

Sustainability Report 2011

The Principle of Responsibility



— **EnBW**

EnBW Energie
Baden-Württemberg AG

Top themes in 2011

1st quarter

Top employer

The internationally active research company CRF once again confers the title of "Top German Employer" on EnBW Energie Baden-Württemberg AG in 2011 in recognition of its good and modern personnel management practices. The following year, EnBW is awarded this title for the eighth time in succession.

GKN I and KKP 1 nuclear power plants go offline

After the events in Fukushima, EnBW also shuts down two of its nuclear power units, Neckarwestheim I and Philippsburg 1. In July, the government decides to withdraw from nuclear energy generation by the year 2022. Meanwhile, the expansion of renewables continues to gather pace.

2nd quarter

E-mobility in the model energy state

EnBW's e-bike is a further contribution to Baden-Württemberg's endeavour to become a "model energy state" and is showcased at the "Automobile Summer 2011" in Stuttgart. EnBW provides visitors with all the facts and figures of the environment-friendly bike as well as details of the charging infrastructure and the functioning of the charging station.

EnBW Baltic 1 goes into operation

EnBW Baltic 1, the first commercial offshore wind farm in German waters, goes into operation and feeds the first kilowatt-hour of electricity into the grid. The wind farm has a total capacity of around 50 MW and can generate 185,000,000 kWh of electricity a year for some 50,000 households.

Increased onshore activities

EnBW acquires an onshore wind farm with a capacity of 6 MW in Friedberg in the state of Hessen and signs agreements with a partner on the development of two wind farms. EnBW is responsible for project management, financing, construction and operation. In years to come, the company also intends to become increasingly active in the field of project development.

3rd quarter

Official start-up of the Rheinfelden hydroelectric power plant

After a construction period of around eight years and investment of 380 million €, the newly built run-of-the-river power plant in Rheinfelden now generates eco-electricity for a computed 170,000 households. The new plant has an installed capacity of 100 MW, four times the volume of the old power plant.

Environmental management in line with ISO 14001

The process of ISO 14001 certification that begun in 2006 is continued. It confirms that an environmental management system has been introduced and is being applied effectively. A further company is awarded certification in the year under review, which means that a total of 22 EnBW companies are now ISO 14001 certified.

4th quarter

Involvement of local people in Forbach and Leutkirch

In Forbach, EnBW informs the population about the current status of its expansion concept for the planned new pumped-storage power plant. The kick-off event for the participation of local people takes place for the "Leutkirch – sustainable town" project. Together with partners and the town council, EnBW develops a concept for the energy-efficient, emission-reduced and decentral supply of electricity to the municipality.

Working together to combat leukaemia

The cross-location typing programme organised by the occupational medicine department of EnBW lasts four weeks. Around 1,000 employees agree to be entered in the German Bone Marrow Donor Database. The motto of the programme is "Working together to combat leukaemia".

EnBW amphibian protection programme – "Stimuli for Diversity"

The state-wide support programme for amphibian protection has been successfully launched. It makes a key contribution toward improving the habitats of local amphibian species throughout the state and promoting the positive development of the amphibian population. EnBW is funding the programme in addition to its existing environmental protection measures.

Key figures

		2011	2010	Change in %
Economic indicators				
External revenue, total	million €	18,789.7	17,509.0	7.3
Adjusted EBITDA ¹	million €	2,453.0	2,858.7	-14.2
EBITDA ¹	million €	1,808.7	3,315.0	-45.4
Adjusted EBIT ¹	million €	1,598.1	1,926.1	-17.0
EBIT ¹	million €	670.9	2,124.8	-68.4
Adjusted group net profit ^{1,2}	million €	647.7	964.3	-32.8
Group net loss/profit ^{1,2}	million €	-867.3	1,157.2	-174.9
Earnings per share from group net loss/profit ^{1,2}		-3.6	4.7	-174.9
Cash flow from operating activities	million €	1,740.1	2,560.9	-32.1
Free cash flow ³	million €	690.8	1,060.1	-34.8
Capital expenditure	million €	1,319.0	2,327.9	-43.3
Return on capital employed (ROCE) ¹	%	11.7	14.2	-17.6
Ecological indicators⁴				
Total water extraction – surface/river water ⁵	million m ³	2,762	3,027	-8.8
Use of fossil primary sources of energy (coal/natural gas)	GJ	227,272,589	215,572,150	5.4
Use of biogenic energy sources (biomass)	GJ	8,855,220	9,297,054	-4.8
Use of nuclear fuel ⁶	t uranium	38	84	-54.8
Total weight of conventional waste	t	558,470	776,929	-28.1
Total weight of radioactive waste	g/kWh	0.0013	0.0014	-7.1
Waste/Recycling rate ⁷	%	80.0	96.3	-16.9
Specific CO ₂ emissions from electricity generation ⁸	g/kWh	346	299	15.7
Direct CO ₂ emissions	million t CO ₂ eq	21.9	21.0	4.3
Indirect CO ₂ emissions	million CO ₂ eq	1.1	1.1	0.0
Other indirect CO ₂ emissions	million t CO ₂ eq	17.3	-	-
Investment in environmental protection	million €	253	184	37.5
Social indicators				
Employees overall ⁹		20,296	20,952	-3.1
Share of women overall	%	25.6	25.5	0.4
Share of women in management positions	%	10.2	9.9	3.0
Fluctuation rate	%	4.6	4.2	9.5
Health rate ¹⁰	%	95.7	95.8	-0.1
Social commitment				
Donations of EnBW AG incl. membership fees	million €	1.13	1.15	-1.4

1 Prior-year figures adjusted

2 Based on the income accruing to the shareholders of EnBW AG

3 Free cash flow before financing

4 Absolute environmental ratios provide concrete information on material flows

5 Own generation including contracted power plants; not included: long-term procurement agreements and short-term procurement where the primary sources of energy are unknown

6 Uranium from own generating activities: total heavy metal load

7 Own generation including contracted power plants; not included: long-term procurement agreements and short-term procurement where the primary sources of energy are unknown

8 Own generation of electricity comprises own and part-owned plants as well as long-term procurement agreements

9 Number of employees without apprentices/trainees and without inactive employees

10 Regular working days – lost days through inability to work

Our business areas

Electricity Generation and trading



Generation/Trading/Optimisation
13,402 MW
of generation capacity, including
2,538 MW of renewables

59.5 billion kWh
own generation¹

Share of adjusted EBIT²
80 %

Electricity grid and sales

Transport and distribution
153,166 km
electricity grid

Sales
64.5 billion kWh
of electricity sold

Share of adjusted EBIT²
13 %

Gas



Procurement
56.7 billion kWh
of gas procurement without
procurement for power plants

Storage facilities
269.0 million m³
of storage capacity including
the gas storage facility in Etzel

Transport and distribution
15,967 km
gas grid

Sales
54.9 billion kWh
of gas sold

Share of adjusted EBIT²
3 %

Energy and environmental services



Thermal waste disposal
1.3 million t
of thermal waste disposal
capacity

Contracting
1,290 MW
of installed thermal
output

Water supply
89.5 million m³
of water sold

Share of adjusted EBIT²
12 %

¹ Own generation also includes long-term procurement agreements and part-owned power plants.

² The Holding/Consolidation business area (share -8%) is not listed in the overview.

Publisher

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UNGC	GRI G3	Report element	Scope	Page
		Social performance indicators: human rights		SR 2011 p. 49-51, 65
		Management approach		AR 2011 p. 44, 83-86
1-6	HR1	Principles and policies on monitoring human rights	Full reporting	SR 2011 p. 50, 56-57
1-6	HR2	Screening of suppliers and contractors	Full reporting	SR 2011 p. 50, 56-57
1-6	HR3	Employee training in the area of human rights	Full reporting	SR 2011 p. 50, 56-57
1, 2, 6	HR4	Incidents of discrimination, actions taken	Full reporting	SR 2011, p. 62-65, 75
1-3	HR5	Ensuring freedom of association throughout the organisation	Full reporting	SR 2011 p. 50
1, 2, 5	HR6	Principles/Measures to prevent child labour	Full reporting	SR 2011 p. 50
1, 2, 4	HR7	Principles/Measures to prevent forced or compulsory labour	Full reporting	SR 2011 p. 50
1, 2	HR 10	Percentage/Number of organisational units that have performed human rights reviews	Partial reporting	SR 2011 p. 57
1, 2	HR 11	Grievances related to human rights filed and actions taken	Partial reporting	SR 2011, p. 57
10		Social performance indicators: society		SR 2011 Foreword, p. 14-16, 56-57, 66-70
		Management approach		
	S01	Management of the impacts of operations on communities	Full reporting	SR 2011 p. 46-47
	S02	Corruption: investigated organisational units	Full reporting	SR 2011 p. 57
10	S03	Corruption: trained employees	Full reporting	AR 2011 p. 210-211
10	S04	Corruption: actions taken	Full reporting	SR 2011 p. 57
1-10	S05	Participation in public policy development and lobbying	Full reporting	AR 2011 p. 210-211
	S07	Total number of legal actions for anticompetitive behaviour, anti-trust, and monopoly practices and their outcomes	Full reporting	AR 2011 p. 97
	S08	Sanctions for noncompliance with laws and regulations	Full reporting	AR 2011 p. 97
1, 8		Social performance indicators: responsibility for products and services		SR 2011 p. 46-47, 56-57, 65
		Management approach		
1	PR1	Principles concerning the health and safety of customers	Full reporting	SR 2011 p. 65
	EU25	Number of injuries and fatalities to the public involving the company's operations	Full reporting	SR 2011, p. 76
8	PR3	Principles/Procedures for product labelling	Full reporting	AR 2011 p. 40
	PR6	Programmes for adherence to laws/voluntary codes related to marketing	In Progress	
1	PR8	Principles/Procedures for customer data protection	Full reporting	SR 2011 p. 49, 56
	PR9	Monetary fines for noncompliance with laws and regulations concerning the use of products and services	Full reporting	AR 2011 p. 97
	EU26	Percentage of population unserved in licensed distribution areas	Full reporting	Link to follow
	EU28	Frequency of power failures	Full reporting	www.transnetbw.de/kennzahlen
	EU29	Average duration of a power failure	In Progress	
	EU30	Average availability of power plants	In Progress	



Deutscher
NACHHALTIGKEITS
Kodex

With the publication of the 2011 Sustainability Report, EnBW has also submitted its first declaration of conformity with the German Sustainability Code to the German Council for Sustainable Development. The EnBW declaration of conformity can be viewed in the database at www.deutscher-nachhaltigkeitskodex.de. You can find further information on the Code on the website of the German Council for Sustainable Development at www.nachhaltigkeitsrat.de/projekte/eigene-projekte/deutscher-nachhaltigkeitskodex.

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Foreword

Dear Reader,

2011 was not an easy year for EnBW. The energy policy framework in which we operate has shifted dramatically in recent months. The energy transition strategy adopted by the German government has a major impact on EnBW as an energy company. Against this backdrop, we are continuing to do everything we can to ensure the affordable, reliable, safe, environmentally sound and sustainable supply of energy. We are playing an active role in shaping the energy transition by stepping up the large-scale expansion of renewable forms of energy.

What is important to me is that these challenges are always tackled on the basis of the three pillars of sustainability: alongside economic considerations, social and ecological aspects also always need to be taken into account. We have decided on and in some cases already implemented efficiency-boosting measures, divestment projects and capital measures. In other words, we are increasing efficiency levels within our company and selling some of our holdings or downsizing holding shares while strengthening our equity base and our credit rating at the same time.

The principle of responsibility is at the heart of our economic, ecological and social activities. Sustainability in the era of the energy transition calls for a high level of social responsibility on the part of all relevant actors – as only responsible actions and strategies that are geared toward the long term can pave the way for the successful business operations of EnBW and lay the foundation for the necessary social acceptance for these operations. This is why we are stepping up innovation and cooperation – and involving our stakeholders in this process. This approach is reflected, for example, in projects like the wind energy installation in Schopfloch, the dialogue with the local people in Forbach and the "Leutkirch – sustainable town" project.

This Sustainability Report is divided into three sections: Changing, Comprehending and Connecting. Under "Changing"; we show how our sustainability strategy makes a key contribution to the energy transition. Our corporate goals are systematically interlinked with the objectives of our sustainability strategy. We will continue to base our reporting practices on the specifications of the Global Reporting Initiative in future. By publishing a declaration of conformity with the German Sustainability Code, we underline the impor-



Hans-Peter Villis, Chief Executive Officer of EnBW

tance of this topic for our company while at the same time explicitly addressing the financial markets. We are also working on the stronger merging of Annual Report and Sustainability Report with the long-term aim of publishing an integrated report. Together with our Chief Financial Officer, Thomas Kusterer, I am in charge of the corporate project entitled "Integrating Reporting".

