out across Europe. Currently more than 12,000 systems are being monitored in a variety of refrigeration applications – such as compressed air dehumidification, indoor air conditioning and machine cooling – and also in the canteen department. The average leakage rate for refrigeration and air-conditioning systems has been reduced to 3.5 per-

**90** percent less water required thanks to conversion to dry machining of aluminium components at the Salzgitter plant.

cent. This compares with a figure of between 20 and 30 percent for the EU as a whole.

Volkswagen is keen to see environmental technology projects of this kind multiplied across the Group. An annual Energy and Environment Day has been introduced as an in-house forum for presenting such projects. At the same time an IT tool has been put in place across the Group whereby improvement measures can be entered in a database, allowing additional financial, organisational and technological synergies and standardisation potential to be harnessed.

### Green IT

Green IT is now an important lever for improving resource and energy efficiency, not least because of the large number of computer workstations in the Company. Volkswagen is using this lever, for example by expanding its IT-based networking, to make its global IT operations as cost- and resource-efficient as possible. It is particularly important to ensure that the relevant technology is easy to use in everyday practice and that it functions reliably. For this reason, in April Volkswagen launched a new computer centre on a 2,000 square-metre site at Group Headquarters in Wolfsburg. The centre sets new standards in terms of security, performance and energy efficiency.

In addition to an increased peak performance of up to 24.3 billion computing operations per second, and use of kinetic energy storage devices to maintain more stable functioning, the new computer centre also consumes less energy. Compared with the previous centre, annual power consumption has been reduced by 9.1 million kWh, savings equivalent to the power consumption of more than 2,600 private households, based on an average annual household consumption of 3,500 kWh. In addition, the new computer centre features a high-efficiency indirect natural cooling system which for two thirds of the year uses outside air and therefore does not consume additional energy.

A further Green IT issue centres on efficient use of materials, both by the end users in the Company, who in-house media regularly urge to use hardware and consumables responsibly, and also by Central Procurement. An example from the year under review was Corporate IT’s iDOMP tender process for printers. Before the final decision was taken, the shortlisted printers

were subjected to a Green IT assessment covering their entire life cycle – from the materials used and type of packaging to reductions in in-use energy consumption and reduced electronic scrap at the end of the product life cycle.

### Green logistics

Sustainable logistics is an important priority for the Volkswagen Group. Our logistics processes are assessed on the basis of sustainability criteria and improved wherever this can bring economic and environmental benefits. We do this for in-plant processes, for inbound deliveries of materials and components, and for outbound shipments of finished vehicles. In a globalised economy characterised by an ever-increasing flow of goods, this is an increasingly complex task. Volkswagen's green logistics systems create environmental value by reducing resource and water consumption, emissions, fine particulate pollution and waste.

As the following examples show, the Volkswagen Group is addressing the challenges of sustainable logistics in a wide variety of ways.

For example SEAT transports components between its plants in Martorell and Barcelona's freeport zone (Zona Franca), and new vehicles from its production lines to the Port of Barcelona, by rail. The company invested €8.6 million in these two links – which are now taking 57,000 truck journeys off the roads every year.

In a pilot project with the Technical University of Vienna, Volkswagen's Wolfsburg plant is now using natural gas-powered trucks for short-distance road transport. This pilot project has reduced CO<sub>2</sub> emissions by 20 percent and nitrogen oxide emissions by as much as 30 percent, while noise emissions have been halved. The pilot test is now being extended to further transport routes.

In another example, the new Audi Logistics Centre at the Neckarsulm plant shows how the individual brands are improving sustainability on the intralogistics front too. Due to the multitude of new models and the numerous different model versions, the number of small containers had almost doubled since 2008. Whereas the previous, less than ergonomic, system involved transporting the contents of these containers manually to their storage locations, the new "automated small container store" (AKL) can now process some 1,300 containers an hour. The new building is also equipped with intelligent environmental technology. For example waste heat from on-site utilities buildings is used to provide heating, while intelligent systems fitted in the automatic storage/retrieval systems, such as energy recupera-

tion and automatic drive shut-off, contribute further energy savings. In total, the new logistics centre in Neckarsulm can reduce emissions of CO<sub>2</sub> by up to 500 tons a year. [🔗 49](#)

For its resource-efficient and in part already CO<sub>2</sub>-free transport concept, Audi was also awarded the Sustainability Prize for Logistics by the Federal Logistics Associations of Austria (BVL-A) and Germany (BVL-D).

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## Biodiversity

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Industrial growth inevitably has an impact on biological diversity, which is the basis for healthy food, clean water and a balanced climate. Volkswagen identified this conflict of objectives at an early stage. Which is why the challenges of species protection and nature conservation are not merely a temporary project for Volkswagen, but have long been an established element of its environmental management. [🔗 40](#)

Conservation of biodiversity is therefore discussed at the regular Regional Conferences, and the necessary measures are laid down in the resulting action plans. In addition, 2011 again saw Volkswagen taking part in the international initiative "Biodiversity in Good Company". [🔗 61](#)



Activities designed to increase biodiversity require a basis of accurate information about land take, the environmental impacts of individual manufacturing locations and the protectable species within their sphere of influence. Since 2010, Volkswagen has teamed up with external partners in the scientific and insurance worlds to prepare a risk analysis that identifies the emission risks arising from the Company's operations, such as exhaust air, wastewater, waste, noise or vibration, sets them against the potential adverse effects on water, soil and biodiversity in the local environment, and evaluates them. This analysis has not only resulted in much better information about the ecological integration of the factories in their individual landscape settings, but has also made for improvements in efficiency and savings in costs. In 2010, the first step was to appraise the Volkswagen and Audi factories in Emden, Wolfsburg, Braunschweig, Hanover, Kassel, Chemnitz, Zwickau, Dresden, Ingolstadt and Neckar-

sulm. This was followed in 2011 by the European factories in Poland, Slovakia, the Czech Republic, Portugal, Spain and Belgium. These will be joined in 2012 by more Volkswagen AG locations and also Bentley, Bugatti and Lamborghini facilities in Germany, the United Kingdom, France and Italy. Moreover, Volkswagen do Brasil has launched the “Fauna Monitoring and Preservation Program” to protect domestic species in that country.

**1.6** million euros is the amount with which Volkswagen Leasing is supporting the German Moorland Protection Fund.

The Volkswagen Group is implementing specific measures to increase biodiversity. One of the biggest nature conservation projects is the reforestation of the “Izta-Popo” mountain region in Mexico. Plans are under way to launch a similar project in the Sierra de Lobos Silao National Park, which is close to the site of a planned new engine factory. ⑦ 62

In Mexico we are contributing to the programme “Por amor al planeta” (“For love of the planet”) which supports scientific research into biodiversity in Mexico and its conservation. This support is made up of two categories: a sponsorship prize, the “Conservation Biology Research Award”, and a research grant. In 2011 the award went to scientist Maria Enriqueta Velarde González, from the Marine Biology Institute of the University of Veracruz. She is investigating species diversity among seabirds, especially the gulls and terns found on Isla Rasa, an island in the Gulf of California.

In Germany Volkswagen is initiating and pursuing numerous projects relating to the ecological upgrading and interlinking of forests and waters – for example the River Aller close to the main factory in Wolfsburg. In 2011 a programme entitled “Volkswagen connects habitats” identified most effective projects and most promising river sections for biotope networking along the Aller and launched the projects. This achieved concrete results: a 400-metre stretch of the stream known as Weesener Bach, which had previously been sanded up, now has a natural gravel bed again, providing a spawning ground for sensitive fish species such as river trout. In conjunction with the Nature and Biodiversity Conservation Union (Naturschutzbund Deutschland – NABU), Volkswagen is also supporting the project “Renaturing the Lower Havel”. In 2011 the employees at the Wolfsburg facility were called upon to bring in any unwanted mobile phones and place them in collecting boxes. From the proceeds

of this recycling campaign, €3 per phone were donated to Europe’s biggest river renaturing programme. In view of its great success, the campaign is to be repeated in 2012. ⑦ 63

In collaboration with the Otter Protection Campaign, plans were also made for an overall project lasting several years as part of the “Federal Programme for Biological Diversity”.

Volkswagen is also supporting the Wild Cat Project run by the environmental protection and nature conservation association Bund für Umwelt und Naturschutz Deutschland (BUND) and is taking part with NABU in the project “Welcome Wolf”. This public relations campaign provides the public with factual information about the wolf, which is once again becoming established in the wild in Germany.

Another key area for Volkswagen is the renaturing of moorlands. Following the renaturing of the 240-hectare Theikenmeer lake in northwest Germany, a start was made in 2011 on rehydration of the “Grosses Moor” nature conservation area near Gifhorn, also in the north of Germany. This project provides protection for a unique habitat for some 150 endangered animal species and 40 vascular plant species. For this and other moorland protection projects, Volkswagen Leasing GmbH got together with NABU in 2011 to found the German Moorland Protection Fund. This is sponsored by Volkswagen Leasing to the tune of €1.6 million. ⑦ 64

This moorland protection forms an integral part of the environmental programme that Volkswagen Leasing has developed jointly with NABU. It works like this: if a fleet operator selects a CO<sub>2</sub>-optimised model from the Volkswagen Group, Volkswagen Leasing GmbH pays a defined contribution to the Moorland Protection Fund. One outcome has been that over the last three years, average CO<sub>2</sub> emissions by all new additions to Volkswagen Leasing fleets have fallen by 11 percent. The successful cooperation between Volkswagen Leasing GmbH and NABU was renewed for another five years in 2011. On a new website, Volkswagen provides information about its long-standing strategic partnership with NABU and presents details of their joint activities. Not only employees and customers, but also politicians and the media are encouraged to engage in a critical dialogue and to help shape this cooperation through ideas and suggestions of their own.



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## Water

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Water is not only the source of all life but an economic factor as well. Water is indispensable at every stage of the vehicle life cycle. We are committed to using this valuable resource as prudently as possible. Our aim is to reduce water consumption at Volkswagen by 25 percent by 2018 over 2010 levels. Amongst other things, this goal takes into account the problem of significant regional variations in water availability.

The water footprint is an important aspect of efficient resource management. We have calculated water footprints for selected models based on the extensive data collected for our Life Cycle Assessments. The water footprint allows us to identify those processes with the highest life cycle water consumption. The assessment not only takes into account direct water consumption at our production plants but also quantifies and assesses processes in the other life cycle phases. Our water footprint assessments show, for example, that the life cycle water consumption of the volume-selling Polo, Golf and Passat Estate models is approximately 52 m<sup>3</sup>, 62 m<sup>3</sup> and 83 m<sup>3</sup> respectively. Detailed analysis shows that for water consumption – unlike CO<sub>2</sub> emissions – the impact of the vehicle's service life is minimal. 96 percent of water consumption occurs at the manufacturing phase. However, only a small fraction of this is used during production directly on site at our plants. Most water is consumed by upstream material production and supply processes. It is therefore hardly surprising that an analysis of the total life cycle water consumption of Volkswagen vehicles shows that in terms of regional distribution, water is consumed in more than 40 countries worldwide. In 2011, water consumption over which Volkswagen had direct influence was on average 5.07 m<sup>3</sup> per vehicle. The water consumption at the Puebla plant in Mexico of just 3.57 m<sup>3</sup> per vehicle shows how a large number of small measures can ultimately have big effect in terms of reducing water consumption. The first measures comprised optimisation of existing production processes, and internal water recycling. This brought savings of 1.0 m<sup>3</sup> per vehicle. Rainwater harvesting reduced water consumption per vehicle by a further 0.5 m<sup>3</sup>. Finally, employee awareness training, and installation of water-saving sanitary fittings resulted in a further saving of 0.23 m<sup>3</sup> per vehicle.

In all areas of its operations, Volkswagen aims to recycle water as intensively as possible at the point of use. The Salzgitter plant, for example, has taken a variety of plant-specific measures which now ensure that all freshwater is recycled an average of 50 times before it leaves the plant.

But responsible water use is not just about reducing water consumption but also about proactive resource protection and man-

agement. The Sustainability Report 2010 already reported on the Izta-Popo project at Volkswagen Mexico to reduce soil erosion and improve rainwater retention at the Puebla site. Planting of further conifers, initiated by local suppliers, has increased rainwater infiltration by approximately 900,000 m<sup>3</sup> annually. In a further (fourth) stage, 500 hectares are being planted with a further 20,000 conifers, and 10,000 soakaways are being constructed. This measure will increase rainwater infiltration by a further 120,000 m<sup>3</sup> annually. In total, the approximately 420,000 conifers and 47,000 soakaways will increase rainwater infiltration by 2.62 million m<sup>3</sup>. This will feed into the underground aquifer, thereby increasing local water supplies.

A similar project will now be rolled out at the Silao engine plant. Increased production at this plant from 2012 will increase water consumption by 89,000 m<sup>3</sup>. To offset this, the plant is proposing to reforest an area of 114 hectares, which will result in additional infiltration of 100,000 m<sup>3</sup> of water into the groundwater annually. The Puebla state water utility SOAPAP in Puebla is so impressed with Volkswagen's water management projects that it has asked the company for help in coordinating a groundwater replenishment project in the Iztaccihuatl-Popocatepetl National Park.

In the Sustainability Report 2007/2008, Volkswagen reported for the first time on a joint project with the misereor charity, in an arid area of north-eastern Brazil, to support the installation of manually operated groundwater pumps. The project is giving local people the opportunity to earn a secure living from arable and livestock farming. The Volkswagen do Brasil Foundation first became involved in the pump project in 2004 at the initiative of the Works Council. With the collaboration of Brazilian NGOs Autovisão Brasil and Menegotti, this project continues to make good progress and has been integrated into the Ministry of Social Development's "Programa Segunda Agua" water programme. By mid-2011 698 pumps had been installed, supplying water for 105,500 people, in more than 20,000 households.

The Volkswagen plant in Chattanooga in the U.S. state of Tennessee, which opened in 2011, is setting new standards in its approach to water management. Rainwater is collected in three tanks and used for example to flush toilets. The roof surfaces which drain into these tanks can each supply up to 2,470 m<sup>3</sup> of rainwater a year. The state-of-the-art paintshop at this plant uses a dry overspray separation system which uses crushed stone to capture paint particles, and saves around 190 m<sup>3</sup> of water every day. Outside the plant, rainwater evaporates in a semi-natural trough system. This provides natural outdoor cooling and reduces rainwater runoff from sealed surfaces. At the same time the network of 30-metre-wide creeks and wetlands provides new natural habitats.

Volkswagen reports openly on its water consumption and measures it is taking to reduce the risk of water shortages. Information about experiences and lessons learned is made available to financial market stakeholders – for example through Volkswagen’s participation in the Water Disclosure Project (WDP).

🔗 65, 🔗 66, 🔗 67

# 420,000

conifers are being planted by Volkswagen México as part of the Izta-Popo reforestation project.

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## Resource efficiency

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A company planning to sell more than ten million vehicles a year by 2018 has a special obligation to make responsible use of resources. For the Volkswagen Group, resource efficiency is important not only as a crucial key to improved cost efficiency but also as a way of demonstrating environmental responsibility. Improved resource efficiency can provide an answer to growing ecological and economic challenges and offers a way of offsetting changes in commodity prices resulting from geopolitical factors. Resource efficiency is already firmly integrated into our business practices, and in future is set to play an even greater role in the day-to-day workings of our Company.

Substance flow management is a helpful tool for ensuring greater resource efficiency during the manufacturing process. Substance flow management facilitates transparent matching of energy and substance flows to specific processes, and provides a basis for comparing different scenarios or technologies and identifying improvement opportunities. In 2011, Volkswagen therefore began developing a substance flow management system which is now being used, amongst other things, in the planning of new paintshop facilities and to assess existing ones. In the course of 2012, Volkswagen will be reviewing the potential for expanding the use of this tool to the Group as a whole, and will be looking at ways of further improving its user-friendliness.

Intensive, Group-wide, systematic optimisation of resource efficiency is also the focus of a corporate working group set up by Volkswagen in 2011. The objective is to take an integrated approach to topics such as recycling, environmental research and purchasing across all Group brands.

Volkswagen sees active employee engagement as central to ensuring that responsible resource use is established as standard practice in every area of the organisation. The Volkswagen brand, for example, has adopted the “Think Blue.Factory.” programme aimed at developing employee awareness of this issue through extensive internal reporting. This is one of the ways in which Volkswagen is planning to cut environmental impacts from all its plants by 25 percent by 2018.

The Volkswagen Group expects new political initiatives at German and international level to provide further support in the drive towards greater resource efficiency. In its roadmap for 2020, published in 2011, the EU Commission defined a policy framework for a resource-efficient Europe which would set Europe on track to become the world’s most resource-efficient region. One important step towards this goal will be to develop indicators for measuring resource efficiency. In Germany, the Ministry for Environment, Conservation and Reactor Safety is preparing to publish the national resource efficiency programme “ProgRess”. ProgRess will focus primarily on support for research projects, on improved communication and on support for SMEs.

Volkswagen works within industry associations to promote efficient, sustainable resource use not only at Company level but also at industry level. For example, Volkswagen is participating in the Working Group on Energy and Resource Efficiency of the 6th Government Commission of the Lower Saxony Ministry of the Environment and the Federation of German Industry (BDI)’s Ad Hoc Working Group on Resource Efficiency Programmes. Volkswagen is also actively involved in research projects and research groups on resource efficiency such as the “Resource Efficiency in Production” programme (Effizienzfabrik) and “Green Carbody Technologies”. 🔗 68, 🔗 69, 🔗 70

### Vehicle recycling

End-of-life recycling capability is built into our new vehicles at the development stage. Volkswagen has developed and introduced numerous processes which ensure that its new vehicles are now at least 85 percent recyclable and 95 percent “recoverable”. Compliance with these figures is regularly checked by the German Federal Motor Vehicles Office. And thanks to the Volkswagen SiCon process, which is also capable of recycling shredder residues, the 95 percent recovery target for end-of-life vehicles can be met in a way that is not only environmentally compatible but also economically viable. 🔗 71

Normally, in the EU, end-of-life Volkswagen vehicles are taken back free of charge. These vehicles are then recycled by an extensive network of SME recycling partners. Our genuine re-



manufactured parts range for the Volkswagen, Volkswagen Commercial Vehicles, Audi, Seat and Škoda brands comprises more than 16,000 parts from around 60 product groups. Every year the Kassel plant remanufactures 48,000 engines (in 490 versions), 60,000 cylinder heads (in 220 versions) and 49,000 transmissions (in 550 versions). These parts meet the same quality requirements and carry the same warranties as new parts. Born out of necessity sixty years ago in the immediate aftermath of the war, remanufacturing has gone on to become a win-win model, combining both ecological and economic benefits. Major powertrain components are reconditioned at a carbon-neutral remanufacturing facility in Kassel. Last year, the Würzburg used parts store took back 3.35 million used components, one third of them from Germany and two thirds from Europe and the rest of the world. These components included not only engines, transmissions and cylinder heads but also all components listed in the take-back criteria. 72

In 2011, Volkswagen also began remanufacturing selected components in markets outside Germany. In August, a new powertrain remanufacturing facility was opened in China. This facility can remanufacture 15,000 engines a year to “as-new” quality.

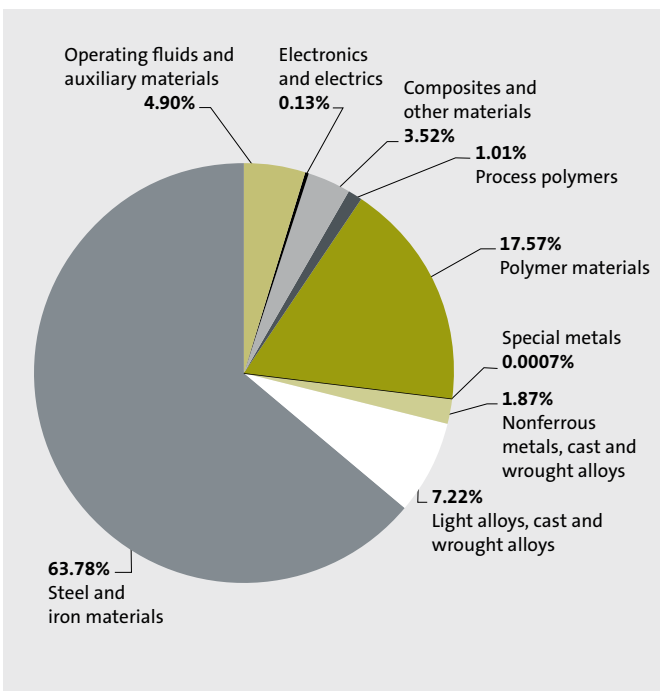
The remanufactured engine comes with the same warranty as a new one. And since remanufacturing allows something like 70 percent of the engine’s original materials to be conserved and reused, this new facility will save large quantities of valuable resources, particularly steel. There are therefore already plans to extend the range of engines remanufactured at this site in Dalian, eastern China. 73

One of Volkswagen’s environmental goals is to reduce its consumption of primary raw materials. This is why use of quality-assured recycled materials is an explicit requirement in Volkswagen’s general environmental specifications, which apply to all projects. In the current Golf, Polo and Sharan models, recycled materials make up around 40 percent of the vehicle by weight. 74, 76

A further environmental goal calls for increased use of renewable raw materials. At present, renewable materials make up approximately 1 percent of the total weight of the entry-level Golf model, for example. More relevantly, substitution of VDA Group 5 materials (polymers) stands at around 4 percent. For the Golf Plus, with door trim panels made from renewable materials, substitution of VDA Group 5 materials stands at over 6 percent.

Recycling of batteries from electric vehicles is already a focus in Volkswagen’s current vehicle development work. In order to conserve lithium reserves, Volkswagen is aiming to achieve complete resource recycling for these batteries. Recycling of all components of the battery will have both ecological and economic benefits. 2011 saw the successful conclusion of the LithoRec research project, in which Volkswagen and 15 partner companies for the first time developed and tested efficient processes and concepts for the recycling of lithium-ion batteries. These processes cover the entire end-of-life process chain – from dismantling, transport, collection and storage to recycling and production of new battery cells. With this project, Volkswagen has demonstrated the practical feasibility of achieving a high recycling rate for lithium, cobalt and nickel. 77

**MATERIAL COMPOSITION VW GOLF 1.4L 59KW**



The chart shows the diversity of the commodities and materials that go into a car. 75

## Awards

Products of the Volkswagen Group regularly win prizes and top placings in competitions and ranking lists organised by international organisations and companies, institutes, associations, magazines and periodicals. The placings are not only proof of the Company's successes in the development of efficient power-train technologies but also provide valuable feedback on the everyday benefits of these technologies. Volkswagen won numerous such awards in 2011:

- The natural gas-powered Passat TSI EcoFuel scooped a hat trick of awards in the Challenge Bibendum 2011, a sustainable vehicle rally and test event organised by erdgas mobil GmbH and tyre manufacturer Michelin. Based on pioneering engine technology with twin charging and direct injection, the Passat TSI EcoFuel returned fuel consumption on the test track of just 2.8 kilograms of natural gas per 100 kilometres, equivalent to CO<sub>2</sub> emissions of just 77 g/km. This earned the Passat TSI EcoFuel awards in the categories "Fuel Efficiency", "Well-to-Wheel CO<sub>2</sub> Emissions" and "Local Emissions".
- The Touran 1.4 TSI EcoFuel received the German motoring organisation ADAC's 2011 "Yellow Angel" award in the "Future" category, based on its very low CO<sub>2</sub> emissions of just 125 g/km (with 7-speed DSG transmission).
- Germany's Automobil-Club Verkehr (ACV) presented the Volkswagen Polo BlueMotion with its ACVMobil award. With average fuel consumption of 3.3 litres/100 km and CO<sub>2</sub> emissions of just 87 g/km, this model was voted most ecological and economical vehicle by ACV members.
- The Volkswagen brand has been voted "most eco-friendly car brand" by German car magazine "Firmenauto" for the second time in a row. Of more than 2,300 readers who took part in the online poll, over half voted for Volkswagen, based on its extensive range of low-CO<sub>2</sub> models.
- The Fachverband für Sponsoring e.V. presented Volkswagen with the Sponsoring Award for its cooperation with the German Nature and Biodiversity Conservation Union (NABU). The cooperation was hailed as a successful example of credible and sustainable cooperation in the environmental field.
- The Touareg Hybrid received motoring magazine Offroad's 2011 OFF ROAD Eco award for pioneering, eco-friendly, sustainable technologies.
- More than 11,000 readers of AUTO TEST magazine voted the Golf Blue-e-Motion "e-Car of the year" in the category "concept car".
- In the "Environmental Car List 2011/2012", the German Association for Transport and the Environment (VCD)'s annual listing of cars offering the best overall environmental performance, the Touran 1.4 TSI EcoFuel came first in the 7-seater category on the criteria "fuel consumption and CO<sub>2</sub> emissions per vehicle-kilometre", "noise" and "level and type of pollutant emissions", and so took the top slot in this category. A total of nine Volkswagen Group products were among the best vehicles in their respective classes in the new ranking.
- A new system for manufacturing carbon fibre reinforced plastic (CFRP), the aRTM system, developed and patented by Volkswagen in cooperation with suppliers, won an ÖkoGlobe award from the University of Duisburg-Essen's "ÖkoGlobe" Institute. The innovative material will go into limited production in the XL1 scheduled for 2013.



- › Meanwhile, Audi won second place in the “Green Steering Wheel 2011” award with its project on “e-gas” – as used for example in the A3 TCNG.
- › In November 2011, the trade journal “Automobil Produktion” and the consulting firm Agamus Consult presented Volkswagen Slovakia with the Automotive Lean Production Award for efficient production in the OEM category at its Bratislava plant.
- › In December 2011, the Volkswagen plant in Chattanooga, Tennessee, earned platinum certification under the LEED® (Leadership in Energy and Environmental Design) certification programme. The certificate, which is awarded by the U.S. Green Building Council (USGBC) in four grades, confirms compliance with rigorous standards of sustainable and eco-friendly construction. Volkswagen’s Chattanooga facility is the first and so far the only automotive manufacturing plant to achieve platinum certification.
- › With a raft of measures to improve resource efficiency, the Volkswagen brand’s Chemnitz engine plant was able to reduce specific energy consumption by 17 percent and drinking water consumption by 86 percent. This earned the Chemnitz plant the “Factory of the Year” award from the trade magazine “Produktion”. 78
- › For its resource-efficient and in part already CO<sub>2</sub>-free transport concept, Audi was also awarded the Sustainability Prize for Logistics by the Federal Logistics Associations of Austria (BVL-A) and Germany (BVL-D).



Award-winning, eco-friendly and sustainable production in Bratislava (Slovakia), Chattanooga (USA) and Chemnitz (Germany).



# Key figures

## Financial indicators

For a detailed presentation of our financial indicators, please consult our 2011 Annual Report. The indicators set out below correspond to the International Financial Reporting Standards (IFRS) for the entire period from 2007 to 2011.

### VOLUME DATA in '000\*

	2011	2010	2009	2008	2007
<b>Vehicle sales (units)</b>	<b>8,361</b>	<b>7,278</b>	<b>6,310</b>	<b>6,272</b>	<b>6,192</b>
Germany	1,211	1,059	1,288	1,013	1,030
outside Germany	7,150	6,219	5,022	5,259	5,162
<b>Production (units)</b>	<b>8,494</b>	<b>7,358</b>	<b>6,055</b>	<b>6,347</b>	<b>6,213</b>
Germany	2,640	2,115	1,938	2,146	2,086
outside Germany	5,854	5,243	4,117	4,201	4,127
<b>Employees (annual average)</b>	<b>454</b>	<b>389</b>	<b>367</b>	<b>357</b>	<b>329</b>
Germany	196	178	173	178	175
outside Germany	258	210	194	179	154

### FINANCIAL DATA IN € MILLION

<b>Volkswagen Group</b>	2011	2010	2009	2008	2007
Sales revenue	159,337	126,875	105,187	113,808	108,897
Operating profit	11,271	7,141	1,855	6,333	6,151
Profit before tax	18,926	8,994	1,261	6,608	6,543
Profit after tax	15,799	7,226	911	4,688	4,122
Profit attributable to shareholders of Volkswagen AG	15,409	6,835	960	4,753	4,120
Cost of materials	104,648	79,394	67,925	75,954	72,340
Personnel expenses	23,854	19,027	16,027	15,784	14,549
Pension provisions	16,787	15,432	13,936	12,955	12,603
<b>Automotive Division*</b>					
Cash flows from operating activities**	17,109	13,930	12,815	8,800	13,675
Cash flows from investing activities attributable to operating activities ***	15,998	9,095	10,252	11,479	6,550
Net liquidity at Dec. 31	16,951	18,639	10,636	8,039	13,478

\* Including allocation of consolidation adjustments between the Automotive and Financial Services divisions. \*\* 2007 and 2008 adjusted

\*\*\* Excluding acquisition and disposal of equity investments: €9,371 million (€7,034 million).