Under "Comprehending", we document the intensive process of dialogue with our stakeholders. Recent months have shown that the traditional threefold objective for the energy industry comprising cost efficiency, sparing the environment and supply reliability needs to be extended to include a fourth dimension in these challenging

times, namely social acceptance. The energy transition will only be successful if society is directly involved in this far-reaching process, and this is why we are in favour of ongoing dialogue with our stakeholder groups on an equal footing. As a signatory to the Global Compact of the United Nations, we will continue to cooperate closely with state and non-state actors and to search for and find common solutions to the challenges facing society.

In the "Connecting" section, we outline the steps we have already taken in the central fields of action on the path to becoming a systematically sustainable company. For EnBW, the principle of responsibility does not only mean doing the right things but also doing these things right. This applies to our actions in general and our core business in particular; it applies to our generating activities as well as our decentral solution packages.

In the field of action headed "innovation and growth", we are expanding the share of renewables in the generating mix and developing and introducing intelligent networks. Our "sustainable town" concept also treads new ground and shows how we implement sustainable energy solutions in partnership with many local actors.

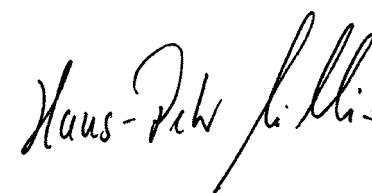
A further focal point of our efforts is the sustainable organisation of our processes, from central purchasing and raw material procurement for our power plants all the way through to the environment-friendly operation of our generating facilities and the efficient disposal of occurring waste. Last year, we also continuously extended our group-wide compliance management system, which is now firmly rooted in the corporate culture of EnBW.

These are difficult times for energy supply companies, and EnBW employees also feel the effects. The high-profile presence of energy companies in the media – and therefore in the public arena – and the planned structural and personnel measures placed a major burden on the entire EnBW workforce in 2011 and still do so today. We are therefore all the more pleased to once again be named "Top Employer", as this bears witness to the fact that we still offer good working conditions and that we are still an attractive employer.

By presenting numerous projects, above all in the field of education, we would then like to provide you with a brief overview of our activities geared toward the common good.

We are committed to making the energy transition a success. We have already achieved many milestones on our road to becoming a sustainable energy company, and there are further milestones ahead. Even though we have not yet answered all the questions and solved all the problems posed by the energy transition, I am nevertheless convinced that sustainable business activity is a cornerstone in the strategy of EnBW and one of the central preconditions for the success of the energy transition.

I hope that this report makes for interesting and informative reading,



Hans-Peter Villis
Chief Executive Officer,
EnBW Energie Baden-Württemberg AG

About this report

Creating a sustainable company

This Sustainability Report outlines the economic, ecological and social impacts of our corporate operations in 2011 and informs our stakeholders about progress and ongoing developments in the acceptance of social responsibility in our core business and beyond. Moreover, we document how we, as part of society, conduct our business activities cost effectively, successfully and responsibly along the entire value added chain in the interests of our stakeholders.

New features in this report: our 2011 Sustainability Report can be downloaded from our Internet site at www.enbw.com as a PDF file and can also be viewed online. In the case of some topics, we additionally refer readers to more detailed information on the Internet or in other publications that can also be found on our website.

Scope of validity: the reporting period is the calendar year 2011. Information on sustainability activities before 2011 can be found in the 2010 Sustainability Report. The data in the report refer to the entire EnBW Group, in particular our core companies.

Inclusion of stakeholders and materiality analysis: the ongoing and comprehensive dialogue with our stakeholders has been of utmost importance and has supplied key stimuli for decisions on the content and structuring of this report. A detailed materiality analysis is being prepared with our core stakeholders for the next reporting year; this analysis will identify the sustainability themes that are of central significance for society and of major relevance to EnBW.

Languages: in the case of doubt, the German version of this report is authoritative.

Global Reporting Initiative: this Sustainability Report has been compiled in compliance with the G3.1 Guideline of the Global Reporting Initiative (GRI) and informs readers about progress made in the implementation of the principles of the UN Global Compact. The GRI Index is at the end of the report.

German Sustainability Code: during the course of the publication of this report, we have forwarded a Declaration of Conformity with the German Sustainability Code ((DNK) to the German Council for Sustainable Development. This declaration can be viewed on the Internet at www.nachhaltigkeitsrat.de.



This symbol means:
that this is where you can find more detailed information on the adjacent topic.



This symbol means:
that this is the Internet address where you can find more detailed information.

Important notes

Forward-looking statements: this report contains forward-looking statements based on current assumptions, plans, estimates and forecasts of the EnBW management. Forward-looking statements are subject to risks and uncertainties. EnBW can therefore not guarantee that these forward-looking statements will prove complete, correct or precise or that expected and forecast results will actually occur in the future.

Updating: EnBW does not enter into any obligation whatsoever to update the information and forward-looking statements contained in this report or to conform them to future events or developments.

C1

Changing


Our aim is to make a decisive contribution to the energy transition.

Harnessing the wind

The flat coastal regions in northern Germany where the wind is strong and constant have already been extensively developed for onshore wind energy. The focus is now turning to the hinterland with its hills and forests, and states like Baden-Wurttemberg are catching up. We are grasping these new opportunities and adapting our methods and technology to the complex terrain.



Michael Wollny, specialist for locational analysis, at the EnBW wind energy installation in Schopfloch

 See also page 42 et seq.,
Expansion of renewables

The man wearing a weatherproof jacket and wellington boots is happy about the stiff breeze: "If the wind blows at a speed of 6 metres a second at an altitude of 140 metres, then the Enercon 82 operates cost efficiently. Speeds from 12 metres a second allow us to exploit the full rated output of 2,000 kilowatts." Michael Wollny is our specialist for locational and yield analysis and, like his colleagues in the project acquisition department, is a very busy man. Since the summer of 2011, they have spent an increasing amount of time "on the ground" visiting locations in Baden-Württemberg.

When it comes to wind energy, Baden-Württemberg has a lot of ground to make up relative to other German states. The state government intends to increase the share of wind energy in overall energy generation from 1% in 2011 to 10% in 2020 and has taken important measures to accelerate the expansion of wind power. Our job now is to identify and secure high-yield locations that can be effectively developed so that we can continue to expand our portfolio.

Key success factor – wind forecasting

Michael Wollny's opinion is taken into account when we decide whether and where to build wind energy installations: "The performance data of the turbines have steadily improved since we began our activities in the onshore segment, and we can now also install turbines in regions where wind levels are low. If my forecast is correct, our mega wind turbine in Schopfloch will meet the electricity needs of around 1,200 households over the year as a whole and will therefore avoid

3,200 tons of CO₂. For EnBW, Schopfloch is the starting point for further installations that we intend to build in Baden-Württemberg."

Schopfloch – a model installation

The community of Schopfloch is in the administrative district of Freudenstadt, 660 metres above sea level at the heart of meadows and woods. The wind conditions here are totally different from those on the coast. Mountains and forests act as wind-breaks, while there are occasional gusts of wind and turbulence in the valleys and on the ridges. It is only from a turbine height of 100 metres that the wind has the speed and constancy needed to ensure cost-effective operation of a wind energy facility. This is why the turbines rise high up above the landscape, and our installation in Schopfloch is currently the highest wind turbine in the northern Black Forest with a hub height of 138 metres.

Short construction phase – farsighted planning

Construction work in Schopfloch began in September 2011, and the facility has been feeding its electricity into the grid since January 2012. While the estimated construction time for an onshore wind energy installation is less than six months, the preceding planning and approval procedures take several years. During this phase, our onshore experts engage in intensive dialogue with municipal councillors, the local people, public order offices and nature conservationists in order to ensure maximum sustainability and acceptance for the projects.

Minimum impact on plant and animal life

Together with independent experts, we investigate the effects of noise emissions and shadow casting on residential areas and painstakingly research plant and animal habitats before we apply for a permit to build a wind energy turbine. Animal and plant specialists spend around a year counting the species and numbers and put up recording boxes to track down bat populations. Ecological compensation measures are implemented where necessary: neighbouring areas are re-landscaped to provide new feeding and nesting places or to gently attract the animals away from the area. Switch-off times are stipulated for wind turbines to avoid risks to bats and birds during flight. The aim is always to minimise the disruption potential.

Statement

Wind power in the forest

Stefan Lederer is a technical project developer for onshore projects. While work is in progress in Berghülen near Ulm on the construction of three installations identical to the Schopfloch facility, Lederer is already thinking ahead.

"Building high wind turbines in the forest helps us as planners to reconcile cost effectiveness and sustainability: the rotors of turbines with a hub height of 140 metres rise more than 60 metres above the tree tops. Wind speeds are higher and there is less turbulence. This means we can now achieve wind yields in areas with weak wind levels of the kind that only used to be possible on the coast. The trend towards building turbines in forests has enormous advantages. We avoid conflict in populated areas as well as problems with animal species that have been the focal point of our protection measures to date." **Stefan Lederer**

Our "big wheel" in the northern Black Forest

Wind power installation in Schopfloch



in operation since:
January 27, 2012

The town of Schopfloch in the district of Freudenstadt is where we have started up our highest onshore wind energy facility to date. It is almost as high as Cologne Cathedral. In the Black Forest, it is often only at these heights that wind speeds are high enough to allow cost-effective operation of wind turbines

1,200 households

→ Computed possible power supply

3,200 t CO₂

→ Avoided each year



48° 43' N | 9° 23' O

20 m
Diameter of
the foundation

1,300 t
Weight of the
foundation

135 t
Weight of the nacelle
with generator and
3 rotor blades

13 m
Diameter of the
tower base

138 m
Hub height of the
wind turbine

39 m
Length of the
rotor blades

30 m
Average height
of an oak tree

Onshore wind farm in Buchholz

In 2009, we acquired our biggest onshore wind farm to date, a facility with a capacity of 36 MW located in Buchholz in Lower Saxony. The wind farm is situated to the north of Hannover on the A7 motorway, and its 18 turbines generate around 78,000,000 kWh of electricity every year – enough to supply power to around 22,000 households. Two further turbines will be added to the farm at the end of 2012.

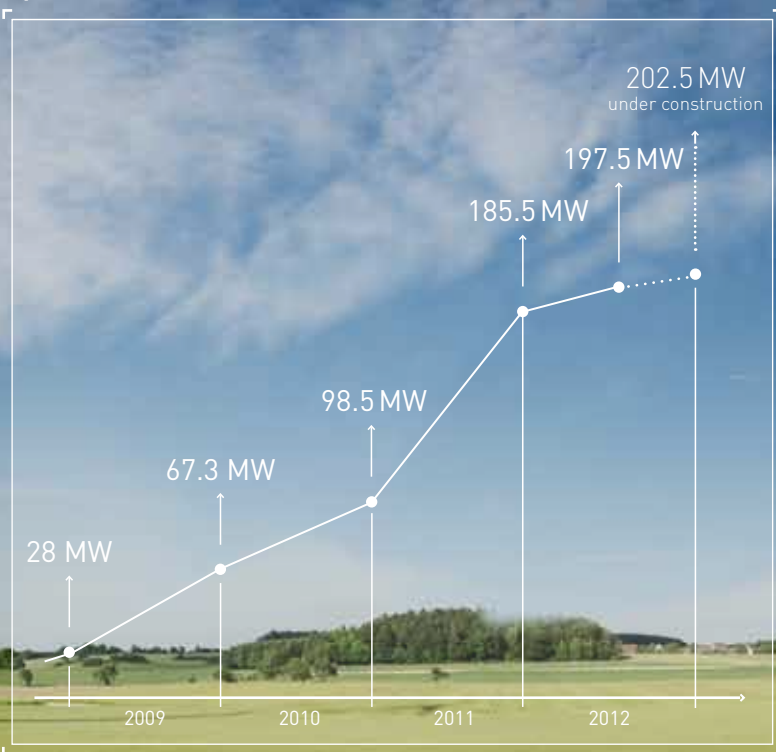
EnBW onshore installations > in Germany

Wind power installations: around 100
(operation, acquisition and construction)
Total capacity: approx. 170 MW

> in Baden-Württemberg

Wind power installations: 13
Total output: 17 MW

Our wind power commitments (productive onshore and offshore installations)

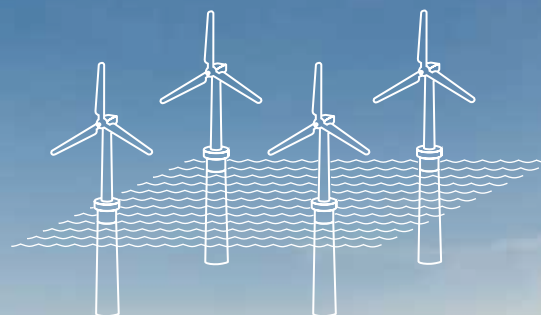


EnBW Baltic 1 offshore wind farm



in operation since:
May 2011

The EnBW wind farm Baltic 1 is the first commercial offshore wind farm in Germany and has been in operation since May 2011. It is situated 16 kilometres north of the Darß/Zingst peninsula in the Baltic Sea and comprises a total of 21 wind turbines.



48.3 MW

→ Total output

185,000.000 kWh

→ Annual generating volume

50,000 households

→ Computed possible power supply



Hydroelectric power

We have already been generating CO₂-free electricity from water power in our home region for a long time. The turbines of the Rheinfelden run-of-river hydroelectric power plant have been turning for more than a century. We have built a state-of-the-art run-of-river plant at this location over the past few years, and the new facility has four times the capacity of the old plant. The new plant has been supplying a computed 170,000 households with electricity since 2011.



Bioenergy

We use renewable biomass in a variety of ways: our heating and power plant in Ulm burns wood to generate heating for a computed 30,000 households and electricity for 12,500 households. We upgrade the biogas from the biogas plants to produce bio natural gas and then feed it into the natural gas network.



Solar energy

We have built several solar parks in Baden-Württemberg in recent years, and our biggest park is located in Ulm-Eggingen. With a capacity rating of 6.5 MW, this facility can produce electricity for a computed 2,000 households. We also use roof areas to generate electricity from the power of the sun by installing solar panels on the roofs of company buildings or by supporting local people and municipalities within the framework of "people's energy cooperatives".

Renewables

Overview of important EnBW projects

Contribution of renewables to EnBW electricity generation in 2011

			
Hydropower 5.8 billion kWh	Wind energy 160 / 185 million kWh (onshore/offshore)	Solar energy 12.6 million kWh	Biomass 40 million kWh (240 MW therm. output)

Savings resulting from renewables at EnBW

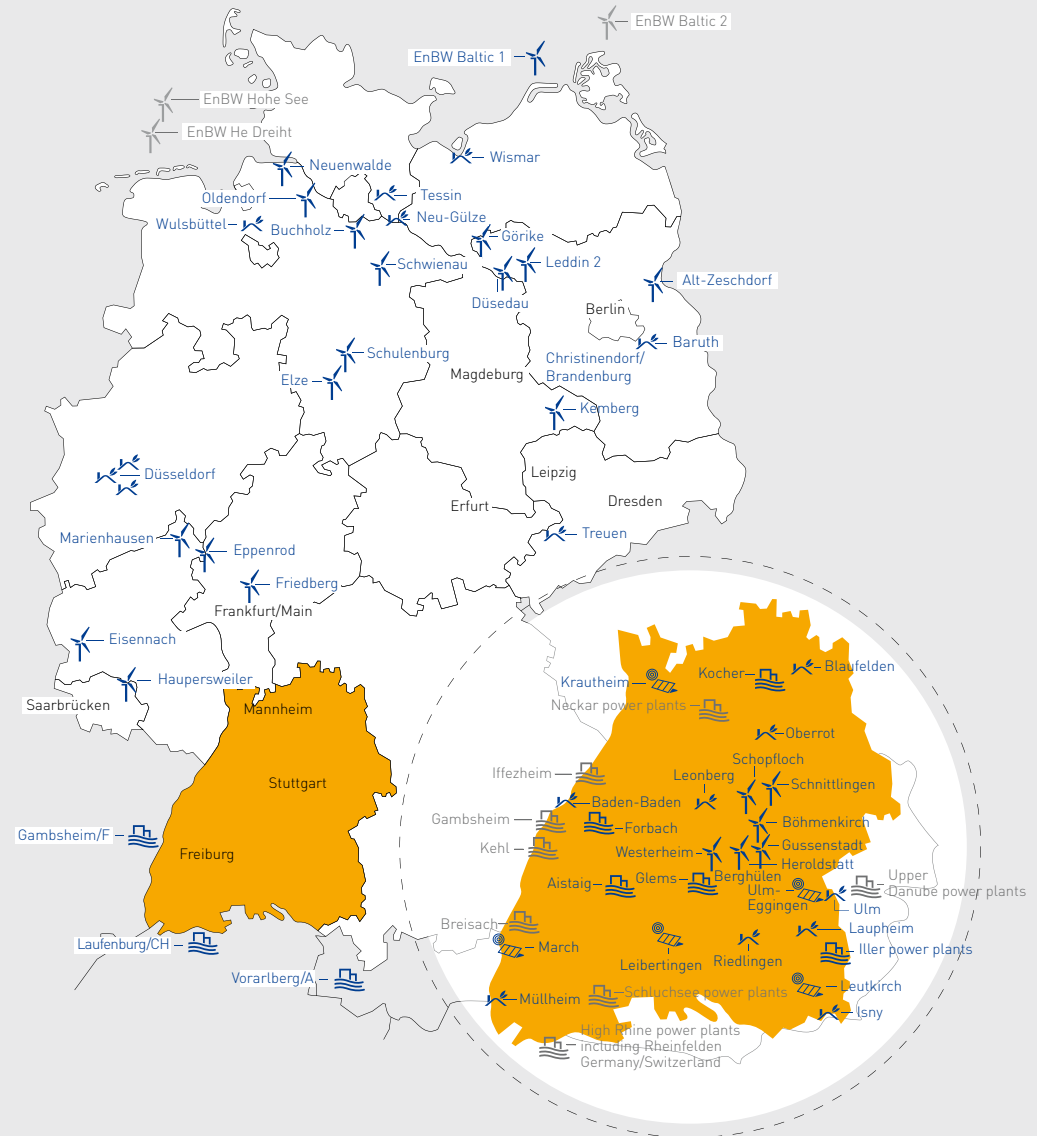
592.300 t CO₂ in 2011

Generating capacity of EnBW in Turkey from renewables

700 MW
Current project portfolio

110 MW
Generating capacity of the Bandirma wind power plant and the Yedigol Aksu hydropower plant

2.000 MW
Planned generation up to 2020, chiefly wind energy and hydropower



Wind farm at planning stage or under construction



Hydroelectric power plant with EnBW holding, procurement and delivery agreements

EnBW and the energy transition

The reporting year 2011 was not an easy year for the energy industry overall and therefore also not for EnBW. The events in March 2011 in Japan – the earthquake, the tsunami and the serious incidents in Fukushima that followed – have resulted in a sea-change in the social and political framework for the entire energy industry. In the wake of Fukushima, the energy transition that had already been set in motion was accelerated, creating special challenges for a company with an energy mix like that of EnBW. Nevertheless, EnBW believes it is well positioned to achieve its threefold sustainability goal of supply reliability, environmental protection and cost efficiency – as is expected of us by our stakeholders from the customer to the investor, from environmental organisations and individual employees and from our shareholders to our many cooperation partners at municipal utilities, suppliers and research institutes.

Doing the right things

EnBW's sustainability and corporate strategy

In the pursuit of this threefold goal, we take full account of the interests of our stakeholders and are working tirelessly to develop socially acceptable solutions.

If we are strong economically, then this enables us to step up our social commitments above and beyond the legal requirements and to take on broader social responsibility. This does not automatically mean, however, that economic profitability takes sole priority but that long-term business success is also geared towards achieving social and ecological goals. We are therefore interlinking our sustainability strategy with our corporate strategy step by step.

We are addressing the key challenges for our current and future business activities and have identified three fields of action where we are pushing ahead with the process of change in the EnBW Group and pursuing three core objectives: sustainability in the

central processes, development of new sales fields with sustainability-focused business models and the positioning of EnBW as a sustainable company.

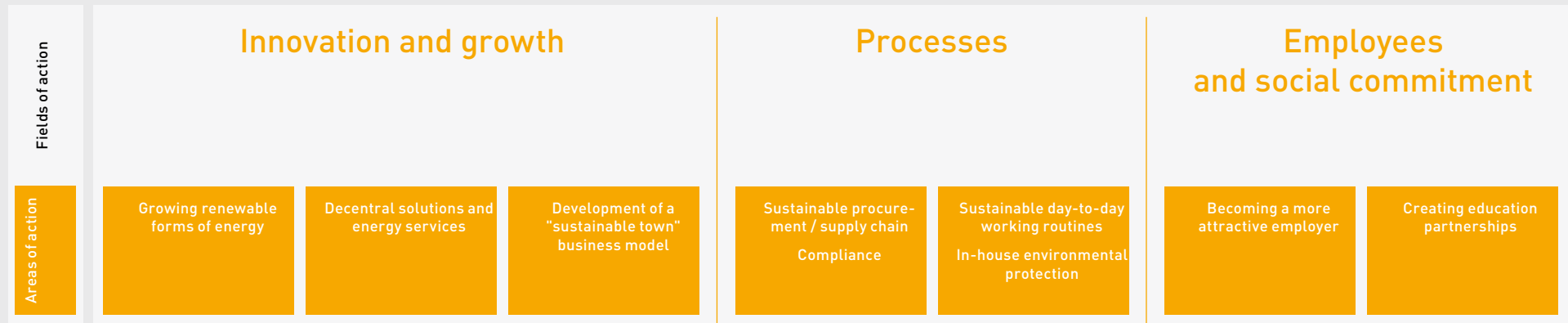
Introduction of the sustainability strategy: the sustainability programme of EnBW

As a sustainable company, we see the main challenges in three areas, and our activities and business models in each of these areas are geared towards the achievement of our core objectives.

- › Innovation and growth: by expanding renewables and innovative decentral services and energy solutions as well as new partnership-based forms of involvement, we are moving into new business areas and strengthening our position in the capital market.
- › Processes: our internal processes are being made more efficient and geared towards social and ecological objectives. The focus is on in-house environmental protection and the compliance of the actions of all employees with laws and regulations. The

Corporate strategy
Sustainability strategy

Areas of action
Doing the right things



day-to-day working environment at EnBW is becoming more sustainable.

- › Employees and social commitment: we are strengthening the role of EnBW as an attractive employer, motivating our workforce and supporting projects that contribute to the common good.

Special mention should be made of the following activities in the year under review in the development of EnBW into a sustainable group of companies:

Investment in the energy transition

Despite the difficult conditions, EnBW did a great deal to pave the way for further forward-looking investments in 2011. With the help of a wide-ranging consolidation programme, we intend to invest around 8 to 10 billion euros in the energy transition in the period up to 2020. By the same year, we want to increase our installed capacity in the field of renewables in Germany by around 3,000 MW, taking it to more than double the current figure. Our investment programme underlines our commitment to the energy transition and our intention to play an active part in shaping the energy future. We are currently pursuing two core strategies in this area: we intend to underscore our position as a low-CO₂

power generator by further expanding our renewables activities, optimising our conventional power plants to make them more energy-efficient, expanding our electricity network and investing in energy storage concepts and smart grids. The second strategy is geared towards establishing EnBW as a provider of decentral energy solutions and raising our profile even further as an energy partner for municipalities and municipal utilities as well as industrial and household customers.

Development of joint solutions in dialogue with customers and stakeholders

Customers and other stakeholders expect EnBW to expand the system of decentral energy generation, above all in the area of renewables. Our response to this is to develop new, holistic solutions like the "sustainable town" model and new decentral energy solutions such as our Germany-wide portfolio of services in the areas of photovoltaics, e-mobility and smart homes. We implement large-scale projects in the field of wind energy and hydropower and expand our electricity networks in transparent processes and with the greatest possible involvement of the affected stakeholders. We provide full and frank information on the positive impacts but also on any restrictions and limitations resulting from the projects. We develop socially acceptable solutions for the energy transition in permanent dialogue with the local population, the environmental associations and regional industry.

Corporate environmental protection goals from 2011 to 2015

By defining the corporate environmental protection targets for the period from 2011 to 2015, the Management Board has approved the core strategic areas and objectives in the field of environmental protection and has laid out individual targets and indicators, paving the way for de facto measurement. These targets represent the systematic continuation of our environmental protection strategy and our ongoing endeavour to achieve our corporate objectives. They underline the ongoing development of sustainable corporate management strategies at EnBW and demonstrate that EnBW identifies with environmental policy goals and is playing its part to ensure that these goals are achieved.



See also page 52 et seq., Targeted environmental protection



See also www.enbw.com/umweltmanagement

Integrated reporting

In order to meet the expectations of our investors and other stakeholders in terms of transparent, comprehensible and relevant reporting, we will introduce a system of integrated reporting step by step which ensures a higher level of integration of financial and non-financial indicators. To achieve this goal, we are participating in the pilot programme of the International Integrated Reporting Council (IIRC) and working together with 70 companies worldwide on the ongoing development of business reporting practices. During the course of this process, we will systematically document our sustainability indicators, which will then be incorporated in future integrated reports.

Safeguarding the future and sustainability

Q&A with Chief Financial Officer Thomas Kusterer

The Chief Financial Officer of EnBW is not only concerned with the company's financial indicators but also keeps tabs on our sustainability objectives. He advocates the merging of the economic and ecological company indicators in an integrated report.

Only companies that adopt holistic, sustainable business models will be successful in the market.