## VALUE ADDED OF THE VOLKSWAGEN GROUP in € million

Source of funds	2011	2010		2009		2008		2007		
Sales revenue	159,337	126,875		105,187		113,808		108,897		
Other income	13,125	10,787		9,401		9,992		7,050		
Cost of materials	-104,648	-79,394		-67,925		-75,954		-72,340		
Depreciation and amortisation	-10,346	-10,097		-8,877		-8,438		-9,238		
Other upfront expenditures	-9,759	-15,250		-15,767		-12,554		-9,289		
<b>Value added</b>	<b>47,709</b>	<b>32,922</b>		<b>22,019</b>		<b>26,854</b>		<b>25,080</b>		
Appropriation of funds	2011	%	2010	%	2009	%	2008	%	2007	%
to shareholders	1,406	2.9	1,034	3.1	647	2.9	779	2.9	720	2.9
to employees (wages, salaries, benefits)	23,854	50.0	19,027	57.8	16,027	72.8	15,784	58.8	14,549	58.0
to the state (taxes, duties)	4,525	9.5	3,105	9.5	1,152	5.2	2,503	9.3	2,950	11.8
to creditors (interest expense)	3,530	7.4	3,563	10.8	3,928	17.8	3,879	14.4	3,459	13.7
to the Company (reserves)	14,393	30.2	6,193	18.8	265	1.2	3,909	14.6	3,402	13.6
<b>Value added</b>	<b>47,709</b>		<b>32,922</b>		<b>22,019</b>		<b>26,854</b>		<b>25,080</b>	

KEY FIGURES BY BRAND AND BUSINESS FIELD in '000 vehicles/€ million<sup>1</sup>

thousand vehicles/€ million	VEHICLE SALES		VEHICLE SALES		SALES TO THIRD PARTIES		SALES TO THIRD PARTIES	
	2011	2010	2011	2010	2011	2010	2011	2010
Volkswagen Passenger Cars	4,450	3,863	94,690	80,251	71,504	62,648	3,796	2,173
Audi	1,543	1,321	44,096	35,441	30,496	24,638	5,348	3,340
Škoda	690	585	10,266	8,692	6,212	5,892	743	447
SEAT	362	349	5,393	5,038	3,284	3,635	-225	-311
Bentley	7	5	1,119	721	1,060	691	8	-245
Commercial vehicles	441	349	8,985	7,392	5,199	4,809	449	232
Scania <sup>2</sup>	80	64	10,064	8,462	10,064	8,462	1,372	1,342
MAN <sup>2</sup>	25	-	2,652	-	2,652	-	193	-
VW China <sup>3</sup>	2,201	1,871	-	-	-	-	-	-
Other <sup>4</sup>	-1,438	-1,128	-33,768	-32,709	14,474	3,553	-1,617 <sup>5</sup>	-769 <sup>5</sup>
Volkswagen Financial Services	-	-	15,840	13,587	14,392	12,546	1,203	932
<b>Volkswagen Group</b>	<b>8,361</b>	<b>7,278</b>	<b>159,337</b>	<b>126,875</b>	<b>159,337</b>	<b>126,875</b>	<b>11,271</b>	<b>7,141</b>
of which: Automotive Division	8,361	7,278	142,092	112,806	143,620	113,792	9,973	6,189
of which: Financial Services Division	-	-	17,244	14,069	15,717	13,083	1,298	952

<sup>1</sup> All figures shown are rounded, so minor discrepancies may arise from addition of these amounts.

<sup>2</sup> Including financial services; MAN as from November 9, 2011.

<sup>3</sup> The sales revenue and operating profit of the joint venture companies in China are not included in the figures for the Group. The Chinese companies are accounted for using the equity method and recorded an operating profit (proportionate) of €2,616 million (€1,907 million).

<sup>4</sup> Including Porsche Holding Salzburg as from March 1, 2011

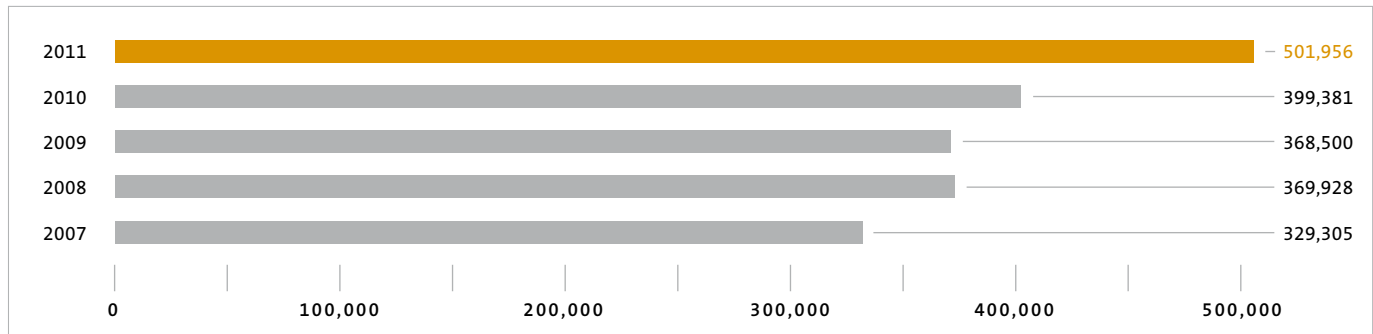
<sup>5</sup> Mainly intragroup items recognised in profit or loss, in particular from the elimination of intercompany profits; the figure includes depreciation and amortisation of identifiable assets as part of the purchase price allocation for Scania, Porsche Holding Salzburg and MAN.

## Social indicators

Volkswagen's workforce is constantly growing. On December 31, 2011, the Volkswagen Group had a total of 501,956 employees on the worldwide payroll. That is 25.7% more than at the end of the 2010 financial year (399,381 employees).

One major factor in this increase was the consolidation of Porsche Holding Salzburg with 20,652 employees and of MAN SE with 53,722 employees. The workforce also rose due to growth in volume, from which our German sites also benefited.

### TOTAL WORKFORCE OF THE VOLKSWAGEN GROUP



### NUMBER OF EMPLOYEES IN THE VOLKSWAGEN GROUP BY TYPE OF WORK

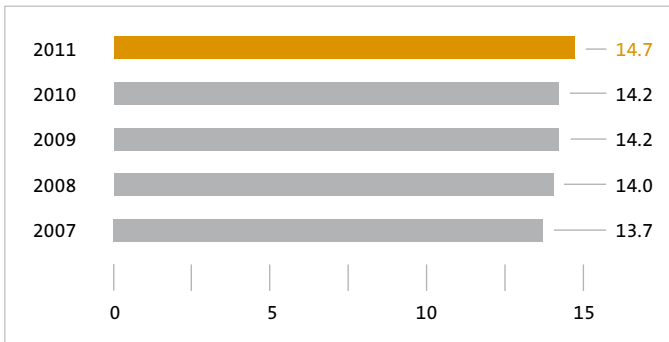
	2011	2010	2008	2007	2006
Production workers	246,071	207,391	187,966	189,872	177,736
Non-production workers	240,864	181,445	170,688	170,172	142,267
Apprentices	15,021	10,545	9,846	9,884	9,302
<b>Total workforce</b>	<b>501,956</b>	<b>399,381</b>	<b>368,500</b>	<b>369,928</b>	<b>329,305</b>
of whom active employees	482,447	384,058	351,584	351,203	310,156
of whom in passive phased retirement	4,488	4,778	7,070	8,841	9,847

### NUMBER OF EMPLOYEES IN THE VOLKSWAGEN GROUP BY REGION

	2011	2010	2009	2008	2007
Europe	378,030	290,159	278,779	284,962	256,119
The Americas	58,072	54,571	48,529	48,867	42,814
Africa	6,602	6,546	5,608	6,194	5,664
Asia	58,540	47,607	35,123	29,423	24,544
Australia	712	498	461	482	164
<b>Total</b>	<b>501,956</b>	<b>399,381</b>	<b>368,500</b>	<b>369,928</b>	<b>329,305</b>
of whom temporary staff	28,342	21,119	12,396	16,016	15,282
of whom permanent staff	473,614	378,262	356,104	353,912	314,023



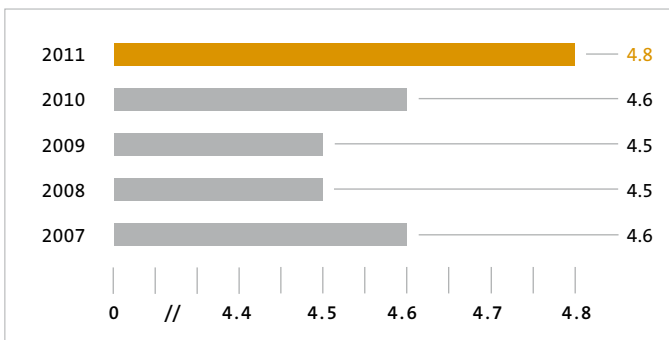
**FEMALE EMPLOYEES IN THE VOLKSWAGEN GROUP in %**



\* from 2011 incl. Scania

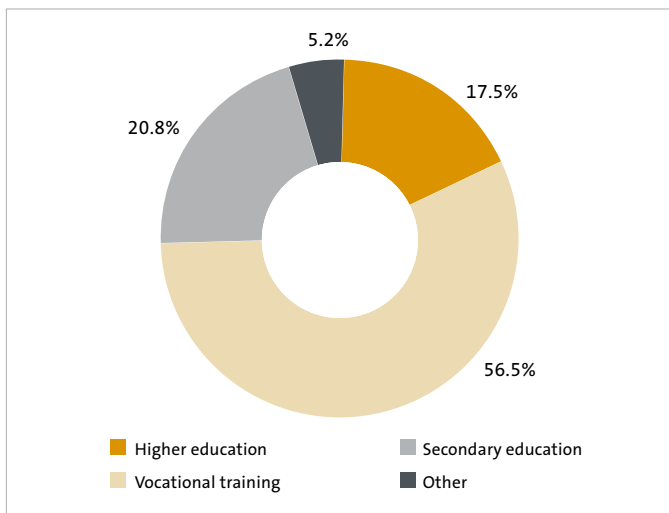
One of the Company's goals is to continue to increase the proportion of women from 14.7% across the Group, especially in management. In the year under review, the proportion of women in management roles in the Volkswagen Group in Germany was already increased to 4.9% among senior executives, to 6.4% in senior management and to 10.1% in management (situation at year end, excl. Scania, excl. MAN).

**APPRENTICES IN THE VOLKSWAGEN GROUP IN GERMANY in %**



In order to be able to respond properly to the increased numbers of school leavers in 2011 as a result of Germany's school reforms, the Volkswagen Group made additional training places available in Germany.

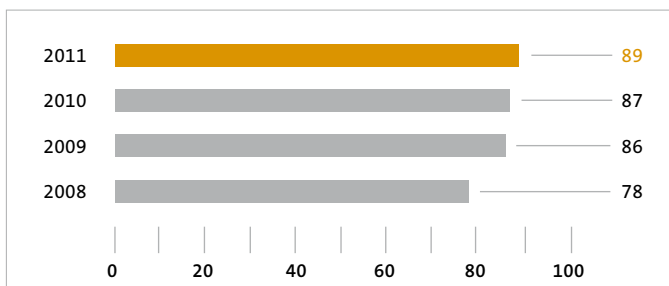
**LEVEL OF QUALIFICATIONS IN THE VOLKSWAGEN GROUP\***



\* excl. Scania, excl. MAN

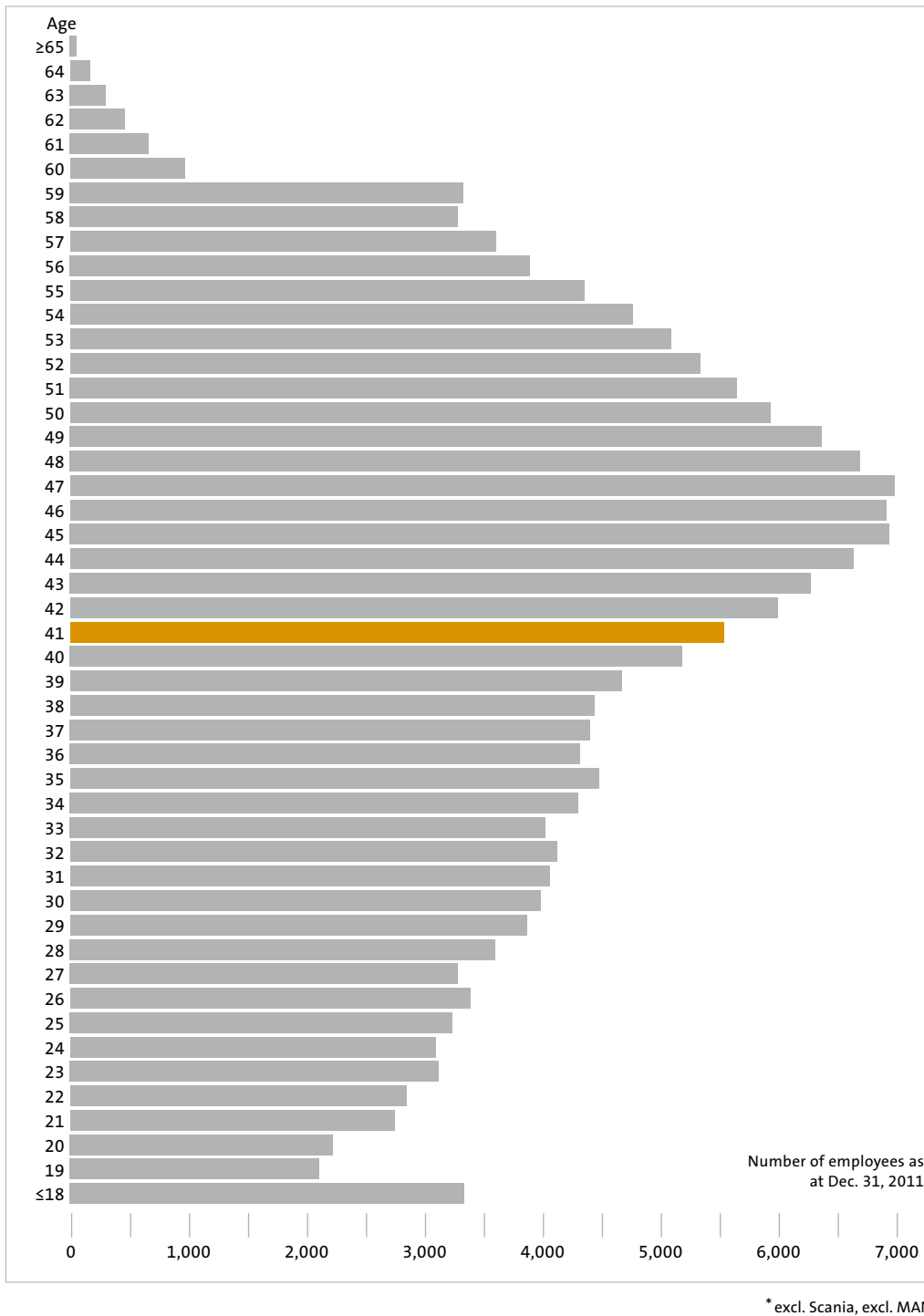
Due to its targeted recruitment measures, the Volkswagen Group employs a large proportion of well qualified employees. Approximately 95% of employees hold some form of qualification.

**EMPLOYEE OPINION SURVEY IN THE VOLKSWAGEN GROUP: PARTICIPATION in %**



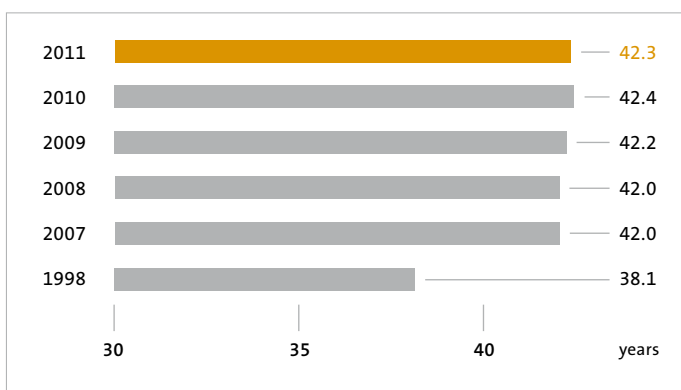
The annual employee opinion survey, introduced in 2008, is an established standardised Group-wide tool designed to assess employee satisfaction, eliminate errors and improve work processes. Its acceptance and level of participation are growing year by year.

## AGE STRUCTURE OF THE VOLKSWAGEN GROUP\* IN GERMANY in '000



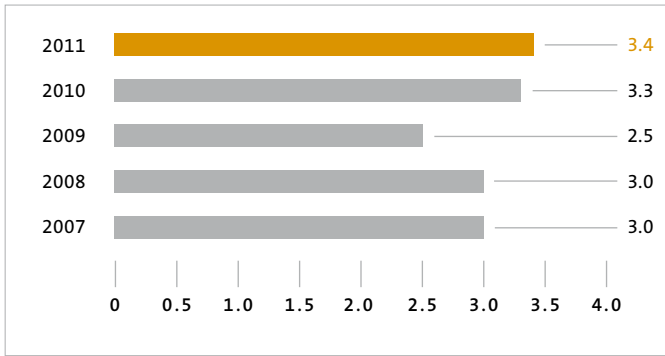
The chart shows the age structure of the employees in the Volkswagen Group in Germany. The recruitment of qualified younger employees as a result of hiring industrial and commercial trainees as well as students on "dual system" courses is reflected in the 18-27 age groups. The average age of employees working in Germany is 40.8 years, while the average age of the Volkswagen AG workforce is 42.3 years.

## VOLKSWAGEN AG: AVERAGE AGE



Since 2007, the average age at Volkswagen AG has been relatively constant, which is a sign of a healthy balance between recruitment of employees on completion of their training and retirement of long-serving employees.

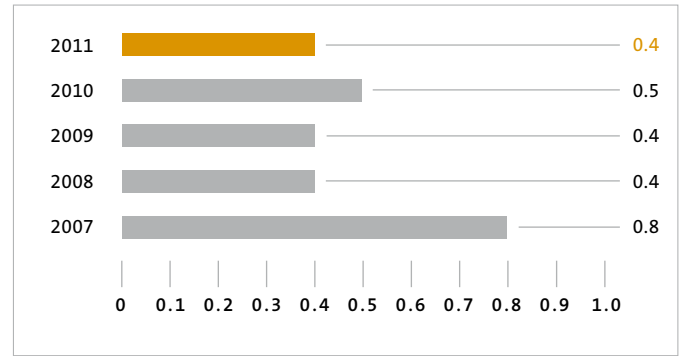
**ABSENTEEISM – CUMULATIVE VALUES\* in %**



\* Production sites in the Volkswagen Group, excl. Scania, excl. MAN

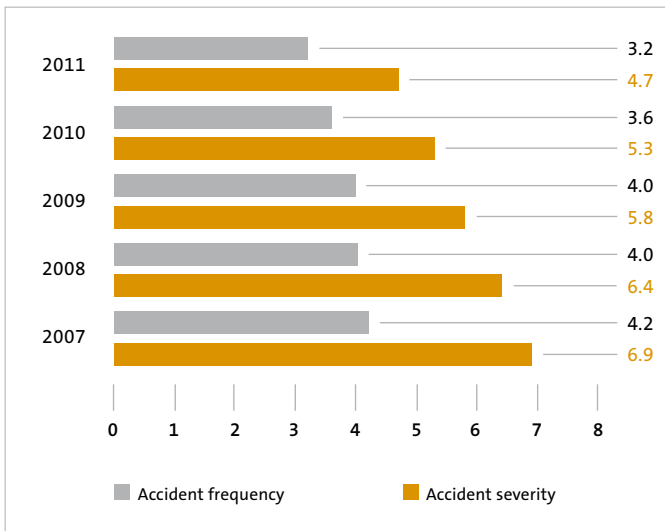
Low absenteeism calls for increased availability of diagnostic and preventive measures. Absenteeism is calculated using the formula: number of days lost to illness or accident multiplied by 100, divided by total possible days' attendance in the relevant period.

**VOLKSWAGEN AG: EMPLOYEE TURNOVER in %**



The employee turnover rate indicates the percentage of employees that leave the Company in the course of a year. As the chart shows, there is a very high level of stability in Volkswagen's workforce.

**ACCIDENT INDEXES\***



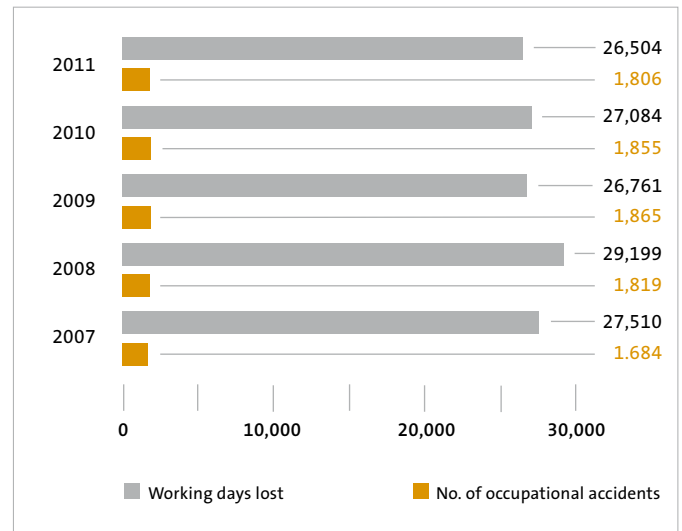
\* Production sites in the Volkswagen Group, excl. Scania, excl. MAN (2009 also excluding Audi Brussels)

The accident frequency index is an indication of the frequency with which accidents at work occurred in relation to the total number of hours worked. The formula for calculating the index is: number of occupational accidents, multiplied by 1 million, divided by the number of hours worked.

The accident severity index indicates how serious the accidents are by relating the total number of working days lost to the number of hours worked. In this case, the formula for calculating the index is: number of working days lost, multiplied by 1 million, divided by the number of hours worked multiplied by ten.

As is clear from the accident frequency index, the number of accidents is falling continuously. This is mainly attributable to a more systematic approach to and continuous improvement in occupational safety at the Group's plants. Accident severity in the Volkswagen Group has also declined since 2006. After the period from 2006 to 2010 during which there were no fatal accidents in Volkswagen AG, 2011 saw the death of one Volkswagen AG employee as the result of an occupational accident. The greatest improvements in occupational safety were achieved at Volkswagen Poznan, Volkswagen do Brasil in São Carlos, Volkswagen Commercial Vehicles in Hanover and at Volkswagen Motor Polska in Polkowice.

**NUMBER OF ACCIDENTS\***



\* Production sites in the Volkswagen Group, excl. Scania, excl. MAN (2009 also excluding Audi Brussels)

Year by year, Volkswagen continues to enhance occupational safety across the Group. The rise in the number of occupational accidents between 2007 and 2008 is due to statistical factors, because from 2008 onwards the figures also include occupational accidents affecting salaried staff. This change in reporting to include the entire workforce was introduced to comply with worldwide reporting standards.

## Environmental indicators

As in previous Volkswagen Sustainability Reports, selected Volkswagen Group environmental data are again presented in aggregated form. The environmental data are collected, checked and approved at the individual production plants in line with an internal standard (VW standard 98 000) and a process standard. As a result of improvements in data collection procedures at individual sites, slight adjustments may have been made to the previous year's values.


In addition to stating absolute environmental performance, this report again also shows relative indicators. These are obtained by relating the absolute environmental performance to the number of vehicles produced in the Group. The "number of vehicles produced" reference variable does not include the volume of vehicles produced by MAN SE.

The environmental data in the Sustainability Report provide a compact reflection of trends in the Group's overall environmental performance. In total, environmental data were collected from 67 production plants with a workforce of around 370,000 (as at Dec. 31, 2011). The following Group production plants are not yet included:

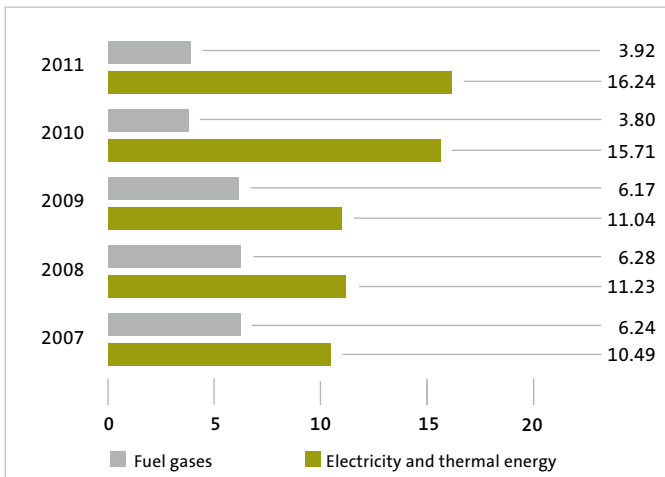
- > Chengdu plant, FAW-Volkswagen Automotive Company Ltd.
- > MAN SE production sites

As in the past, the non-manufacturing companies (e.g. Financial Services) are not included in the environmental data. In many cases, these are either not governed by the management of the respective production plants or are non-manufacturing companies and therefore fall outside the reporting framework described in VW standard 98 000.

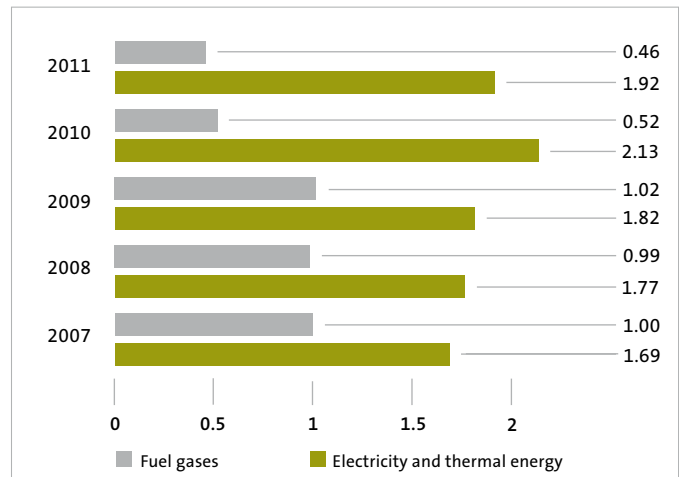
Due to changes arising from the affiliation of Volkswagenkraftwerk GmbH power plants to the Volkswagen car brand on January 1, 2010, the values from VW Kraftwerk GmbH were incorporated into the environmental figures accordingly. As a result, the data for 2010 were also adjusted.

The graphs of carbon dioxide emissions do not include emissions arising from the supply of district heat to the municipal utilities LandE-Stadtwerke Wolfsburg and Stadtwerke Baunatal. The total carbon dioxide volumes involved here are 348,075 tons for 2010 and 291,901 tons for 2011.  79

### ENERGY CONSUMPTION in million MWh/a

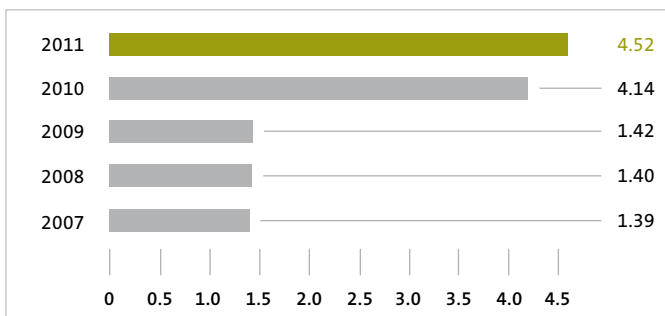


### ENERGY CONSUMPTION in MWh/vehicle

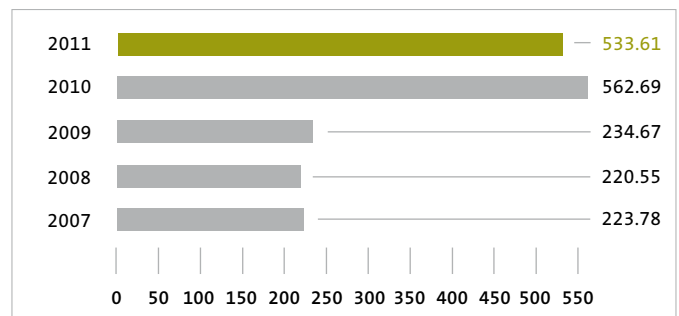


The increase in energy and fuel gas consumption is associated with the continuous increase in production over the reporting period. Heat consumption, being the sum of space heat and industrial heat, is subject to variation due to climatic and manufacturing conditions. In relation to the number of vehicles produced, consumption of fuel gases, heat and electricity, one of the largest sources of CO<sub>2</sub> emissions, was down thanks to the Group's resource conservation strategy.