What do you understand by "sustainability" and how important is this issue for you as the CFO of EnBW?

The term "sustainability" is used with increasing frequency nowadays and in so many different contexts that we have to take care that the word itself does not become an empty shell and therefore meaningless. In my opinion, a company acts sustainably and responsibly if it acts in the interests of its shareholders and employees, the environment and society. A society can only develop in a sustainable direction if all actors play their part, and this includes the companies. For EnBW, sustainability is not an end in itself; it applies to a wide range of issues along the value added chain – such as the conscious and responsible use of resources, environmental management systems rooted in the day-to-day activities of the group, dependable relationships with suppliers and respectful interaction with our employees.

As CFO, you probably keep a close eye on the economic dimension of sustainability. Is EnBW well positioned in terms of sustainability?

In the era of the energy transition, we need a solid financial base to secure the future competitiveness of EnBW, and this is why we have adapted our strategy and our business model to suit the new circumstances. Efficiency, divestment and capital measures are cornerstones of the EnBW concept. It is generally the case that only companies with a business model that is holistically geared towards sustainability will be successful in the market in the long term. This means that we must develop products and services for the markets of the future, with regard to both low-CO₂ forms of energy generation and the development of decentral solutions in the field of energy management. I believe there is a direct relationship between a positive company reputation, sustainable business processes and improved ratings in the financial markets. If all the cogs and wheels interlock as they should, then this benefits EnBW, its stakeholders and society as a whole.



Thomas Kusterer, Chief Financial Officer of EnBW Energie Baden-Württemberg AG

You refer to the increasing interest of the capital market in sustainability. How important are sustainability ratings for EnBW?

Enjoying the confidence of the capital market is key for EnBW, particularly in times of economic difficulty. Our top priority is to secure our "A" rating. Among other things, this opens up options for the long-term financing of the necessary investment in our generating portfolio and underpins our ability to act as a strong player in the field of energy trading. Our commitment to sustainability reflects the long-term value of our company and plays an increasingly important role for sustainability ratings. At the same time,



Thomas Kusterer in conversation with the two "Integrated Reporting" project managers: Christoph Dolderer (Head of Accounting, left) and Dr. Lothar Rieth (Sustainability, right)

the "mainstream players" in the capital market – the conventional investors – are also increasingly interested in our sustainability performance. When we meet with investors, they ask about our CO₂ footprint more and more often; sustainability ratings are therefore becoming a relevant source of information. Consequently, we see it as our obligation to participate in the Carbon Disclosure Project on a regular basis and to base our sustainability reporting on the specifications of the Global Reporting Initiative.

What role does the issue of sustainability play in the Annual Report?

We have steadily expanded the number of sustainability-related sections in the Annual Report. Our last Report provided detailed information on the new sustainability strategy and featured a wide range of indicators on environmental protection and our employees. I am a strong supporter of the idea of discontinuing the concept of corporate reporting based on

two separate reports. The main content of the sustainability and annual reports should be published in a single report. I am therefore a big advocate of integrated reporting. EnBW is involved in the pilot project of the International Integrated Reporting Council and is playing a pioneering role in this area together with other companies.

You yourself are a member of the highest body of the IIRC. What were your first experiences with integrated reporting?

My involvement in the IIRC has made me even more aware of the value of an integrated approach for future corporate communication and management. The 200-page plus annual reports that are currently published do not cater to the interests of readers. Satisfaction levels are falling, particularly among investors, and the annual report is becoming less significant. Moreover, the legal regulations mean that reporting is increasingly complex. The aim, therefore, is to increase transparency and focus on the essentials by adopting a holistic approach.

What are the main objectives of integrated reporting?

The goal of the IIRC is to integrate conventional financial reporting with reports on non-financial aspects. The idea is to make the interplay and interrelationships between the value drivers of a company more transparent. We want to develop a report that will once again be used by the addressees as the central source of information on the company. In addition, the IIRC also hopes to significantly reduce the length of annual reports in the long term. The Chairperson of the IIRC talks

about the possibility of a 30 to 40-page report. All today's companies are still a long way from this, but EnBW has set itself the medium-term goal of presenting high-quality, easy-to-understand and meaningful information in an integrated report on far fewer pages than is currently the case.

When will EnBW publish its first integrated report?

I'd like to give you a concrete date, but all I can say is that we have embarked on a long journey that we hope will culminate in an integrated report. We intend to initially publish a combined report for 2012 – in other words, a summary of the current annual and sustainability reports. It's important that the central actors in the company and the addressees for reporting are on board with this process. The introduction of central data recording processes will certainly entail a major organisational workload, and what we also need within the company is a shift in culture towards holistic mindsets and actions. We therefore intend to engage in an ongoing dialogue with the addressees of our annual reports to identify their specific interests and expectations. The primary addressees are and will remain the investors, but we also want to produce a report that is viewed as informative by both environmental associations and rating agencies.

Thank you for talking to us.

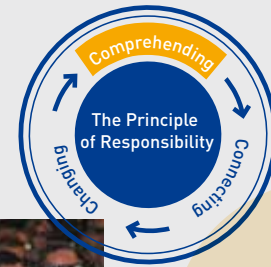
C2

Comprehending

Our endeavour is to engage in open and intensive dialogue with all our stakeholders.

Thinking ahead, contributing ideas, shaping the future

Since the summer of 2010 EnBW has been planning a multi-million euro project in the Black Forest – with the aim of transforming our tradition-rich Rudolf Fettweis plant in Forbach into a modern, high-performance pumped-storage power plant. Our project is steadily progressing in close cooperation with the local council, the local population and the relevant interest groups.



The Rudolf Fettweis plant in Forbach



Information event for the local people; on the left Dr. Werner Götz, Technical Director (conventional), EnBW Kraftwerke AG

Forbach is an idyllic climatic spa. Close by, at an altitude of almost 700 metres, is a popular destination for day trips – the Schwarzenbachtal barrage that dams up the water from the Schwarzenbach und Seebach lakes. This water and that from the Murg river have been used to generate electricity in the lower-lying Murgtal valley for nearly one hundred years. To take advantage of this abundant supply of water and the major height differentials, an entire complex comprising run-of-river, storage and pumped-storage power plants, reservoirs, head race tunnels and pipelines were built, and together they make up the Rudolf Fettweis plant.

Pumped-storage power plants – key players in the expansion of renewables

This complex system has an upper reservoir, the Schwarzenbachtal barrier, and a lower reservoir, the so-called equalising reservoir, which secures the natural water course of the Murg. Our plant in Forbach currently supplies a computed 65,000 people with electricity. It is meanwhile a little outdated yet it can still play an important role in the energy system of the future: from a technical point of view, its capacity can be quadrupled by adding new systems and converting existing systems. It is also ideal for an expansion project to create an efficient pumped-storage power plant. If we want to step up generation from renewables, then this is an essential measure, as pumped-storage power plants can buffer the natural fluctuations in energy generated from the renewable sources of wind energy and photovoltaics and help to maintain stability in the electricity grid.

Pumped-storage system accepted by the local people

In addition to refurbishing existing systems, our plans are mainly geared towards expanding the current lower stage and building a new upper reservoir on the top of the mountain above the Schwarzenbachtal barrier. In this way, the plant will be transformed into a pumped-storage system with an added capacity of around 230 MW. However, this capacity increase entails major encroachments on landscape and natural surroundings and also impacts the neighbouring population. An infrastructure project of this magnitude can only be accepted if all the interest groups concerned are involved in the process.

Dialogue on all levels

The involvement of the local people began on July 9, 2010 with a public information event and discussion session in the Rudolf Fettweis plant. We had already entered into dialogue on all levels in the run-up to the event. Over 100 meetings have taken place since – with the Forbach local council on a regular basis as well as with all neighbouring communities, political parties and authorities, the District Commissioner and Karlsruhe Regional Council, who set up a supervisory working group in which EnBW is also represented. A dedicated website provides updated information on the status of the project, and interested persons can ask questions on a special hotline. A further public information event was held in October 2011 to mark the submission of the regional planning documents and provided a further forum for the in-depth discussion of all relevant issues.

Achieving a balance with nature and industry


We are in constant dialogue with specialist authorities as well as environmental and industry associations with the aim of ensuring maximum acceptability of impacts on humankind and nature and on the related economic sectors such as forestry and tourism. This enables us to identify interactions and potential issues of conflict at the earliest possible stage and to work together with the interest groups to develop solutions. During this process, we also draw on the expertise of external experts when it comes to highly technical issues. The dialogue with our stakeholders underpins acceptance and helps us to make effective preparations for the forthcoming administrative proceedings.

Statement

Acceptance through dialogue

"The press described the absence of protests as the "miracle of Forbach". But it's no miracle, it's the result of our ongoing communication, a process that we began in the early stages with all parties concerned and with the competent official bodies. For the last two years, we have put all the facts on the table, complete with every new insight and development. When problems arise, we look for common solutions together with the interest groups. The Black Forest Association represents nature lovers and is understandably concerned that the region is not downgraded in any way. We are currently talking to the association to work out how the popular "Westweg" hiking route can be relocated. We are also drawing up a concept with the regional forestry research institute and the nature conservation associations to protect the habitats of the wood grouse."

Oliver Haupt, Project Manager Forbach

 www.enbw.com/Forbach

www.enbw.com/magazin:
The "Energiewissen"
(Energy Knowledge) section
contains animations that
illustrate how pumped-
storage power plants work.

The visitor centre in Altbach

Information and dialogue "on the ground"



In dialogue
since: 1995

In addition to providing information on the location-specific core topic of conventional generation, the visitor centre on the site of the Altbach/Deizisau heating and power plant offers a comprehensive overview of the central activities of EnBW. Due to the broad spectrum of information on offer covering all stages of the value added chain, the newly designed info centre also has a reference character for the entire EnBW Group.

1.375 m²

Exhibition and presentation area

9.553

Total number of visitors in 2011



48° 27' N | 8° 33' O



Visitor centres at the power plant locations of EnBW

Knowledge sharing and direct contact with people in the region is essential for operators of large-scale technical installations that have significant impacts on the environment.

At many of its locations, EnBW offers people the opportunity to find out about power plant operation and to obtain information on site about energy themes and the plants themselves. The visitors include decision-makers, environmental groups, political and cultural associations, scientific delegations, universities, groups of specialists, schools, youth groups and private individuals.

Visitor centres

→ 39,000
Visitors
in 2011

→ 1,000
Visitor groups
in 2011



The Altbach/Deizisau heating and power plant

2 heating and power plant units

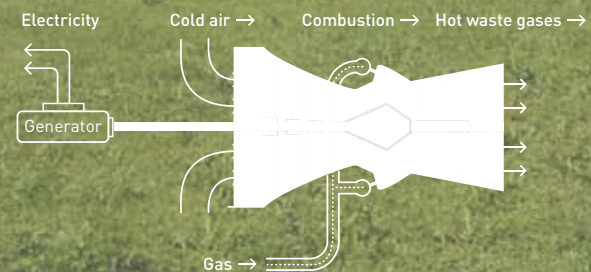
→ use coal to produce electricity and district heat

280 megawatts

→ is the secured district heat capacity of each of the two power plant units

Understanding interrelationships

Gas turbines provide the so-called cold reserve, which serves to compensate for fluctuations in the availability of renewables. This is why conventional power plants play such an important role in the expansion of renewable forms of energy.



Stakeholder activities in 2011

EnBW in dialogue with its stakeholders

Customers

Industrial customers

- › 43 meetings of the Energy Efficiency Network
- › 800 participants from 183 companies

Private and commercial customers

- › 2 "customer parliaments" each made up of 8 commercial and 8 private customers

Municipal utilities

- › Regular dialogue between the municipal utilities in Baden-Württemberg, regional energy suppliers and representatives of EnBW in the "Energy Team" Baden-Württemberg with 126 participants from over 50 companies



Network meetings

The members of the Energy Efficiency Networks meet up regularly to exchange experiences at sessions chaired by EnBW.

Society

People's energy cooperatives

- › 46 cooperatives since 2008 (including 7 new cooperatives in 2011)
- › Over 6,300 members

School students/Schools

- › School competition "Energy Reporter On The Go" in the school year 2010/2011 with nearly 140 participating schools

Social media

- › Active provision of information and services in new media like Facebook, Twitter, YouTube
- › Constantly growing user/follower numbers



Energy cooperatives

EnBW supports the cooperative members in the planning, financing and building of renewable energy installations.



Investor relations

Analysts and investors

- › 4 telephone conferences on the publication of the fin. reports (approx. 35 participants at each conf.)
- › 3-day roadshow prior to issue of the hybrid bond with a volume of 750 million €
- › Participation in two major international investor conferences
- › Regular personal dialogue

Banks

- › Annual banking conference with around 90 participants

Private shareholders

- › Annual general meeting



Banking conference

Our annual banking conference provides bank representatives with in-depth insights into our company and our activities.

Employees

Work safety

- › Reduction in the number of reportable work accidents to six reportable accidents per 1,000 employees through training seminars and courses with the accident prevention and insurance association

Employee involvement

- › Implementation of improvement measures as the outcome of the second group-wide employee survey
- › More than 3,500 submitted suggestions for the optimisation of work processes



Management meeting

Events for management personnel are held every year in an open dialogue format; topics include strategy, compliance and leadership.

In dialogue with our stakeholders

We engage in intensive dialogue with our stakeholders to help us meet the challenges of the energy transition. Only by interacting directly with these stakeholders can we be sure to gear our activities towards sustainable objectives. The outcomes of this dialogue are incorporated in our strategy for the organisation of our corporate processes.

Doing things right

We compare expectations and standpoints in a process of open and ongoing dialogue with our stakeholders. Be it investor conferences or workshops, school competitions or interaction via the social media, we make wide-ranging use of different forms of dialogue. We support the regular exchange of ideas and experience through our membership in various initiatives.

Public dialogue on energy technologies for the future

A process of dialogue that encompasses the whole of society is needed to ensure that the future energy system is supported by a broad consensus of opinion. This is why we are participating in the nationwide project launched by the German Ministry of Education and Research entitled "Public dialogue on energy technologies for the future". In the second half of 2011, we staged a "public workshop" together with regional actors from the world of science and environmental affairs. The workshop took place at our power plant location in Altbach/Deizisau and in Biberach, where interested people and

experts from numerous non-governmental organisations discussed topical energy issues. The findings of the nationwide dialogue were submitted to the Ministry in the form of a "People's Report" complete with concrete recommendations for the restructuring of the energy supply system.




www.buergerdialog-bmbf.de/energiotechnologien-fuer-die-zukunft

www.buergerdialog-bmbf.de/media/content/Buergerreport_EtfdZ.pdf




The UN Global Compact is the world's largest multi-stakeholder network for entrepreneurial and corporate social responsibility (CSR). As a member of the UNGC, we take part in the

regular meetings of the German network, where we contribute new ideas and exchange experiences with other companies, civil society actors and representatives of the ministries of science. The insights gained during these contacts are directly incorporated in the organisation and implementation of our sustainability-focused activities.

 www.unglobalcompact.org



The Foundation "2 Degrees – German Entrepreneurs for Climate Protection" is an initiative of CEOs, Managing Directors and family-run companies. Its mission is to support the political decision-makers in their endeavour to incorporate climate protection in market economy structures. A further aim is to help the companies find climate protection solutions that suit their own needs. The emphasis is on the direct exchange of ideas with the German government. In line with the motto "Delivering climate protection", the discussions in 2011 focused on climate protection in global flows of goods and supply chains.

 www.stiftung2grad.de

econsense

Forum Nachhaltige Entwicklung
der Deutschen Wirtschaft

We are a longstanding member of "econsense – forum for the sustainable development of Germany industry". From the point of view of EnBW, ecosense is important in the way it supplements our multi-stakeholder initiatives. We are strong advocates of the further development of sustainability and annual reporting and staged a conference on this topic in October 2011.

 www.econsense.de

The EnBW "Energy and Business Club"

We attach major importance to ongoing dialogue with representatives of industry, political parties and the world of science – at local level in the municipalities, in the state capital of Stuttgart, in Berlin and in Brussels. In addition to holding many bilateral talks, we organise regular events of our "Energy and Business Club" in Stuttgart and Berlin which serve as forums for the discussion of topical energy policy issues. The primary aim of the discussion sessions is to facilitate a frank and open exchange of experience and information between representatives of parliaments, ministries, science and the energy industry.

In 2011, for example, the discussion topics in the Energy and Business Club included the findings of the climate conference in Cancún and the implications for the climate policy of the German government and the EU.

"Thinkers of our times"



The EnBW series of events called "Thinkers of our times" provides outstanding individuals of our era from the fields of science and culture in Baden-Württemberg with a platform to voice critical ideas. The themes on the agenda included new phenomena like the risk potential of cyber attacks and the basis for the arts in tomorrow's world in the times of Web 2.0. One of the highlights in 2011 was a lecture by philosopher Peter Sloterdijk on the future of public finance.



Stiftung Energie & Klimaschutz Baden-Württemberg

At the end of 2007, EnBW founded the nonprofit "Baden-Württemberg Energy & Climate Protection Foundation" as sponsor. The mission of the foundation is to help to create a better understanding of the relationships between the energy industry and climate protection and to secure the status of Baden-Württemberg as a leading research region. In dialogue with international experts, the foundation discusses, analyses and evaluates effective climate protection measures. In 2011, the expert sessions and debate evenings looked at topics such as intelligent networks and the final storage of nuclear waste as well as large-scale projects like "Renewables – Wind & Desert". The foundation also systematically involves young scientists in this process.



Connecting

Our goal is to work together to create a consistently sustainable energy company.

Decentral energy generation with EnBW

We have taken up and are committed to the cause of sustainability. This commitment paved the way for the launch of a unique project in April 2011 – the "sustainable town". The idea is to implement a decentral and sustainable energy concept in the town of Leutkirch together with the local administration; and the aim is to achieve the autonomous supply of CO₂-free energy to the just under 23,000 inhabitants of Leutkirch.



The solar park near Leutkirch has an area of 101,000 square metres – bigger than 16 soccer pitches

3



www.nachhaltige-stadt-leutkirch.de

www.enbw.com/leutkirch

The large district town of Leutkirch is situated in the Allgäu region of Württemberg between the major conurbations of Memmingen and Lindau and is one of the largest communities in Baden-Württemberg in terms of area, measuring 175 square kilometres. But Leutkirch is not only big in size; it is also big on energy efficiency: within the framework of the "sustainable town" pilot project, EnBW and the Leutkirch authorities are developing a concept for an energy-efficient, low-emission community with a decentral energy supply. This project – implemented in cooperation with the regional trades, businesses, farmers and banks – is geared towards creating an ecological, economically viable and socially sustainable energy supply model. By the end of the project, Leutkirch could be self-sufficient in terms of energy supply and CO₂-free – naturally without any adverse effects on supply reliability and local value added.

Working together for an energy-efficient future

Together with the town of Leutkirch, the Oberschwäbische Elektrizitätswerke (OEW) utility – one of our two main shareholders – and Biberach University, who are providing the scientific supervision for the project, we are paving the way for an energy-efficient future. Our part is to share our expertise in the fields of energy management, energy efficiency, services and renewables. The project was unanimously approved by the town council and has remained on course not least due to the support and acceptance of the local people. This is why we believe it is of paramount importance to integrate as many people, companies and

social groups as possible in processes like these. By becoming involved in the project and participating in future-focused workshops, the people of Leutkirch can play an active role in shaping their future energy supply concept.

Energy role model

In workshops and dialogue events with 75 people from Leutkirch, a mission statement was drawn up on the topic of energy and presented to the local council for approval. The mission statement details the CO₂ and energy efficiency targets as well as the targets for the future expansion of renewables, limits to any possible impact on the natural landscape and ways in which the local people can play a part in the implementation process.

Solar park under construction

The local council was happy to approve the development plan, and a former gravel pit that was unsuitable for agricultural use is now home to a solar park. The facility built by EnBW has a capacity of around 5 MW and supplies a computed 1,500 households with electricity generated with zero CO₂ emissions.

Showcase project

The "Leutkirch – sustainable town" project supplies important insights into the organisation, financing and realisation of sustainable decentral energy supply concepts. Other municipalities and regions will one day also be able to profit from the experiences gained in this highly important first project.

Statements

"We as a town are being given a chance to make a really active contribution to climate protection. I am delighted that it has been possible to implement this pilot project in Leutkirch together with strong partners. We have already made excellent progress in this area with the energy alliance and a number of other initiatives. This development is being systematically continued with the "Leutkirch – sustainable town" concept."

Hans-Jörg Henle,
Lord Mayor of Leutkirch

"The participation model in Leutkirch shows that the expansion of renewables is a joint challenge. We are delighted that our concept has evidently won over the investors."

Hartmut Reck, head of the "Leutkirch – sustainable town" project at EnBW

"By creating this new form of company, EnBW has implemented a future-oriented participation model for the local people, the town and the shareholders. The success of the energy transition depends on broad acceptance and the willingness of local people to invest. The "sustainable town" concept is a role model in this field."

Barbara Endriss,
Managing Director of OEW

Pioneering community in the Allgäu region of Germany

The project "Leutkirch – sustainable town"



Project start:
April 18, 2011

The "sustainable town" is a joint project of the town of Leutkirch, the Oberschwäbischen Elektrizitätswerke (OEW) utility, the University of Biberach, EnBW, the "Energy Alliance" and the energy cooperative. The project partners are working together in Leutkirch to develop a concept for an energy-efficient, emission-reduced and decentrally supplied municipality. This unique project, designed to ensure the sustainable, decentral supply of energy to the town's households, was launched at the end of April 2011.

175 km²

→ Area of municipality

94 %

→ Targeted energy self-sufficiency of households

20 %

→ Avoidance of greenhouse gas emissions

On-roof solar power systems*



47° 50' N | 10° 1' O

Bioenergy*



Future use of biomass and/or biogas systems to supply heating or in local heating networks

Open-space photovoltaic installation

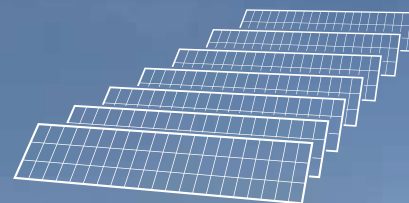


In operation since:
Dezember 21, 2011

5 million kWh
Annual production volume →

2,800 t CO₂
Avoided each year →

1,500 households
Computed possible power supply →



101,000 m²
Area of solar park

Wind energy installations*



Mobility measures*

Footpaths and cycle paths

Expansion of the community's cycle path network →



Local public transport

Expansion of public transport system →



E-mobility

Exhaust-free town centre →



Energy refurbishment of old buildings*

* The outlined measures are examples and are used for solely illustrative purposes. Any similarity with projects that are actually planned is purely coincidental.

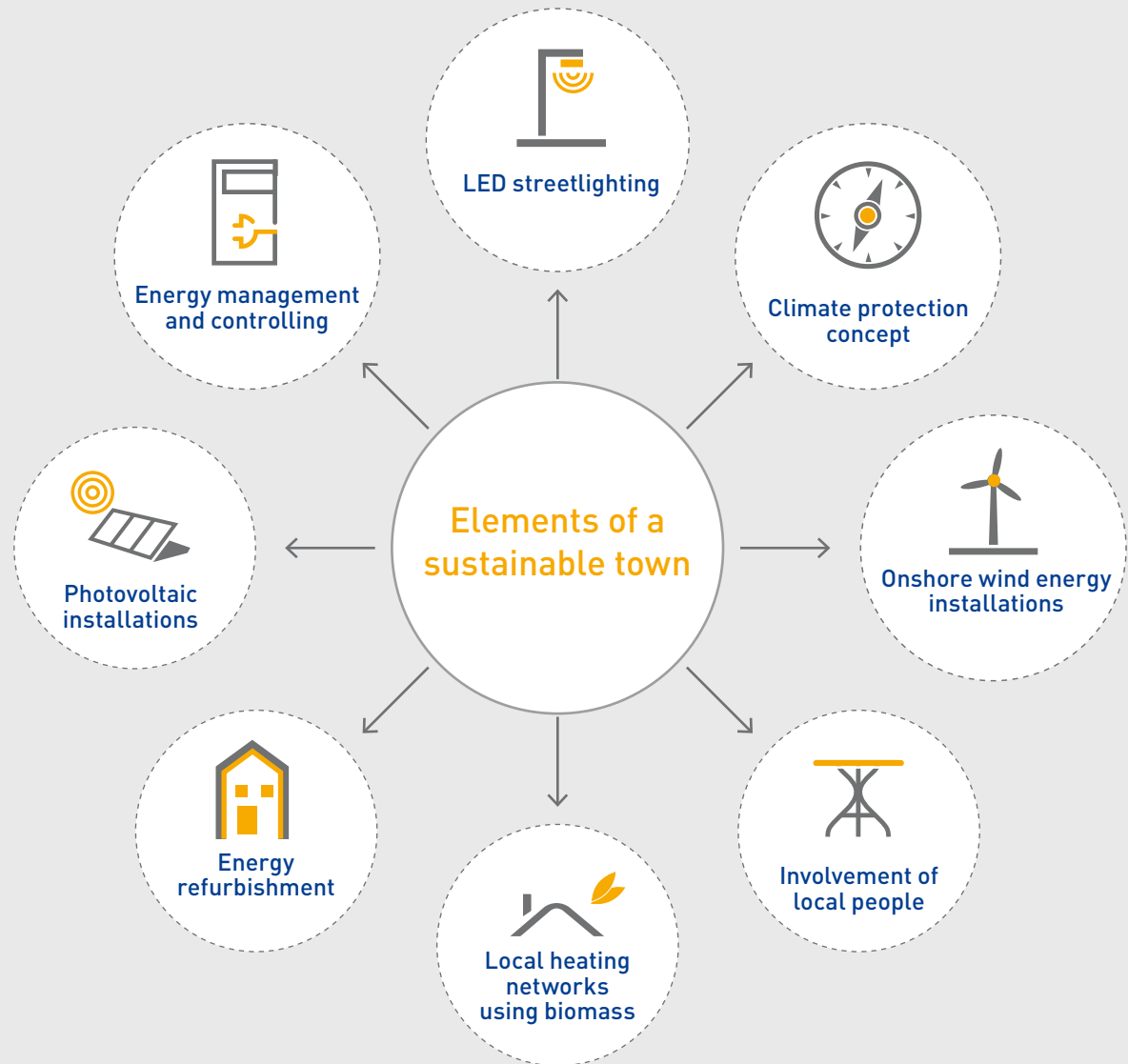
Sustainable town

A solution for many municipalities

Greater energy autonomy and more public participation

The pilot project "Leutkirch – sustainable town" represents a major opportunity – for the town itself as well as for EnBW: a decentral energy supply system with a high percentage of renewables has a positive impact on the environment while simultaneously creating new value and new income potential in a rural region. It is hoped that the project will supply key insights into the organisation, funding and implementation of decentral energy supply concepts and serve as a hands-on example of the "energy transition on the ground". Based on the experience gained and the solutions implemented here, it will in future be possible to create independent decentral energy concepts for other municipalities and regions together with EnBW and to help towns and cities to become more self-sufficient in terms of energy supply. All stakeholders and local people have been involved and been able to invest in the project from the outset.