### DIRECT CO<sub>2</sub> EMISSIONS in million t/a



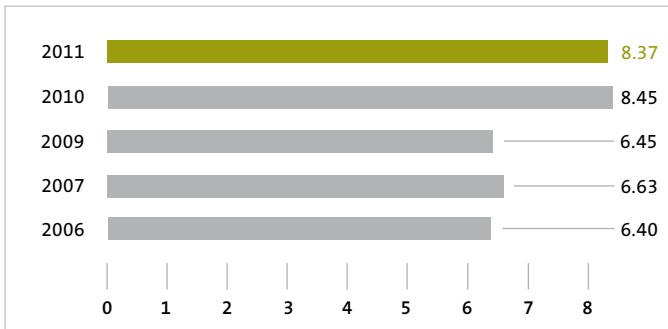
### DIRECT CO<sub>2</sub> EMISSIONS in kg/vehicle



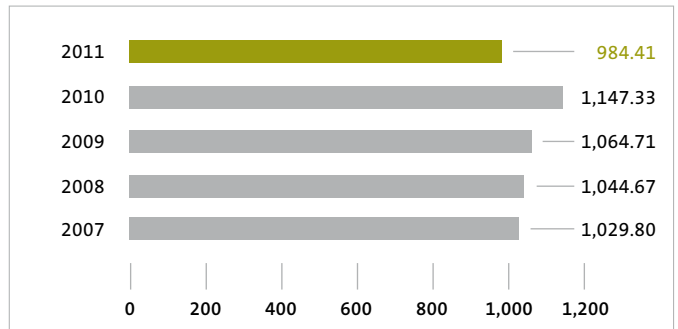
Due to changes arising from the affiliation of Volkswagenkraftwerk GmbH power plants to the Volkswagen car brand on Jan. 1, 2010, the values from VW Kraftwerk GmbH were incorporated into the environmental figures accordingly. As a result, the data for 2010 were also adjusted. The graphs of carbon

dioxide emissions do not include those emissions arising from the supply of district heat to the municipal utilities LandE-Stadtwerke Wolfsburg and Stadtwerke Baunatal. The total carbon dioxide volumes involved here are 348,075 tonnes for 2010 and 291,901 tonnes for 2011. The affiliation of power plants into the Volkswagen car brand led to an increase in direct CO<sub>2</sub> emissions at the production plants in question. Increased production volumes in the Volkswagen Group also led to a rise in direct CO<sub>2</sub> emissions. Despite the above-stated changes, increased production volumes and the inclusion of new production plants, with an associated increase in energy consumption, direct CO<sub>2</sub> emissions were down from 2010 to 2011. Resource-optimised manufacturing processes and methods have had a positive impact on CO<sub>2</sub> emissions per vehicle produced.

TOTAL EMITTED CO<sub>2</sub> in million t/a

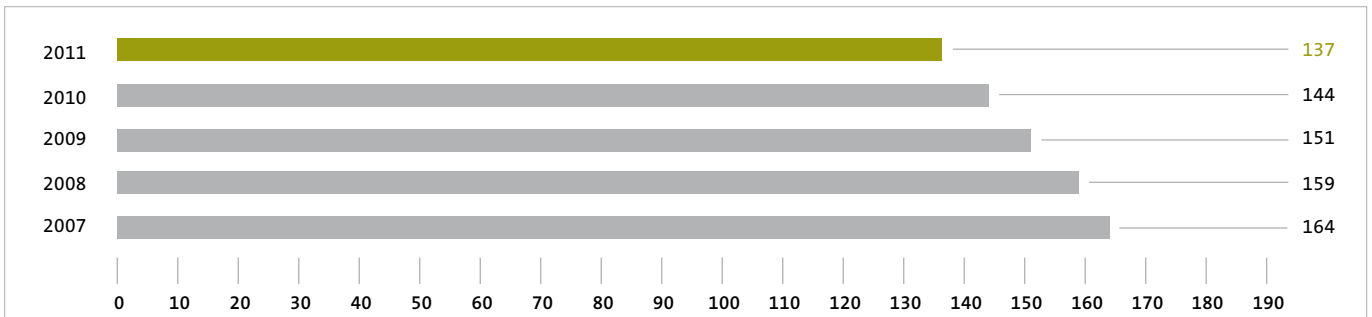


TOTAL EMITTED CO<sub>2</sub> in kg/vehicle

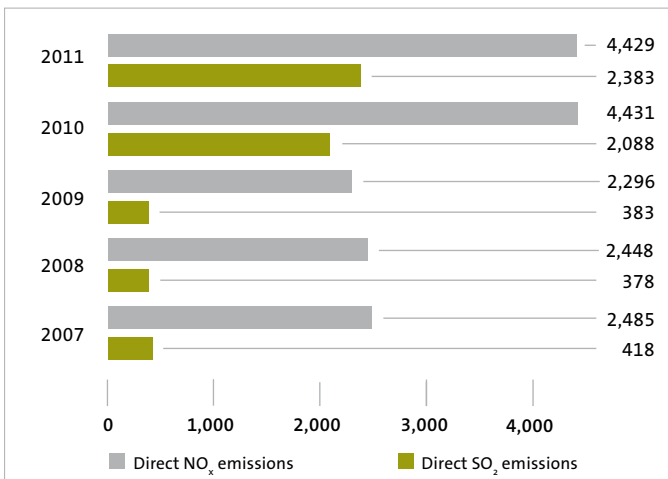


Due to the above-mentioned changes to the assignment of power plants, total CO<sub>2</sub> emissions have been re-evaluated from 2010 onwards. This led to an increase in total CO<sub>2</sub> emissions, since, in addition to heating demand, these figures also take account of electrical energy consumption. However, against a background of a marked increase in vehicle output from the Volkswagen Group, total CO<sub>2</sub> emissions per vehicle have fallen over the entire reporting period.

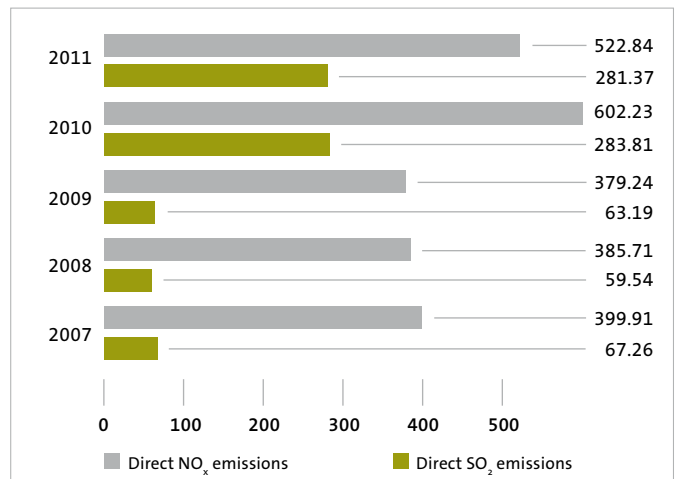
CO<sub>2</sub> EMISSIONS FROM THE VOLKSWAGEN GROUP'S EUROPEAN (EU 27) NEW CAR FLEET in g/km



DIRECT NO<sub>x</sub> AND SO<sub>2</sub> EMISSIONS in t/a

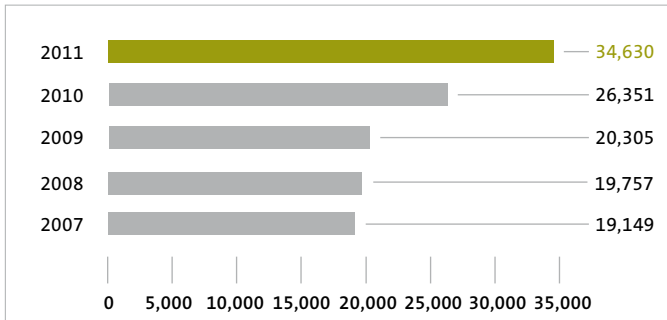


DIRECT NO<sub>x</sub> AND SO<sub>2</sub> EMISSIONS in g/vehicle

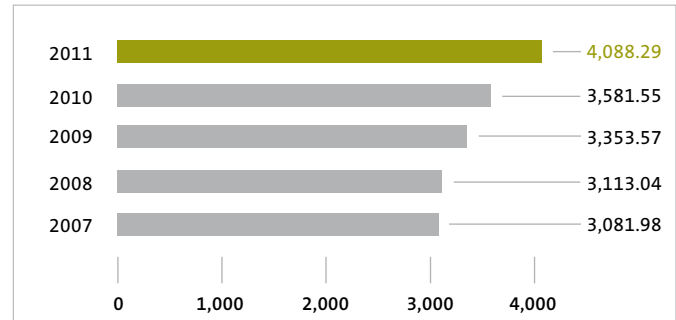


A downward trend in emissions can be seen for the period 2007 to 2009. This trend continues at a higher level following the consolidation of Volkswagen Kraftwerk GmbH. The specific values per vehicle also follow the same trend despite the increase in production output. Compared to the figures in the previous report, there were also changes in the prior-year data for NO<sub>x</sub> emissions owing to modifications in the presentation of the reported data.

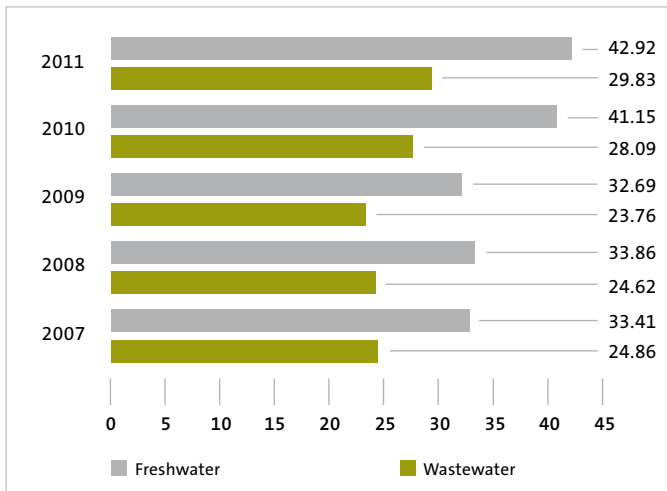
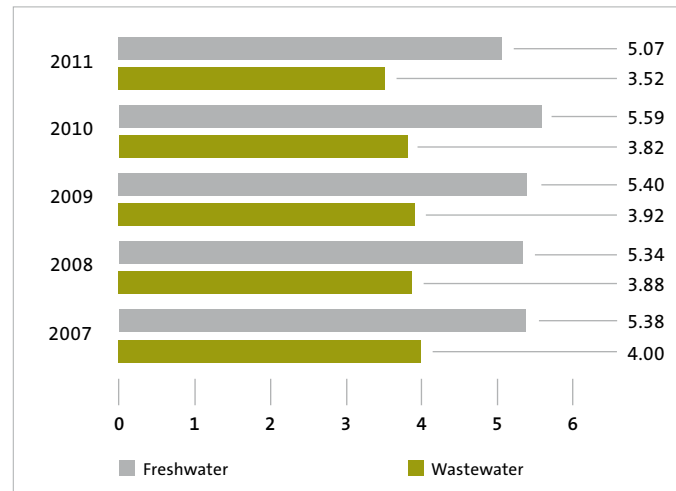
## VOC EMISSIONS in t/a



## VOC EMISSIONS in g/vehicle

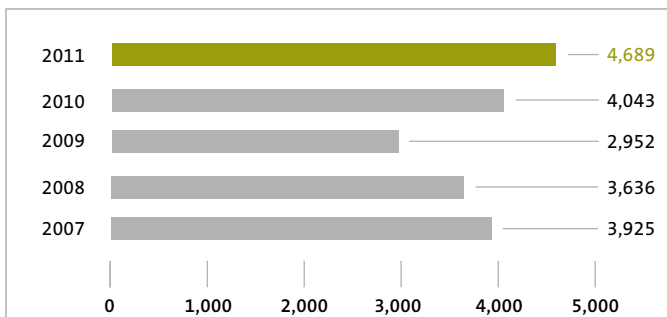


As a result of the increase in vehicle production over the reporting period and the associated higher paint consumption, there was an increase in VOC emissions. Modified calculation methods also contributed to the increase.

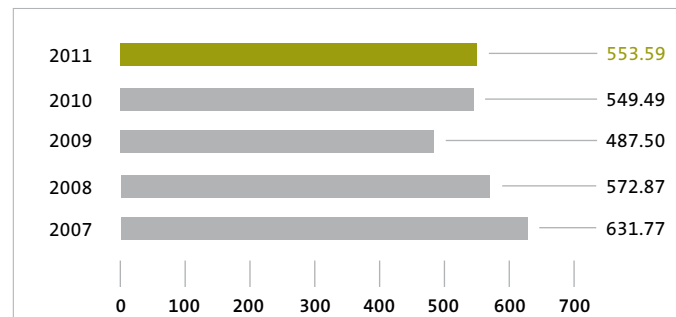
FRESHWATER AND WASTEWATER in million m<sup>3</sup>/aFRESHWATER AND WASTEWATER in m<sup>3</sup>/vehicle

Due to the inclusion of additional production plants and the volumes consumed by Volkswagen Kraftwerk GmbH, water consumption and wastewater volumes rose over the reporting period. Increased production across the Group also contributed to this increase. At many plants, water consumption has basically dropped relative to the volume of vehicles produced thanks to the Volkswagen Group's resource conservation strategy.

## CHEMICAL OXYGEN DEMAND (COD) in t/a

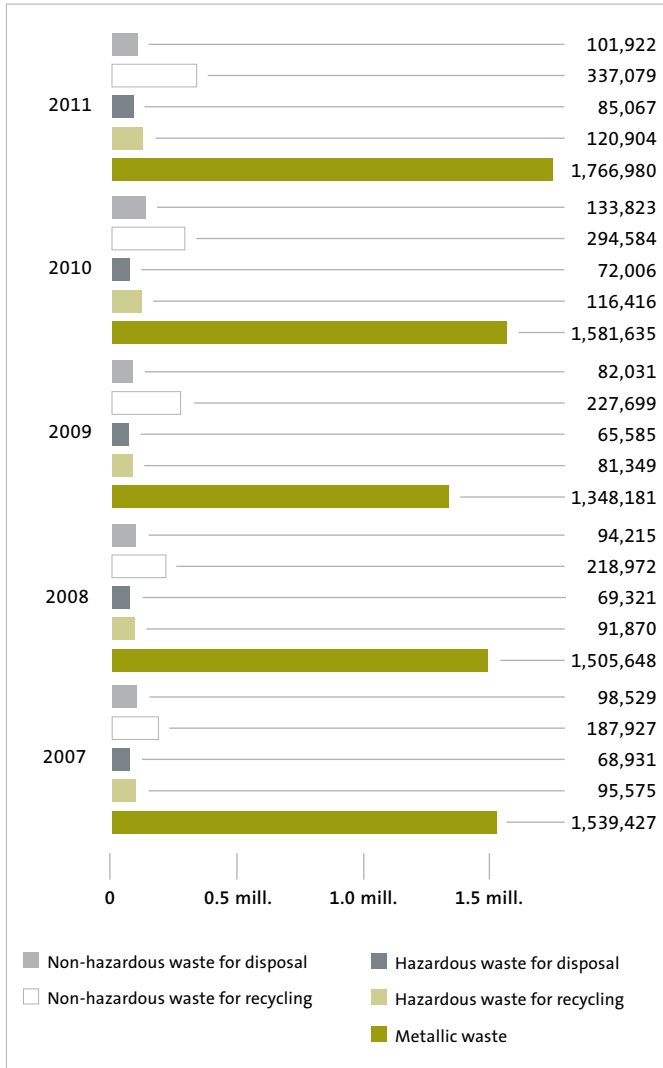


## CHEMICAL OXYGEN DEMAND (COD) in g/vehicle

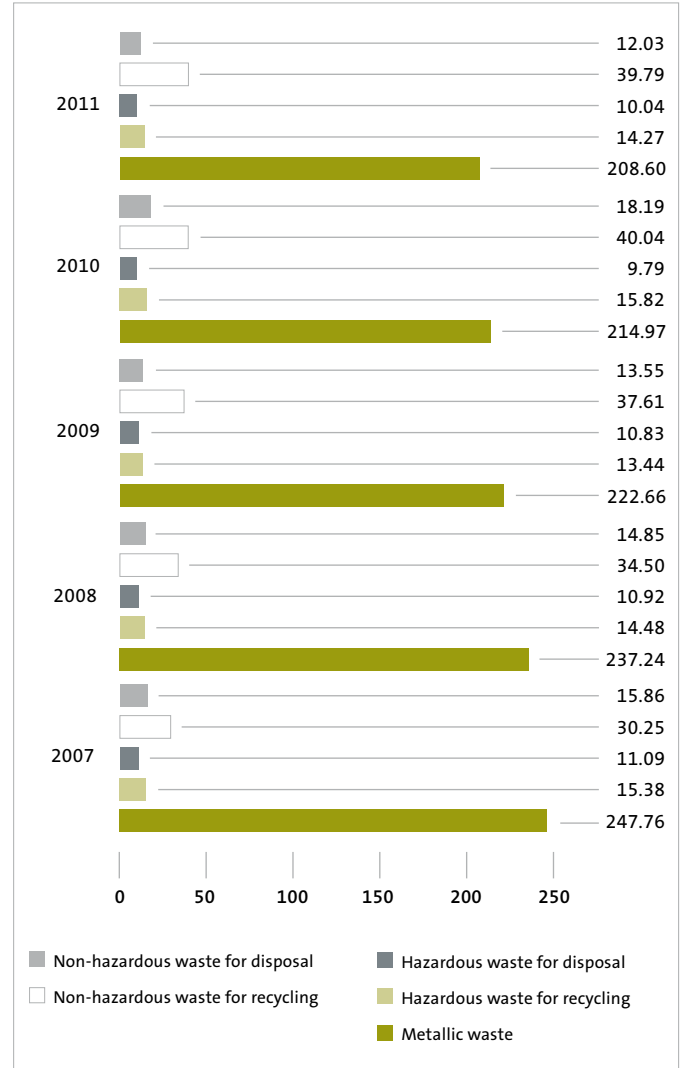


As a result of the increase in production across the Group, there was an increase in chemical oxygen demand in wastewater contamination. However, per vehicle produced, this parameter has declined.

WASTE in t/a

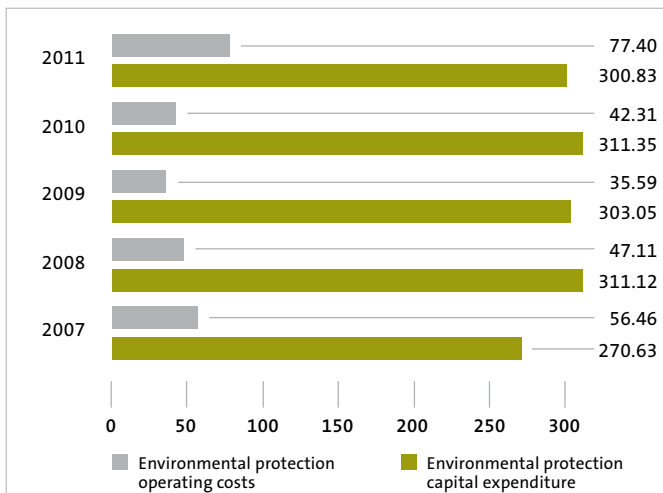


WASTE in kg/vehicle

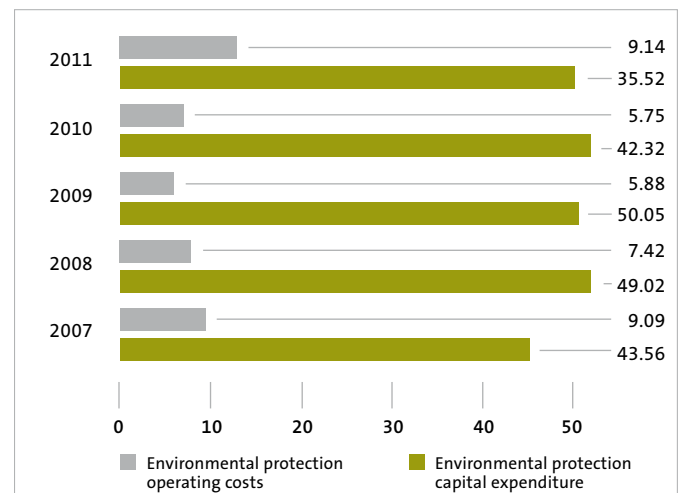


As a result of increased production across the Group and the introduction of new models, metallic waste volumes rose over the total reporting period. The reduction in this kind of waste per vehicle is attributable to improved material utilisation and resource-optimised manufacturing processes. Over the entire reporting period, there has been a relative improvement in almost all types of waste.

EXPENDITURE ON ENVIRONMENTAL PROTECTION in € million/a



EXPENDITURE ON ENVIRONMENTAL PROTECTION in €/vehicle



Capital expenditure on environmental protection has risen over the entire reporting period. Water conservation and air pollution control accounted for the largest proportion of capital expenditure over the last year. Operating costs for environmental protection have remained virtually unchanged. Water conservation accounted for the largest proportion of operating costs, while air pollution control was also a major factor in operating costs in the year under review.

## Consumption and emission data

Model	Output kW (PS)	FUEL CONSUMPTION (L/100 KM)			CO <sub>2</sub> EMISSIONS (G/KM)
		urban	extra-urban	combined	combined
Audi A8 L W12	368 (500)	16.6	9.1	11.9	277
Audi Q5 hybrid quattro	180 (245)	6.6	7.1	6.9	159
Audi R8 GT Coupé	412 (560)	21.0	9.9	13.9	323
Audi R8 GT Spyder	412 (560)	21.5	10.2	14.2	332
Audi RS3 Sportback	250 (340)	13.1	6.8	9.1	212
Bentley Continental GT	423 (575)	25.4	11.4	16.5	384
Bentley Continental GTC	423 (575)	25.4	11.4	16.5	384
Bentley Continental Supersports Convertible ISR	471 (640)	25.7	11.5	16.7	388
Bentley Mulsanne	377 (512)	25.3	11.8	16.9	393
Lamborghini Aventador Coupé LP 700-4	515 (700)	27.3	11.3	17.2	398
Lamborghini Gallardo LP 570-4 Superleggera	419 (570)	20.4	9.4	13.5	319
SEAT Alhambra 4	103 (140)	7.4	5.2	6.0	158
Volkswagen Caddy Maxi BiFuel (LPG)	72 (98)	13.7	8.6	10.5	171
Volkswagen Caddy Maxi BiFuel (petrol)	75 (102)	10.7	6.8	8.2	191
Volkswagen Caddy BiFuel (LPG)	72 (98)	13.6	8.5	10.4	169
Volkswagen Caddy BiFuel (petrol)	75 (102)	10.6	6.7	8.1	189
Volkswagen Multivan BlueMotion	84 (115)	7.6	5.7	6.4	169
Volkswagen Passat BlueMotion	77 (105)	5.2	3.6	4.1	109
Volkswagen Polo BiFuel (LPG)	60 (82)	10.4	6.0	7.6	123
Volkswagen Polo BiFuel (petrol)	60 (82)	8.1	4.8	6.0	139
Volkswagen Touareg Hybrid	245 (333)	8.7	7.9	8.2	193
Volkswagen up!	44 (60)	5.6	3.9	4.5	105
Volkswagen up!	55 (75)	5.9	4.0	4.7	108

Model	FUEL CONSUMPTION (L/100 KM)		CO <sub>2</sub> EMISSIONS (G/KM)
	combined		combined
Audi A1	5.9 – 3.8		139 – 99
Audi A1 Sportback	5.9 – 3.8		139 – 99
Audi A3	9.1 – 3.8		212 – 99
Audi Q3	7.7 – 5.2		179 – 137
Audi TT	9.1 – 5.3		212 – 139
Audi A4	9.5 – 4.3		197 – 112
Audi A5	10.8 – 4.7		252 – 122
Audi Q5	9.3 – 5.7		218 – 149
Audi A6	8.9 – 4.9		206 – 129
Audi A6 Avant	8.2 – 5.0		190 – 132
Audi A6 allroad quattro	8.9 – 6.1		206 – 159
Audi A6 Limousine	8.2 – 4.9		190 – 129
Audi A7 Sportback	8.2 – 5.1		190 – 135
Audi Q7	11.3 – 7.2		298 – 189



Model	FUEL CONSUMPTION (L/100 KM)	CO <sub>2</sub> EMISSIONS (G/KM)
	combined	combined
Audi A8	11.9 – 6.0	277 – 158
Audi A8 L	11.9 – 6.5	277 – 171
Audi R8	14.9 – 13.3	349 – 310
Audi R8 Spyder	14.9 – 13.5	349 – 315
Lamborghini Gallardo Spyder	14.8 – 13.6	354 – 327
Lamborghini Gallardo Spyder Performante LP 570-4	14.6 – 13.6	350 – 327
SEAT Alhambra	8.5 – 5.5	198 – 143
SEAT Altea	8.4 – 4.5	197 – 119
SEAT Exeo	7.7 – 4.9	179 – 129
SEAT Ibiza	6.4 – 3.4	148 – 89
SEAT Ibiza ST	5.9 – 3.4	139 – 89
SEAT Leon	8.1 – 3.8	190 – 99
ŠKODA Fabia	6.4 – 3.4	148 – 89
ŠKODA Octavia Combi	7.8 – 4,1	182 – 107
ŠKODA Octavia Limousine	7,7 – 3,8	180 – 99
ŠKODA Superb Combi	10,2 – 4.4	237 – 114
ŠKODA Superb Limousine	10.1 – 4.4	235 – 114
ŠKODA Yeti	8.0 – 4.6	189 – 119
Volkswagen Amarok SingleCab	8.2 – 7.2	216 – 189
Volkswagen Amarok DoubleCab	8.5 – 7.3	224 – 192
Volkswagen Caddy	6.8 – 5.1	177 – 134
Volkswagen Multivan/Caravelle	10.6 – 6.4	247 – 169
Volkswagen Beetle	7.7 – 4.5	179 – 119
Volkswagen CC	7.8 – 4.7	182 – 125
Volkswagen Golf	8.5 – 3.8	189 – 99
Volkswagen Golf Cabriolet	6.4 – 4.4	150 – 117
Volkswagen Jetta	7.7 – 4.2	178 – 109
Volkswagen Passat Alltrack	8.6 – 5.2	199 – 135
Volkswagen Passat EcoFuel (CNG)	6,7 – 6,6 m <sup>3</sup> (4,3 kg)	119 – 117
Volkswagen Passat EcoFuel (petrol)	6.9 – 6.8	161 – 157
Volkswagen Passat Limousine	9.3 – 4.1	215 – 109
Volkswagen Passat Variant	9.3 – 4.3	215 – 113
Volkswagen Polo	6.1 – 3.3	143 – 87
Volkswagen Polo BlueMotion	3.4 – 3.3	89 – 87
Volkswagen Scirocco	8.1 – 4.5	189 – 118
Volkswagen Sharan	8.4 – 5.5	196 – 143
Volkswagen Tiguan	8.7 – 5.3	203 – 139
Volkswagen Touareg	9.9 – 7.0	236 – 184
Volkswagen Touran	7.2 – 4.5	168 – 119
Volkswagen Touran 1.4 TSI EcoFuel (CNG)	7,6 – 7,0 m <sup>3</sup> (5.0 – 4.6 kg)	136 – 125
Volkswagen up!	4.7 – 4.1	108 – 96



# Back-up

# Goals and actions

The Sustainability Programme set out below summarises the most important newly defined goals. The complete list of all new goals and actions and a progress report on the goals and actions contained in the Sustainability Programme from our Sustainability Report 2010 can be found on the internet: [🔗 80](#)

By 2018, Volkswagen is aiming to become the most profitable, fascinating and sustainable automobile company in the world. In pursuit of this goal, through the use of intelligent innovations and technologies Volkswagen aims to become the world

leader in customer satisfaction and quality. Plans envisage unit sales rising to over 10 million vehicles a year in the long term as Volkswagen targets a larger share of the major growth markets. The pretax return on sales is scheduled to increase to an 8 percent minimum in the long term to ensure a robust and flexible financial position in market downturns. And in addition, Volkswagen aims to become the first-choice employer in all brands, companies and regions as the prerequisite for building a top team.