 www.enbw.com/leutkirch
www.nachhaltige-stadt-leutkirch.de



Innovation and growth


Innovation is the driver of growth, especially in the age of the energy transition and especially in our industry. It is innovation that secures the future of EnBW and ensures positive economic and ecological development. In accordance with our core strategies, the focus is above all on achieving low-CO₂ energy generation and positioning EnBW as a decentral solution provider.



Becoming competitive faster

Thanks to the fixed feed-in remuneration guaranteed by Germany's EEG legislation on renewables since the year 2000, it has been possible to gradually increase the share of electricity generated from renewable sources in Germany. The time has now come for renewables to face the competition, and we are well equipped to meet this challenge.

We have been trading the wind energy we generate at our offshore wind farm EnBW Baltic 1 and at most of our on-shore wind energy installations on the Leipzig Electricity Exchange since the beginning of 2012. This ensures the direct marketing of this power as provided for under the new German EEG legislation on renewables. By pooling the expertise of our plant operators and electricity traders in this way, we are becoming increasingly efficient in adapting the fluctuating weather-dependent generating volumes to the mechanisms of supply and demand.

 See also page 42 et seq.,
Expansion of renewables

Start-up boost: the market premium

The gradual integration of renewable forms of energy in the electricity market is also the idea behind the "market premium" introduced by the German government with the new "EEG 2012" legislation on renewables. Up to now, most generators of electricity from solar power and wind energy have been one step removed from the market. Now they can decide whether they want to feed their electricity into the grid in return for the fixed installation-specific remuneration

under the EEG laws or to market it on their own initiative with the help of the market premium model. This market premium acts as an incentive and represents the difference between installation-specific EEG remuneration and remuneration based on the average monthly exchange price. This compensatory mechanism is designed to create competitiveness between solar power, wind energy, coal and gas.

In order to participate in the direct marketing process, the producer must follow the rules of the electricity market, rules from which he was exempted under the EEG legislation on renewables: he needs access to the trading system and he has to register and maintain a balancing group – a virtual energy management account – with the network operator. The electricity flows for this balancing group have to be balanced hourly and reported one day in advance. If the producer is off-target with his forecast, he has to pay the network operator for the incurred balancing energy. The direct marketer is additionally granted a flat-rate management premium to offset the added expense and risk. →



The efficient interplay of plant management and trading is essential for effective direct marketing



The Buchholz wind farm supplied trial data during the preparations for direct marketing

Pooling core expertise

The key to successful direct marketing is to forecast fluctuating energy generation from wind and sun as accurately as possible and to proactively manage the energy-generating facilities.

Our strategy pools and combines the core expertise from various stages along our value added chain: trading and plant operation are coordinated, and this enabled us to market over 90% of our installed wind energy output via the EEG market premium model as of January 1, 2012. These successful activities are driven not only by experience in the operational management of our wind power and photovoltaic installations but also by the forecasting expertise of our electricity traders. Parallel to this, we also offer third-party plant operators without their own trading access the opportunity to profit from our expertise in this area.

The EnBW method: first test, then act

In order to ensure that we were well prepared for this new challenge, we simulated the direct marketing of wind energy in a trial run over a period of several months in 2011 under real-world conditions. Our largest onshore wind farm in Buchholz to the north of Hannover was used as the test farm. We used generating, weather, geo and technical plant data to develop various forecasting models. The wind farm was equipped with realtime measuring devices, and the power plant deployment planning system was linked up to electricity feed-in operations. This enabled our trading experts to fine-tune the forecast for the intraday market, where short-notice trading takes place during the course of a trading day: online realtime measurement allowed them to detect off-forecast wind conditions and to then balance out the resulting fluctuations in generation for the simulated exchange trading process. This also provided new insights into the connection between wind and electricity yield.

Natural electricity: learning the ways of the market

Q&A with the direct marketers

Malte Sell and Dr. Philipp Seydel played a central role in drawing up the direct marketing concept for EnBW. As an energy economist, Malte Sell knows all about the locational and output parameters of our wind energy installations, while Dr. Philipp Seydel is an electricity exchange analyst.

A differentiated plant portfolio can reduce the risk associated with direct marketing.

Why does EnBW market its electricity from wind energy on the exchange rather than having it remunerated based on the fixed EEG rate?

Sell: As an operator of facilities that generate energy from renewable sources, our focus is on proven cost-efficient technologies and our goal is to operate these technologies commercially. This is why we welcome the direct marketing model as an alternative to fixed feed-in remuneration. It allows us to gear up our installations for market competition: our main aim is to integrate market signals in our operational management practices, and we do this by merging the experiences gained in plant operation and electricity trading.

What opportunities does direct marketing offer compared to the market premium?

Seydel: We can draw on a broadly based portfolio made up of solar power as well as onshore and offshore wind energy. This makes it easier for us to submit accurate yield forecasts and to balance out deviations, thereby minimising the risks of direct marketing. It therefore gives us the potential to optimise the generating

output of individual portfolios comprising wind energy and photovoltaic installations in a market context.

What risks are associated with the model?

Seydel: The main risk is that our "day-ahead forecast" is off-target. We sell our forecast feed-in volume on the electricity exchange 24 hours in advance and then adjust our position to the latest forecasts up to the time of delivery

Sell: Direct marketing is about making a precise delivery pledge, but we can't influence our production factors, namely wind and sun. We minimise our fulfilment risk via a direct flow of cross-functional information which Philipp Seydel and his electricity trading colleagues use to continuously optimise the forecasting algorithms.

Seydel: Accurate forecasts mean precision balancing.

Thank you for talking to us.



Dr. Philipp Seydel, electricity exchange analyst, and Malte Sell, energy economist

Conventional power plants

Clean, reliable and efficient

Our coal-fired power plants are a byword for generation close to the point of consumption. They are efficient and often additionally supply environment-friendly district heat thanks to cogeneration operations. We optimise our plants on an ongoing basis, continuously increasing efficiency of operation and reducing emissions.



Maintenance and optimisation work of the type shown here at the Rheinhafen steam power plant in Karlsruhe is performed on a regular basis



[www.enbw.com/
konventionelle_kraftwerke](http://www.enbw.com/konventionelle_kraftwerke)

Optimising generating activities

We improve the efficiency of our plants by optimising the technology and processes. Higher efficiency automatically means lower fuel consumption and therefore reduced costs and lower CO₂ emissions. The use of new low-emission coal dust burners or optimally designed steam turbine blades helps us to produce a greater amount of energy from the same volume of coal, for example.

Fit for future

In 2011, we implemented wide-ranging modernisation measures at some of our locations to ensure that we can continue to produce electricity and heating energy safely and reliably in the years to come. One example is the power plant in Walheim, where we completely dismantled and overhauled the steam turbine and generator, optimised the control technology and inspected the flue gas cleaning systems and the coal boiler. This kind of work is also being performed at other locations like the steam power plant in Rheinhafen or the heating and power plant in Altbach-Deizisau.

A clean machine

All EnBW plants are equipped with flue gas filters and denitrification systems. Catalytic denitrification is one of the techniques for the cleaning of flue gases from the combustion process that has proven its worth in recent decades – a process that uses ammonia and catalysts to create a chemical reaction that converts nitrogen oxides into harmless nitrogen and water.

Capturing CO₂

We are currently testing two techniques for the effective removal of CO₂ from power plant gases in years to come – carbonate looping, in which there is a chemical reaction between CO₂ and limestone, and the amine wash, in which the CO₂ is absorbed by a caustic soda. These techniques are currently being used in trial and pilot plants.

Environment-friendly district heat

The simultaneous generation of electricity and heat in cogeneration mode is standard practice in our large conventional power plants. This enables us to fully exploit the input fuel and to use the waste heat from our power plants to heat buildings or as process heat in industry. Since 2011, we have also been active in the field of district heat in Switzerland, where we joined forces with ERZ Entsorgung und Recycling Zürich to set up Fernwärme Zürich AG. This company operates a waste incinerating power plant on site which incinerates around 110,000 tons of waste a year.

Nuclear power plants

Safety during operation, post-operation and decommissioning

Safety takes top priority – during operation and post-operation as well as during the dismantling of our nuclear power plants. Two plant units operated by EnBW Kernkraft GmbH continue to produce electricity reliably, cost-efficiently and in an environment-friendly manner. Two plants have been shut down and are in the post-operational phase, while one plant is currently being dismantled.



www.enbw.com/kernkraft

www.enbw.com/magazin,
"Energiewissen" (Energy
Knowledge) section,
dismantling of the Obrigheim
nuclear power plant

Plant safety is top of the agenda at EnBW, all the way through to the last produced kilowatt-hour and during the decommissioning and dismantling phases. The guiding principle is "safety takes priority over cost efficiency". We systematically pursue a holistic strategy that takes full account of the factors of humankind, technology and organisation and of the interplay between these factors. We see ourselves as a learning organisation, and we continuously monitor and inspect safety at our plants so that we can continue to optimise the safe operation of our facilities.

Responsible operation

Our nuclear power plants that are still in operation are a byword for reliable, climate-sparing and cost-effective electricity generation. They are characterised by high availability and rapid control capability. They ensure stability in the power grid and maximum reliability of energy supply – and today serve as a flanking supply system alongside the expansion of renewable forms of energy.

In 2011, the energy transition led to changes in the electricity generation and supply activities of the plants of EnBW Kernkraft GmbH 2011 compared to previous years. One nuclear power plant

unit in Neckarwestheim and another in Philippsburg still produce electricity, and they continue to make a key contribution to power supplies and climate protection in Baden-Württemberg. Overall, we have generated a total 25 billion kWh (gross) of electricity, avoiding almost 25 million t of CO₂ to the good of the environment.

Responsible decommissioning

We discontinued generating operations at the Neckarwestheim I and Philippsburg 1 nuclear power units following the events in Japan in March 2011. These units are therefore now in the so-called post-operational phase, which lasts several years and during which the preparations are made for the decommissioning of the plants. The shutdown and dismantling processes themselves will take several decades and require approvals from the nuclear power regulatory authority, the Baden-Württemberg Ministry for the Environment, Climate and the Energy Industry.

In recent months, we have gradually created the technical, personnel and organisational preconditions for parallel operation, post-operation, shutdown and dismantling at our Philippsburg and Neckarwestheim locations. This also constitutes a major contribution to the energy revo-

lution. We are currently drawing up the specifics of the shutdown and dismantling strategy based on a superordinate dismantling concept. During this process, we can draw on valuable experience gained in the ongoing dismantling operations in Obrigheim. EnBW discontinued output operation of the nuclear power plant in May 2005 in line with the German nuclear energy agreement after 37 years. Seven years after the plant went off stream, the shutdown and dismantling of the facility are the everyday reality of the employees at the location, creating an exciting working environment and a daily challenge. And it must be said that the location has achieved a great deal to date. The high standards of EnBW Kernkraft GmbH in terms of nuclear and work safety have always been fully met, and there have been no reportable incidents or serious work accidents.

An environmental impact assessment showed that the decommissioning process has no relevant effects on humans, animals and plants in the surrounding region. When the first shutdown and dismantling permit was issued in the autumn of 2008, the de facto decommissioning of the power plant began following comprehensive planning and preparations in the post-operational phase. The regulatory authority issued the second shutdown and dismantling permit in the autumn of 2011.

Renewables

Cornerstones of our growth strategy

Today, energy generation from renewables already accounts for 11 percent of our energy mix – and is sufficient to supply around 2 million households with electricity. By the year 2020, we intend to increase the installed capacity for renewable generation by around 3,000 megawatts in Germany alone. The target for 2030 is to produce 50 percent of our energy from renewable sources.



Hydroelectric power is permanently on tap, does not need any primary energy source and does not therefore produce any carbon dioxide



www.enbw.com/erneuerbare

www.enbw.com/baltic1

www.enbw.com/baltic2

A constant with a long tradition: hydroelectric power

Baden-Württemberg is rich in rivers, and we have been using the Rhine and Neckar as well as many smaller rivers like the Elz, the Murg or the Iller

as sources of emission-free energy for decades. Today, we operate around 70 run-of-river and pumped-storage power plants, and we are also involved in power plants and expansion projects outside Germany. 10% of our electricity comes from hydroelectric power, which has become an indispensable part of our energy mix due to its dependable availability and controllability.

Increasing capacity, sparing the environment

There are meanwhile few or no remaining locations for new large-scale hydroelectric power plants. In order to nevertheless increase production output, however, we are replacing, extending and modernising our existing plants: in 2011, for example, the old facility in Rheinfelden was replaced by a new power plant with four times the generating capacity. And in 2012 the Iffezheim power plant on the Rhine will be fitted with a fifth turbine, making it the biggest run-of-river power plant in Germany. We also investigate the potential of smaller rivers on an ongoing basis and build new plants where feasible. In July 2011, the last extendable barrage on the Neckar river was given its own small run-of-river power plant.

When implementing construction measures, we always take care to ensure that fish passes and recultivated sections of the river banks provide suitable conditions and habitats for fish and microorganisms.

Pumped-storage power plants

Pumped-storage power plants perform an important buffering function in the energy system by balancing out fluctuations in generating output. They are a necessary flanking measure for the expansion of renewable forms of energy. We therefore intend to extend our pumped-storage power plant in Forbach to increase its capacity and to build new storage systems in Atdorf and Vorarlberg together with our partners.


The future potential of wind energy


The expansion of wind energy is one of the driving forces behind the energy transition, and more and more EnBW wind turbines are meanwhile also turning away on land and at sea. May 2011 saw the start-up of EnBW Baltic 1, the first commercial wind farm in the German Baltic Sea, and we have been doing everything we can to push ahead with our next ambitious offshore projects ever since. The EnBW Baltic 2

The biomass heating and power plant operated by EnBW Klenk Holzenergie GmbH spares the environment by avoiding around 71,000 tons of CO₂ emissions a year

wind farm is currently being built far off the coast near the island of Rügen and is scheduled to feed electricity into the grid from 2014 onwards. We also have big plans for the North Sea, where we want to build two more offshore wind farms of an even bigger size. When planning our offshore projects, we always ensure that municipal utilities and other partners are also on board, and their involvement helps them to profit from our experience and our commitment in the up-and-coming offshore market.

We meanwhile generate electricity on land at 20 locations in Germany with around 100 wind turbines. This is also a segment in which we are still growing, and we are continuously developing new projects at high-yield locations – often together with municipalities, towns and investors.

 www.enbw.com/biogasveredelung

 You can find more information on this topic in the brochure "Erneuerbare Energien" (Renewables) in the download centre at www.enbw.com



Sun in the power grid

Photovoltaics is booming – above all in our home region of southern Germany. We ourselves became involved in electricity generation from the power of the sun on a large scale in 2009. We build large roof installations and solar parks in open spaces as in Ulm-Eggingen, Leibertingen or Leutkirch, the "sustainable town". If homeowners and municipalities want to set up solar power systems on their own initiative, we support them through "people's energy cooperatives".

Bioenergy – energy in many forms

The use of biomass to produce energy takes many forms and is extremely climate-friendly. Biomass serves as a source of heating or electrical energy or can be converted into fuel. Our biomass heating and power plants mainly use wood to generate heat and electricity. We also employ an innovative process to feed biogas from our own biogas plants or from farms directly into the natural gas network. Our researchers are working at high speed on new methods to obtain biofuel from biomass.

Transport and distribution

Supply reliability takes priority

Through its two grid companies – transmission network operator TransnetBW and distribution network operator EnBW Regional AG – EnBW ensures the efficient transport and distribution of electricity in many parts of Baden-Württemberg. Our networks have an overall length of 153,000 kilometres. The increasing expansion of renewables places ever higher demands on the network infrastructure, and we therefore extend and optimise our networks on an ongoing basis. In this way, we make an important contribution to ensuring reliable energy supplies and play an active role in shaping the energy transition.



The transmission network

EnBW's independent transport network operator, TransnetBW (formerly EnBW Transportnetze AG), operates the transmission grid in Baden-Württemberg. The 380 and 220-kV very high voltage lines have a total length of over 3,000 kilometres. The transmission network is integrated in the national and European interconnection grid via 36 coupling points, and 81 transformers connect it up to the regional 110-kV distribution networks.

We are refitting our 220-kV lines for operation with 380 kV step by step in order to increase both network capacity and the performance capability in the transmission network. In addition, a continuous planning process ensures that the network is equipped to perform new transport tasks and that we are able to regularly review, adapt and meet the goals laid out by the legislative in terms of capability, technical safety, supply reliability, minimum environmental impact and cost efficiency. The modernisation of the 200 kV overhead lines in the Rheintal valley over a length of 170 kilometres that was begun in May 2011 is a good example of this. We plan our working schedules in close cooperation with the competent authorities to ensure that specific nature

conservation needs, such as the breeding behaviour of bird species and the protection of local vegetation, are fully taken into account. This work will be completed in 2013.

The North-South routes will be the focal point of expansion work on the transmission networks during the next few years. The networks in question are the 380-kV threephase network and the high voltage DC connections.

High voltage DC transmission is increasingly being seen as a cost-effective alternative to conventional threephase technology for transmission distances upwards of 400 kilometres. Thanks to the converter stations at the end of the transmission routes, the DC technology also helps to stabilise the entire electrical system. The capacity transported via a line of this type can be flexibly controlled and regulated and can therefore be fine-tuned to meet the operating requirements of the downstream threephase network.

The distribution network

Our ongoing investment in grid operation underpins the high quality of the distribution network and hence the reliability of power supplies. This includes the systematic replacement of overhead



EnBW's network control centres ensure that the voltage and frequency in our networks remain stable



www.transnetbw.de

www.enbw.com/reg:
for more information on
our distribution networks

lines by buried cables in the medium and low voltage networks. Buried cables have several advantages: they boost the performance capability of the energy infrastructure, they are less susceptible to disruption in adverse weather conditions and they are "invisible". In 2011, almost 300 kilometres of medium voltage cable were renewed or laid as a replacement for overhead power lines. In 2011, we invested over 250 million € in our distribution network to hook new residential areas up to the supply network and to modernise existing networks.



www.enbw.com/meregio

www.enbw.com/magazin:
the "Energiewissen" (Energy
Knowledge) section contains
animations on the topics of
"Grid expansion" and "Intelligent
networks"

In the year under review, more than 120,000 installations for the generation of energy from renewables were already connected to our networks. We research, test and use intelligent network technologies to improve network controllability at both the consumer and producer ends, to ensure optimum integration in the network of renewable and decentral sources of energy generation and to render this energy usable "on the ground".

The participation models in the network region of EnBW Regional AG are a further example of the partnership-based and decentral corporate strategy of EnBW. We allow municipal utilities and municipalities to profit from our expertise in the management and development of network

infrastructures on the level of the distribution networks.

Making the distribution network intelligent: mould-breaking EnBW projects

Together with project partners, EnBW has been investigating the intelligent integration of energy infrastructure and information/communication technology in the so-called "Minimum Emission Region" (MeRegio) since 2009.

In the fourth and last project phase that began in 2011, just under 1,000 households, companies and energy producers were equipped with the corresponding technology and connected up to the system. All manner of appliances are integrated in the system, including freezers, dishwashers, stationary battery systems and – within the framework of the sister project "MeRegioMobil" – electric vehicles as well as electric storage heaters, heat pumps and plants of industrial and commercial customers. Every electricity customer is his or her own "energy manager". They receive regular price signals via a "smart meter" and a central system platform, enabling them to adapt power consumption and power feed-in to varying supply and demand. We intend to use the data collected

during the project to develop new products and services.

In Freiamt in the southern Black Forest, over 200 photovoltaic, 4 wind power and 2 biogas installations produce far more electricity over the year as a whole than the town with its around 4,200 inhabitants actually needs. In the Freiamt "network lab", we analyse and monitor energy statuses in the network using realtime data to determine when and where the local network is stretched to the limit. This paves the way for the targeted and cost-efficient expansion of the sub-networks in question. By equipping the local network stations with online measuring systems, we can compare the weather data and the network data to pinpoint where we need to build new transformers or supply lines. This technology also makes it easier to localise malfunctions in the network. And if the generation or consumption situation in Freiamt changes, the technicians at the network control centre in Esslingen simply reroute the local energy flows.

Decentral solutions and energy services

Implementing projects together

The reorganisation of the energy supply system goes hand in hand with the development of new technologies, and this means we are increasingly in a position to offer our customers not just the supply of energy but also a range of innovative energy solutions and concepts.



EnBW has set up a total of 150 charging stations in the Karlsruhe/Stuttgart region



www.enbw.com/emobilitaet



See also page 30 et seq., "Leutkirch – sustainable town"

As part of the strategic realignment of our activities, we are increasingly focusing on decentral energy solutions, with particular emphasis on photovoltaics, e-mobility and the "smart home" concept as well as energy services for private, commercial and industrial customers, municipal utilities and the municipalities themselves. We want to involve customers and partners at local level and implement our projects in dialogue with the relevant groups in society. The central element of our strategy is the expansion of decentral energy generating facilities, above all in the area

of renewables, and holistic concepts. The project "Leutkirch – sustainable town" is a symbol of this new approach. This is a further area in which we are developing new partnership-based models for municipalities and municipal utilities.

E-mobility: exploring potential and developing products

Baden-Württemberg is one of Germany's pioneering regions in the field of e-mobility, a concept that is becoming increasingly important as a business and locational factor. Such things as new drive concepts, a charging infrastructure and efficient battery technologies need to be developed and made ready-for-market. These are areas in which EnBW has been actively involved through various projects for a number of years now.

Our fleet test from July 2010 to July 2011 using 500 e-bikes provided key information and insights into utilisation and charging habits that will help us to develop products and services to promote e-mobility in tomorrow's world. EnBW has also been offering the e-bike for sale since June 2010. Private individuals, municipalities, municipal utilities and companies can purchase e-bikes and power charging stations and thereby further the idea of emission-free mobility.

Our new research projects are focusing on the development of business models in the field of e-mobility. The CROME project, for example, is conducting research into cross-border transport via electric vehicles and looking at how safe, reliable and user-friendly e-mobility between France and Germany works. The "iZeus" project is concerned with the development of a system for emission-free urban regions that we are implementing together with municipalities and municipal utilities in Baden-Württemberg.

Baden-Württemberg experienced success in the nationwide research project "Showcase Electromobility" with its concept of a "LivingLab BW eMobil". Within the context of LivingLab, EnBW is chiefly involved in the "car2go Stuttgart electric" project. In cooperation with specialist partners in the region, we are researching and implementing the creation and operation of the world's largest electromobile fleet for short-term hire and the installation of the required charging infrastructure. As a result of this project, Stuttgart will boast a simple, environment-friendly and almost totally silent car-sharing system for everyone from 2012 which will serve as a living showcase for the sustainable mobility of the future.

Exploiting the power of the sun

EnBW and its Yello subsidiary offer their customers attractive front-to-end solutions in the field of photovoltaics. Customers not only receive a high-quality installation from a reputable manufacturer but also two intelligent electricity meters that forward all the key information direct to their home PC. The package also includes an attractive electricity tariff for evening and night-time periods when the sun is not shining.

Since 2008, we have been supporting the creation of local and regional "people's energy cooperatives" and therefore also the local, decentral generation of energy. Together with local people, municipalities, companies and institutions "on the ground", this enables us to play a role in ensuring the sustainable supply of energy. Up to the present, we have supported the creation of 46 "people's energy cooperatives" in Baden-Württemberg – mainly for the installation of photovoltaic systems.

Making buildings more efficient

EnBW is on hand as an expert partner to support homeowners and the public sector and provides advice on all questions relating to energy-efficient construction and modernisation. Together with

our partners in the trades, we have built up a comprehensive portfolio in recent years that helps people to make the right decisions on the best type of heating technology, for example, the right insulation and the most suitable energy-efficient windows.