Economic goals	Action	Deadline
Top customer satisfaction: Top 3 in all markets measured by the NCBS and IACS strategic studies for the questions: satisfaction with purchase, product and last workshop visit	19 markets worldwide to be included in the customer satisfaction programme	2018
Intermediate goal: Volkswagen to be among the top 5	Targeted customer feedback derived from operational market studies, web tracking, customer clinics	
By 2016 the Volkswagen Group is to invest €62.4 billion worldwide and an additional €14 billion in China	Well over two thirds of this investment programme will flow directly and indirectly into increasingly efficient vehicles, power-trains and technologies, as well as into environmentally compatible production at our plants	2016
Compliance: the focus in 2012 is on avoiding corruption in growth markets	Enhancement of Group-wide compliance efforts	2012
Reinforce exchanges between the members of the international Compliance organisation	Direct support in particular for plants in international growth markets by staff from corporate functions	ongoing
Further expand the opportunities to use online learning programs	Obligatory participation in online learning programs on the Code of Conduct for new employees of Volkswagen AG	2012, then ongoing
	Use of online learning programs to be rolled out in additional countries	ongoing
Add greater depth to the corporate compliance culture	Target-group specific information to be communicated via various internal media (e.g. videos, apps, etc.) at different brands and companies	ongoing
	Global e-learning on the Group Business Platform	2012
	Expansion of country risk profiles	2012
Enhance responsible supply chain management	Extend supplier monitoring and supplier development	2013

Social Goals	Action	Deadline
Strengthen vocational training internationally and introduce Meister qualification worldwide	Implementation of specialist training and Meister qualification in accordance with globally identical quality standards and on the basis of uniform skills	2018
Develop university graduates into top experts	Excellent levels of qualification in all "Berufsfamilien". Principle: the young learn from the experienced	ongoing
Enhance performance and ensure all employees share in success/profits	Establishment of three-part pay system with basic pay, profit-sharing and performance-related components as Group standard	ongoing
Promote health, fitness and ergonomics	Extension of Volkswagen Checkup and subsequent prevention programmes; continuous improvement of ergonomics	ongoing
Increase the proportion of women at all levels of management	Increasing the proportion of women employed by the Volkswagen Group in Germany to 11 percent of top managers, 12 percent of senior managers, and 15 percent of managers. Broadening the provision of HR development programmes for women	2020
Environmental and sustainable mobility goals	Action	Deadline
Reduce CO <sub>2</sub> emissions for the European new car fleet by around 30 percent between 2006 and 2015 – outperforming the 120 g CO <sub>2</sub> /km mark for the first time in 2015	Wide-ranging actions to optimise consumption in the context of the Volkswagen Group's Powertrain and Fuel Strategy	by 2015
Every new model to be 10-15 percent more efficient on average than its predecessor	Systematic implementation of the Group Environmental Principles, Product	by 2015
"Think Blue." to be permanently established as the mindset of the Volkswagen brand on ecological sustainability, through increasing internationalisation, stakeholder involvement and integration along the value chain	Ongoing communication of core measures on alternative drive (e.g. electromobility, CNG, ...) and innovative mobility concepts (e.g. Quicar car-sharing) Online communication and increased user involvement Continuous involvement of employees worldwide on topics of environmental relevance	2011, ongoing
Production operations at the Volkswagen Group to be 25 percent more eco-friendly by 2018 compared to 2010. In concrete terms that means 25 percent less energy and water consumption, waste and emissions	Systematic implementation of the Group Environmental Principles, Production	2018
Reduction of greenhouse gas emissions in the energy supply sector by 40 percent compared with 2010	Invest €600 million in the expansion of the renewable resources solar power, wind energy and hydroelectricity	2020
Electromobility to be established as an integral part of the Group's CO <sub>2</sub> mitigation strategy	Market launch of the e-up! and Golf Blue-e-Motion Market launch of the XL1 with plug-in hybrid technology Market launch of models with plug-in hybrid technology Standardisation of the charging infrastructure Market leadership in the electromobility sector	2013 2013 2014 ongoing 2018

### Workforce donation

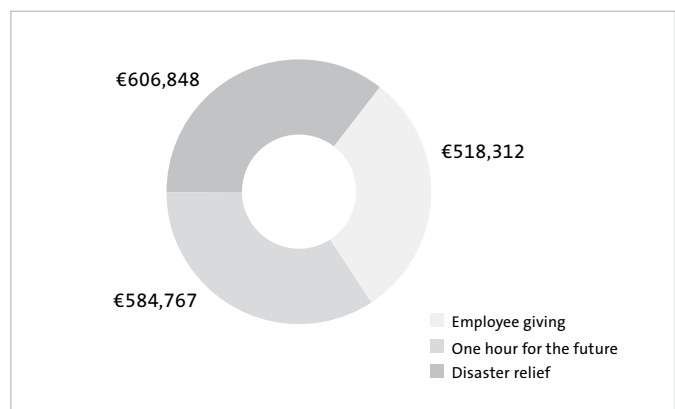
Workforce donation has a long tradition at Volkswagen as a means through which employees join forces to help those in need: in 2011, employees of Volkswagen AG alone gave more than €1.7 million to good causes.

Employee giving represents a major contribution by the Company and its employees to those in need in locations where Volkswagen AG operates. In 2011, some €518,000 went into supporting regional social projects, including the “Starthilfe” (Getting Started) project devoted to combating the growing problem of child poverty in the Wolfsburg region. “Starthilfe” uses donations to launch, promote and focus projects and measures to alleviate child poverty.

In the “One hour for the future” campaign, meanwhile, Volkswagen and Audi employees donate an hour’s pay to help street children, and in 2011, Volkswagen AG employees alone raised over €580,000 for aid projects in Mexico, Brazil, Argentina and South Africa as well as in Germany. Since the summer of 2003, this initiative has also included the collection of “spare cents”: employees donate the odd cents included on their monthly pay slip.

When a natural disaster hits, the Company and the Works Council launch a special appeal. In 2011, for example, Volkswagen Group employees working in Germany contributed over €1 million to the Japanese Red Cross in response to an appeal after the devastating tsunami in Japan.

#### VOLKSWAGEN AG: WORKFORCE DONATION



### Global Compact

The United Nations Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. Volkswagen AG has been supporting this initiative since 2002. The cross-references can be found on page 98.

### Sustainability Code

The German Council for Sustainable Development unanimously approved the German Sustainability Code at its plenary session on October 13, 2011. The German Sustainability Code makes sustainability efforts of companies visible and more bindingly relevant and comparable. It thereby provides a broader basis for the realisation of sustainability.



Rat für  
NACHHALTIGE  
Entwicklung

Among other things, the Sustainability Code includes recommendations for sustainable corporate behaviour in the fields of strategy, process management, the environment and society, as well as guidance on how best to implement the Code. The cross-references can be found on page 98.

# Highlights and lowlights

March 2011

## **Volkswagen workforce to include more women**

In spring 2011, the Volkswagen Group unveils a voluntary initiative setting out differentiated targets aimed at achieving a long-term increase in the proportion of women in the workforce at its German sites. The targets set out a detailed timetable for achieving specific percentages of women at all relevant hierarchical levels.

April 2011

## **German CSR Award**

The German CSR Award is a tribute to the credibility of Volkswagen's CSR engagement. At the award ceremony, the Group's many and varied activities in the fields of social work, the arts, sport and environmental protection came in for special praise.

September 2011

## **Greenpeace protest**



Activists from the environmental organisation Greenpeace scale the façade outside Volkswagen's booth at the Frankfurt Motor Show (IAA) to hang a banner proclaiming "Climate destruction made in Germany". The protest is accompanied by the internet campaign "vwdarkside.com".

September 2011

## **Volkswagen no longer listed in DJSI Europe**

Volkswagen is no longer listed in the Dow Jones Sustainability Index Europe – but is nevertheless among the three car companies listed in the Dow Jones Sustainability Index World.

September 2011

## **Success in sustainability rankings**

Volkswagen improves its position in the Sustainability ranking of DAX 30 companies, where it is now ranked third. And in the latest rankings of the Carbon Disclosure Project, the world's leading climate reporting initiative, Volkswagen qualifies for listing in the Carbon Disclosure Leadership Index.

November 2011

## **Award for exemplary engagement for people with disabilities**

Škoda receives an award as part of the "best full responsibility enterprises" award, for its exemplary employment policy for people with disabilities. Earlier in the year, in June 2011, this policy also earned the Company the "Employers without Barriers" award.

December 2011

## **LEED platinum certification**



The Volkswagen plant in Chattanooga, Tennessee, becomes the only car manufacturer to date to receive platinum certification under the LEED® (Leadership in Energy and Environmental Design) green

building certification system.

December 2011

## **DUH requests labelling change**

German Environment Aid (DUH) issues a cease-and-desist letter to Volkswagen for "misleading advertising", accusing the Company of dishonest use of a current energy efficiency labelling system in its communications. The German regulations on fuel consumption labelling for passenger cars use an eight-point scale from A+ (very efficient) to G (inefficient). Volkswagen had mistakenly rated its models using a nine-point scale, which also included a category "H".

December 2011

## **€1.6 million for moorland conservation fund**



Volkswagen Leasing and the German Nature and Biodiversity Conservation Union (NABU) jointly establish a German moorland conservation fund, to which Volkswagen Leasing

contributes €1.6 million.

# Frame of reference

Indicator / Document	Frame of reference	Notes	Cross-reference (>>/p.)
Environmental indicators	Volkswagen Group		84 - 87
Social indicators	Volkswagen Group Volkswagen Group in Germany Volkswagen AG	Report on respective scope of validity can be found on pages 80 - 83.	80 - 83
Financial indicators	Volkswagen Group		78 - 79
Model of Sustainable Development	Volkswagen Group	Introduced in 2002	<a href="#">↗</a> 08
Code of Conduct	Volkswagen Group	Introduced in 2010	15
Volkswagen Group requirements for sustainable development with regard to relationships with business partners	Volkswagen Group, all tier 1 suppliers	Introduced in 2006	24
Mission Statement on Biodiversity	Volkswagen AG	Introduced in 2008	70
Environmental Policy	Volkswagen Group	Introduced in 1995	56ff.
Environmental Principles, Product	Volkswagen Group	Introduced in 2008	56ff.
Environmental Principles, Production	Volkswagen Group	Introduced in 2007	56ff.
Factory Agreement on Environmental Protection	Volkswagen AG	Introduced in 1995	57
Declaration on Social Rights and Industrial Relations at Volkswagen (Social Charter)	Countries and regions represented in the Volkswagen Group Global Works Council	Introduced in 2002	16
Labour Charter	Volkswagen Group	Introduced in 2009	16
Occupational Safety Policy	Volkswagen Group	Introduced in 2004	<a href="#">↗</a> 82





## Statement GRI Application Level Check

GRI hereby states that **Volkswagen Group** has presented its report "Sustainability - Report 2011" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

GRI Application Levels communicate the extent to which the content of the G3 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, April 2nd 2012

A handwritten signature in blue ink, appearing to read "Nelmara Arbex", is written over a large, faint watermark of the GRI globe logo.

Nelmara Arbex  
Deputy Chief Executive  
Global Reporting Initiative



The "+" has been added to this Application Level because Volkswagen Group has submitted (part of) this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

*The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)*

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on March 23rd 2012. GRI explicitly excludes the statement being applied to any later changes to such material.

# GRI Content Index

The present Sustainability Report takes full account of the reporting guidelines of the Global Reporting Initiative (GRI). Selected indicators and the degree to which they are reported are set out on this page. A full overview with supplementary indicators and corresponding answers is available on the internet. [🔗](#) 5

GRI Standard Disclosure	Reference	Status	UN GC	GSC
<b>Strategy and Analysis</b>				
1.1 Statement from the most senior decisionmaker	6-7, AR 20-21	●		1
1.2 Key impacts, risks	6-7, 10-19, 28-29	●		2
<b>Organizational Profile</b>				
2.1 Name of the organization	1, 3	●		
2.2 Brands, products and/or services	4, AR 109-132	●		
2.3 Operational structure	3, AR 110-132, 143-146	●		
2.4 Headquarter location	3	●		
2.5 Countries in operation	3, 4	●		
2.6 Nature of ownership	3, AR 143-146	●		
2.7 Markets served	3, AR 109-132, 153-165	●		
2.8 Scale of the organization	3-4, AR 109-132	●		
2.9 Significant changes regarding size, structure or ownership	3, AR 110-111, 144-146, 153-165	●		
2.10 Awards received	2, 74-75, 95, AR 219	●		
<b>Reporting Parameters</b>				
3.1 Reporting period	2	●		
3.2 Date of most recent previous report	2	●		
3.3 Reporting cycle	2	●		
3.4 Contact point for questions	103	●		
3.5 Process for defining report content	2, 18-19, OSR 15, OSR	●		
3.6 Boundary of the report	2	●		
3.7 Limitations on the scope or boundary of the report	2, 78, 80, 84, 96	●		
3.8 Joint ventures, subsidiaries, and outsourced operations	2, 78, 80, 84, 96	●		
3.9 Data measurement techniques	78, 80, 84	●		
3.10 Effects of re-statement or information provided in earlier reports	3, 18-19, 78, 80, 84	●		
3.11 Significant changes in the scope, boundary or measurement methods	3, 18-19, 78, 80, 84	●		
3.12 GRI Content Index	98-99, OSR 05	●		
3.13 External assurance	100-101	●		
<b>Governance, Commitments, and Engagement</b>				
4.1 Governance structure	13-15, AR 136-137, 145-150	●	1-10	
4.2 Indication whether chairperson is also executive officer	6-7, AR 135-150	●	1-10	
4.3 Independent members at the board	AR 147-150	●	1-10	
4.4 Mechanisms for shareholders and employees to provide recommendations to the board	6-7, 28-29, AR 138, GP	●	1-10	
4.5 Linkage between executive compensation and organization's performance	36-39, AR 137, 139-142	●	1-10	8
4.6 Processes to avoid conflicts of interest at the board	13-16, AR 135-138	●	1-10	
4.7 Expertise of board members on sustainability topics	10-13, 18-19, 135-138	●	1-10	
4.8 Statements of mission, codes of conduct, and principles	6-7, 10-16	●	1-10	5
4.9 Procedures of board governance on management of sustainability performance	6-7, 10-19, 28-29, AR 220-228	●	1-10	6
4.10 Processes for evaluation of the board's sustainability performance	AR 20-21, 137, 139-142	●		7, 8
4.11 Precautionary approach	10-19, 23-29	●	7	
4.12 External charters, principles, or other initiatives	15-16, AR 219	●	1-10	3
4.13 Memberships in associations	14-16, 48-49, 63	●	1-10	
4.14 Stakeholder groups	OSR	●		9
4.15 Stakeholder identification and selection	2, 14-16, 100-101, OSR 15, OSR	●		9
4.16 Approaches to stakeholder engagement	14-16, 18, 63, 100-101, AR 219, OSR 9, 28, OSR	●		9
4.17 Topics and concerns raised by stakeholders	2, 6-7, 14-16, 18, 22-23, 32, 52, 58, 61, 65, OSR	●		9
<b>Economic Performance Indicators</b>				
Disclosure on management approach	21-29	●	1, 4, 6, 7	
EC1 Direct economic value generated and distributed	78-79, 94, AR 166-187	●		18
EC2 Financial implications due to climate change	56-69, 72-73, AR 225-226	●	7	
EC3 Coverage of the organization's defined benefit plan	78, AR 189, 210	●		
EC4 Financial government assistance	AR 280, 294	●		
EC6 Locally-based suppliers	24-25, 27, OSR 13	●		
EC7 Local hiring	27, 32-35, OSR 13	●	6	
EC8 Infrastructure investment and services for public benefit	27, 42-43, 44-47	●		

GRI Standard Disclosure	Reference	Status	UNGC	GSC
<b>Environmental Performance Indicators</b>				
Disclosure on management approach	6-7, 10-16, 22-29, 56-59, 63-72, OSR 8, 16, 17, 40, 41, 42, 50, AR 135-138, 203, 211-219	●	7, 8, 9	
EN1 Volume of materials used	57-59, 73-74, OSR 75, AR 217	●	8	11
EN2 Recycled materials	73/74, OSR 72, 74, 76, OSR	●	8, 9	12
EN3 Direct primary energy consumption	64-66, 84, OSR 56	●	8	12
EN4 Indirect primary energy consumption	66	●	8	12
EN8 Total water withdrawal	60, 71-72, 86, OSR 25, 60, 62, 65, BP	●	8	12
EN11 Land assets in or adjacent to protected areas	69-72, AR 217, OSR 11, 25, 61, 62, 63, 64	●	8	
EN12 Impacts on biodiversity	69-72, AR 217, OSR 11, 25, 61, 62, 63, 64	●	8	
EN16 Greenhouse gas emissions	85, AR 213	●	8	13
EN17 Other greenhouse gas emissions	www.cdproject.net	●	8	13
EN19 Emissions of ozone-depleting substances	OSR	●	8	
EN20 NOx, SOx, and other air emissions	85	●	8	
EN21 Water discharge	71-72, 86, OSR 62, BP	●	8	
EN22 Waste by type and disposal method	87	●	8	12
EN23 Significant spills	OSR	●	8	
EN26 Initiatives to mitigate environmental impacts	23-24, 44-47, 48-53, 56-74, OSR 54, 56, 58, 59, 60	●	7, 8, 9	10
EN27 Packaging materials	OSR 81	●	8, 9	
EN28 Sanctions for non-compliance with environmental regulations	28, OSR 22, AR 225	●	8	
<b>Social Performance Indicators: Labor Practices and Decent Work</b>				
Disclosure on management approach	32-35, 38, 40-42, OSR 82	●	1, 3, 6	
LA1 Workforce by employment type and region	80-81	●		
LA2 Employee turnover		●	6	
LA4 Employees with collective bargaining agreements	15-16, 35, 37, 96, OSR 13, OSR	●	1, 3	
LA5 Minimum notice period(s) regarding operational changes	15-16, 35, OSR 12, 13, 14	●	3	
LA7 Occupational diseases, lost days, and number of fatalities	40-41, 83, OSR 82	●	1	15
LA8 Training on serious diseases	40-41, OSR 82	●	1	16
LA10 Training per employee		●		16
LA13 Composition of governance bodies	41-42, 81, AR 145-150	●	1, 6	16
LA14 Gender pay disparity	15-16, 35, OSR 12, 13, OSR	●	1, 6	
<b>Social Performance Indicators: Human Rights</b>				
Disclosure on management approach	15-16, 24-28, OSR 12, 13, 14, 82	●	1-6	
HR1 Investment agreements		●	1-6	17
HR2 Supplier screening on human rights	24-25	●	1-6	17
HR4 Incidents of discrimination	15-16, 24-25, 28-29, OSR 14, OSR	●	1, 2, 6	16, 17
HR5 Freedom of association and collective bargaining	24-25, 27-29, OSR 12, 13	●	1-3	
HR6 Child labor	15-16, 24-25, 28-29, OSR 12, 13	●	1, 2, 5	17
HR7 Forced labor	15-16, 24-25, 28-29, OSR 12, 13	●	1, 2, 4	17
<b>Social Performance Indicators: Society</b>				
Disclosure on management approach	15-16, 28-29, 42-47, 63, OSR 12, 14	●	10	
SO1 Impacts on communities	27-29	●		18
SO2 Corruption risks	28-29, AR 131-132	●	10	18
SO3 Anti-corruption training	28-29, AR 131-132, OSR	●	10	
SO4 Actions taken in response to incidents of corruption	28-29, AR 131-132	●	10	20
SO5 Lobbying	15, 63, AR 135	●	1-10	
SO8 Sanctions for non-compliance with laws and regulations		●		20
<b>Social Performance indicators: Product Responsibility</b>				
Disclosure on management approach	6-7, 13-16, 22-23, 28-29, 53-63, AR 214-217, BP	●	1, 8	
PR1 Health and safety impacts along product life cycle	22-24, 56-59, OSR 45	●	1	
PR3 Product information	2, 59-63, 88-89, OSR 4	●	8	
PR6 Marketing communication standards	10-13, 22-24, 61, AR 203, OSR 14, 16, 17, 18, 19	●		
PR9 Sanctions for non-compliance with product and service related regulations		●		

**Status:** ● fully reported  
 ● partly reported  
 ● not reported

**AR** = Annual Report  
**GP** = Group Portal [www.volkswagenag.com](http://www.volkswagenag.com)  
**BP** = Brand Portal [www.volkswagen.com](http://www.volkswagen.com)  
**OSR** = Online Sustainability Report  
**UNGC** = United Nations Global Compact  
**GSC** = German Sustainability Code

# Independent Assurance Report

To Volkswagen Aktiengesellschaft, Wolfsburg

We have been engaged by Volkswagen AG of Wolfsburg to perform an independent assurance<sup>1</sup> engagement to attain moderate assurance in respect of observing the AA1000 AccountAbility principles and in respect of individual quantitative sustainability data selected by Volkswagen AG in the Sustainability Report 2011 (the “Sustainability Report”).

## Responsibility of the legal representatives

It is the responsibility of the legal representatives of the Company

- to comply with the principles of inclusivity, materiality and responsiveness as defined in AccountAbility Principles Standard (2008) (the “AA1000 AccountAbility Principles”), and
- to prepare the sustainability information in the Sustainability Report in accordance with the criteria set out in the Sustainability Reporting Guidelines Vol. 3.0 (pages 7 to 17) of the Global Reporting Initiative (GRI).

This responsibility includes the conception, implementation and maintenance of systems and processes for ensuring compliance with the AA1000 AccountAbility Principles and to prepare the CSR Report using assumptions and estimations that are appropriate under the given circumstances.

## Responsibility of the auditor

Our responsibility is to form an opinion, based on our assurance procedures, on whether facts have come to our attention leading us to assume that in all material respects

- the systems and processes installed by the Company are not appropriate for compliance with the AccountAbility Principles of inclusivity, materiality and responsiveness; or
- the selected quantitative sustainability information set out in the Sustainability Report has not been prepared in compliance with the criteria set out in the Sustainability Reporting Guidelines Vol. 3.0 (p. 7 to p.17) of the Global Reporting Initiative (GRI)

The quantitative sustainability information 2011 selected by Volkswagen AG included in our engagement can be found on pages 78 to 87 of the Sustainability Report, excluding the Employee Opinion Survey, Absenteeism and Employee Turnover at the Volkswagen Group.

We also have been engaged to report on recommendations for the further development of Corporate Responsibility (CSR) Management and CSR Reporting.

We conducted our independent assurance engagement in accordance with AA1000 Assurance Standard (AA1000AS) 2008 and also in accordance with the International Standard on Assurance Engagements (ISAE) 3000.

These standards require that we fulfil our professional duties and plan and conduct the engagement in accordance with the principle of materiality so that we can form an opinion with moderate assurance<sup>1</sup> which is the degree of assurance that was required by Volkswagen AG. We are independent as defined by Section 3.2 of AA1000AS (2008).

Due to our expertise and experience with non-financial information, sustainability management and social and ecological issues, we have the competencies required to conduct this independent assurance engagement.

An independent assurance engagement performed to obtain moderate assurance is less substantial in scope than an independent assurance engagement performed to obtain high assurance<sup>2</sup>, with the result that a corresponding lower level of assurance is obtained. The selection of the issues to be examined is at the discretion of the auditors performing the engagement, exercising all due care and diligence.

With regard to compliance with the AA1000 AccountAbility Principles, our examination procedures included the following:

- discussions with management
- understanding the relevant documentation
- samples to obtain evidence of the implementation and appropriateness of the relevant systems and processes

With regard to the selected sustainability information in the Sustainability Report, our work included the following examinations:

- discussions with the employees responsible for the reporting of sustainability information
- examination of the systems and processes for the compilation, calculation and reporting of sustainability information
- functional examination of the controls for the assurance of data quality
- analytical assessment of selected sustainability data

Visits to the locations of Wolfsburg (Volkswagen AG), Ingolstadt (Audi AG), Baunatal (Volkswagen AG), Pamplona (VW Navarra), Barcelona (Seat S.A. Martorell) and Bratislava (Volkswagen Slovakia).

## Material findings and judgments

Findings with regard to the AA1000 AccountAbility Principle of inclusivity:

- Internal documentation and publicly accessible information exist that describe the identification and analysis of important stakeholders and state various obligations vis-à-vis stakeholders.
- Volkswagen AG has set up a procedure that provides for involv-

<sup>1</sup>“Moderate assurance” as specified by AA1000AS (2008) is equivalent to “limited assurance” as specified by ISAE 3000.

<sup>2</sup>“High assurance” as specified by AA1000AS (2008) is equivalent to “reasonable assurance” as specified by ISAE 3000.

ing stakeholders in decision-making processes on issues relating to sustainability.

- In the process of stakeholder participation at Volkswagen AG, internal stakeholders are included in the form of brands and regions by means of an annual meeting of the executive bodies with their sustainability coordinators.
- Volkswagen AG has sufficient competencies and resources available at the Group level to identify and include stakeholders. The brands and regions have only limited competencies and resources to ensure the identification and inclusion of stakeholders throughout the organization.

Findings with regard to the AA1000 AccountAbility Principle of materiality:

- With the use of internal documentation and discussions with management, evidence was found of definitive components of the procedure for ascertaining the materiality of sustainability issues.
- The sustainability issues, objectives and methods of the Volkswagen Group were not fully communicated to the brands and regions.
- We inspected the process for defining the relevance and significance of the sustainability issues found in the Sustainability Report. The determination of the significance and relevance of sustainability issues is based on suitable criteria and is complete and understandable.
- The topics of internal materiality processes, report evaluation of the CSR Report 2010 and the stakeholder workshops were prioritized in the report.

Findings with regard to the AA1000 AccountAbility Principle of responsiveness:

- Internal documents prove that Volkswagen AG has set up procedures for reacting to sustainability issues that are also important to stakeholders. The brands and regions of the Volkswagen Group do not have procedures for standardized reactions to stakeholder inquiries.
- On a sample basis, we were able to determine a verifiable and balanced reaction to the concerns of stakeholders of Volkswagen AG.
- We determined that suitable guidelines for sustainability reporting are in use in the form of the GRI principles (General Reporting Initiative).

Based on our moderate assurance engagement to obtain moderate assurance, nothing has come to our attention that causes us to believe that, in all material respects, the systems and processes implemented by the Company are not suitable to adhere to the AA1000 AccountAbility Principles of inclusivity, materiality and responsiveness.

Furthermore, nothing has come to our attention that causes us to believe that, in all material respects, the selected quantitative sustainability information of the Sustainability Report has not been prepared in accordance with the abovementioned criteria of the Sustainability Reporting Guidelines Vol. 3.0 (p. 7 to p. 17) of the Global Reporting Initiative (GRI).

## Recommendations

Without qualifying the opinions on our audit stated above, we make the following recommendations to further develop sustainability management and sustainability reporting:

Recommendations regarding the principle of inclusivity:

- The participation and clear inclusion of the brands and regions in the stakeholder management of VW AG should be strengthened further and intensified.
- The identification and inclusion of the stakeholders should, in addition, be systematically further developed in the brands and in the regions and supported by the Group in terms of its content.

Recommendations regarding the principle of materiality:

- The brands and regions should be more closely linked with the objectives of Strategy 2018.
- The evaluation of the results of the internal materiality process as well as the discussions with stakeholders should be developed and systematized further.

Recommendations regarding the principle of responsiveness:


- The procedures for standardized reactions to stakeholder inquiries should be gradually implemented in the brands and regions.

We further recommend:

- The company's dynamic and globality should take into account the continuous further development of the Group-wide sustainability management.
- The systematic and continuous integration of sustainability aspects in the core processes of the Company.
- The gradual and Group-wide further development of the control system, such as the standardization of data collection and evaluation and the internal control system.
- The further Group-wide automation of data consolidation, e.g. by using higher level IT systems to report sustainability data.
- Regular reviews of the set of key performance indicators for sustainability reporting and, if necessary, the addition of further relevant performance indicators, e.g. in the area of supplier management.
- Regular reviews of compliance with process standards for the internal reporting of sustainability data.

Hannover, 2nd April 2012

**PricewaterhouseCoopers  
Aktiengesellschaft  
Wirtschaftsprüfungsgesellschaft**



Harald Kayser  
Wirtschaftsprüfer  
German Public Auditor



Andreas Bröcher  
Wirtschaftsprüfer  
German Public Auditor

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- 🔗 04 Consumption and emissions data
- 🔗 05 GRI Content Index (long version)
- 🔗 06 Overview of certified production plants
- 🔗 07 Group film on Responsibility
- 🔗 08 Model of Sustainable Development
- 🔗 09 Stakeholder dialogue “Mobil im Dialog”
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- 🔗 11 Volkswagen and NABU microsite
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- 🔗 16 “My Think Blue.” online portal
- 🔗 17 Think Blue. in the brand portal
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- 🔗 19 autostadt.de
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