The "EnBW GebäudeCheck" (buildings) and "EnBW ThermografieCheck" (thermographs) provide house owners with fast and easy-to-understand information on the exact points at which their home is wasting valuable energy. EnBW energy consultants visit the house, inspect the roof, windows, facade and heating system and, on request, then use the "EnBW GebäudeAnalyse" product to supply non-binding and objective advice on decisions as to which modernisation measures are worthwhile. Alongside the services contained in the building analysis product, we also offer concrete planning support in the form of the "EnBW Modernisierungspaket" for individual measures to save energy and implement alternative energy concepts.

New heating systems use less energy, are extremely flexible and achieve optimum performance scores in terms of environmental protection and energy efficiency. Many consumers are wary of making the major investment this requires,

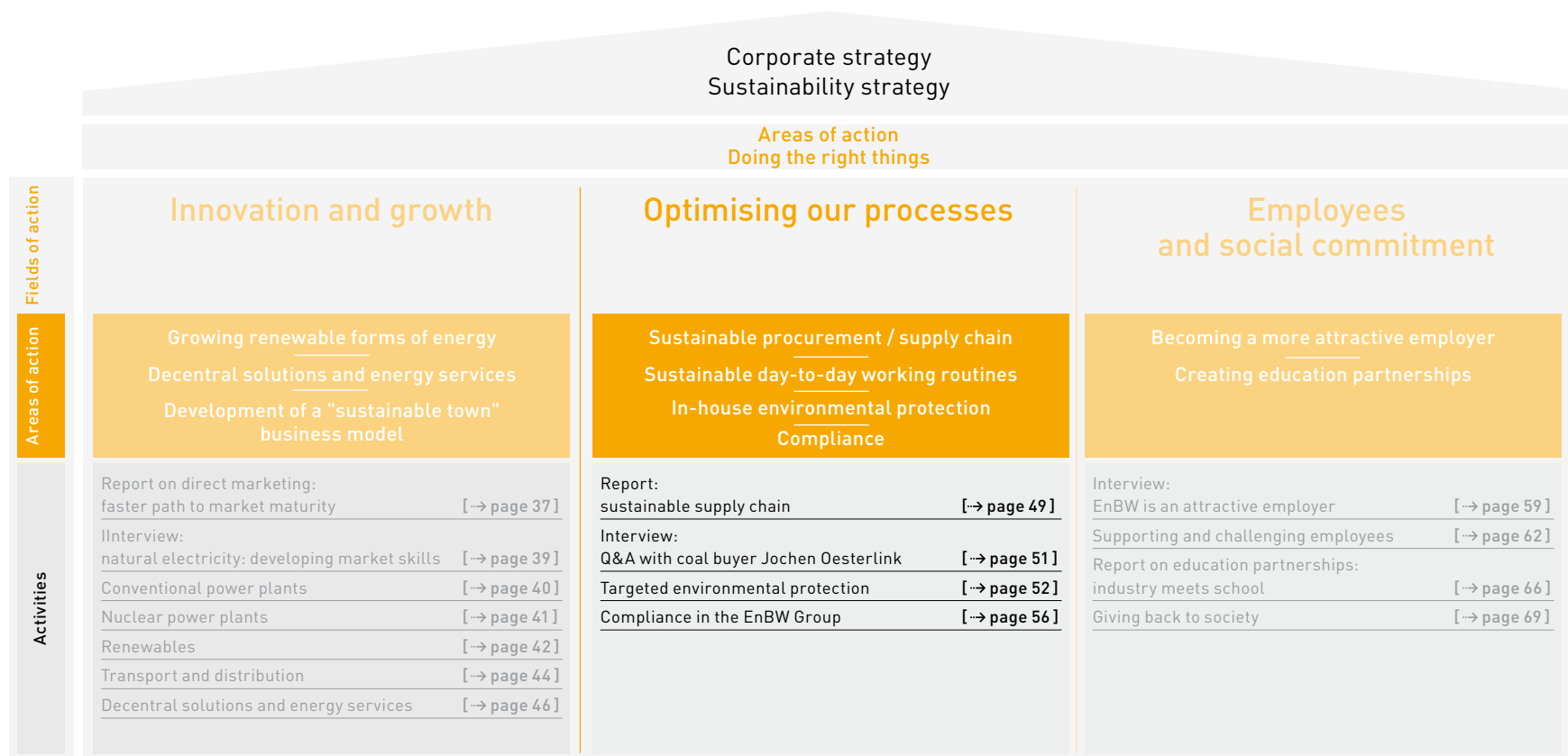
however, and we have therefore developed an innovative concept that enables all homeowners to install an efficient heating system. We are currently offering owners of single and two-family dwellings in the Stuttgart region our "all-round carefree package" for heating systems for a period of ten years.

Networks for improved energy efficiency

Energy efficiency and saving energy are also of ever increasing importance in industry. EnBW possesses wide-ranging consulting expertise in this field and offers companies an energy-saving platform within the framework of the "EnBW Energy Efficiency Networks". A total of 20 networks have already been set up throughout Germany comprising over 200 companies. Following the three-year duration of the associated projects, the companies involved record average energy savings in the order of 8%. The companies evaluated to date have succeeded in implementing almost 900 individual energy efficiency measures, achieving an annual energy efficiency improvement of around 136 million kWh and reducing their annual CO₂ emissions by 47,000 tons.

Optimising our processes

We don't only want to do the right things; we also want to do things right. Because responsibility and efficiency are the principles that guide our actions. And transparent and efficient processes promote sustainability and are ecologically, socially and economically meaningful. This applies to purchasing and procurement as well as to all our day-to-day activities, our plants and our commitment on the customers' premises, where we provide such things as advice and support in the area of energy efficiency.



Responsible procurement

On our road to becoming a sustainable group of companies, we need to look at more than just our own business areas. As a large group, we are also dependent on numerous service providers and suppliers, who also have to meet our criteria for sustainable action.

At EnBW, it is our declared aim to conduct procurement processes promptly, efficiently and cost effectively, while at the same time paying due consideration to qualitative, legal and sustainability aspects. By ensuring that we realise these goals and do business in a responsible manner, our purchasing department makes a positive contribution to our corporate results.

Sustainability in demand

One of the main jobs of the purchasing department is to procure all materials, capital goods and services for the EnBW core companies in areas such as network construction, conventional power plants, photovoltaic and wind energy installations and civil engineering as well as operating and business equipment.

Our many suppliers come from a wide range of sectors, but there is one thing they have in common: they have to meet our sustainability standards – along the entire value added chain. We select our suppliers and business partners in a multi-stage process that is in place throughout the group, and in May 2011 we introduced the "Integrity Check".



Before purchasing plant components, our buyers visit the premises of potential suppliers

Prequalification

All potential suppliers bidding for a contract have to complete a questionnaire outlining the sustainable measures they practice in the fields of data protection, quality management, environmental management, safety at the workplace and occupational safety. For critical product categories, such as the contracting of consultants outside Germany and construction services, and

when cost volumes exceed a certain threshold, providers undergo a compulsory "Integrity Check" focusing on, among other things, compliance and sustainability.

Contracts are awarded with the help of an assessment matrix that also includes aspects like environmental protection and social criteria in the overall evaluation process. In 2011, we launched a project aimed at standardising and optimising

the group-wide prequalification processes in the central corporate purchasing department. This system enables us to assess and select suppliers in line with a uniform standard. Group-wide minimum suitability criteria are also defined in the area of sustainability. Compliance with these sustainability requirements is therefore now part and parcel of the selection process for suppliers and service providers at EnBW.

Through our holdings outside Germany, we also help to ensure that our sustainability criteria are firmly rooted in our operations on international level, and these criteria are incorporated in the prequalification process as well as in our purchasing terms and conditions. We provide support in the form of training courses, dialogue events and communication measures and monitor compliance through on-site audits.

Training courses and plant audits

Contractors who already work for EnBW agree to undergo regular training in areas like occupational safety, hazardous substances and health protection. They also enter into a commitment to comply with standardised international environmental management standards like ISO 14001, and this ensures that they are committed to the constant improvement of their environmental performance.

Eight escalation levels

These sustainability requirements are verified in regular and transparent supplier audits. We have introduced a group-wide supplier assessment system with an eight-level escalation process. This process culminates in termination of the business relationship if a supplier deviates from the desired conduct in a way that is no longer acceptable. A distinction is made between defects with external impact and hazard potential, defects with external effects with regard to customers and defects which impact the internal relationship between purchasing department and supplier.

Low-wage and developing countries

In the product groups IT consulting and facility management, prequalification and supplier audits are reviewed by an independent service provider in a transparent process. We attach particular importance to compliance with laws and regulations in developing and low-wage countries. The focus in these countries is on working conditions based on the principles of the internationally recognised social or ethical standards (ILO core working standards), such as the inadmissibility of child and forced labour.

Sustainable day-to-day work environment

Our employees undergo regular training by experienced experts on the issue of compliance. We are also gradually including sustainability themes in the training catalogue. Our testing and examination programme also makes increasing use of new media such as e-learning concepts with examination certificates.

In order to align and optimise our processes, we have been involved in reputed associations for many years now, such as the German Association Materials Management, Purchasing and Logistics (BME) or the German Association of Energy and Water Industries (BDEW). These associations draw up and develop sector-wide guidelines and indicators, increasingly also for the issue of sustainability in purchasing operations.

The EnBW purchasing department was one of the driving forces behind the creation of a working group made up of representatives of well-known international energy supply companies who work together to define generally valid suitability criteria for supplier prequalification and who can therefore also make high demands in the marketplace when it comes to sustainability.

Is there such a thing as "sustainable coal"?

Q&A with coal buyer Jochen Oesterlink

We rely on imports from abroad to operate our coal-fired power plants – and this coal often comes from countries where the situation in terms of working conditions and environmental standards in the mining industry is problematic. We attempt to achieve improvements by visiting supplier sites, meeting with non-governmental organisations and participating in projects geared towards sustainable coal procurement.

Will coal continue to be an important raw material for EnBW in years to come?

Oesterlink: The expansion of renewables is not possible if we do not simultaneously secure around-the-clock energy supplies using conventional power plants. Coal remains a cheap and reliable source of energy and will help electricity prices to remain internationally competitive for German industry in the coming years while ensuring socially acceptable energy prices for private households.

Do you think there is such a thing as sustainable coal?

Oesterlink: The mining of coal is always associated with large-scale impacts on the natural environment, but these impacts can be minimised by using state-of-the-art technology and taking systematic recultivation measures. We use the latest technology to make our power plants more climate-friendly and we are involved in climate protection projects all over the world.

What about the complaints regarding violations of work safety, environmental standards and human rights in the mining sector?

Oesterlink: We are well aware of the accusations.

I worked in mining above and below ground for many years and I'm familiar with the conditions in the main mining regions in Germany and abroad. That's why the conditions under which coal is mined for our power plants is a topic close to my heart. My colleagues and I regularly visit mines of our business partners worldwide, in South Africa, Russia and Colombia, so that we can form an impression of working, environmental and social conditions on site.

Have conditions deteriorated in recent years?

Oesterlink: I believe that conditions on the whole have improved worldwide. Above all big mining companies – and these are the only ones we use as suppliers for our coal – attach ever greater importance to good working conditions and compliance with environmental and social standards. Conditions on site also depend largely on the willingness of state actors to systematically tackle these issues, however. Ultimately, therefore, only joint solution models that involve all the interest groups can bring success in this area.

What concrete options does EnBW as a coal consumer have to take account of



Coal buyer Jochen Oesterlink has himself worked both above and below ground

sustainability factors when procuring coal?


Oesterlink: As a power plant operator, we are at the end of an international supply chain that has not always been known for attaching importance to sustainability. When buying coal through a middle man, it's almost impossible to influence the procurement situation in the extraction countries. That's simply not good enough. And that's why we are in regular contact with the local producers, why we are always open to dialogue with groups in society and why we look for joint solutions to improve sustainability along the entire value added chain.

Thank you for talking to us.

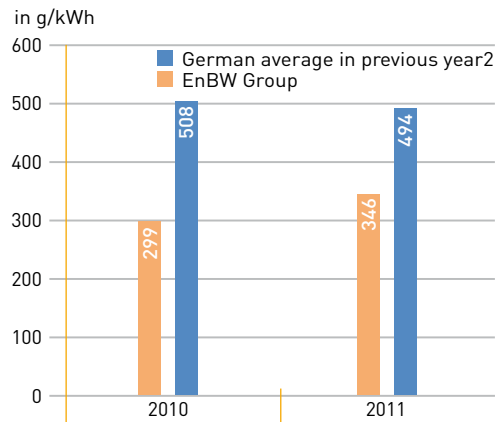
Targeted environmental protection

Corporate goals, measures and projects

The protection of the environment is firmly rooted in the corporate goals of EnBW. This means that environmental protection is a central objective on group level and in all companies – and a binding obligation for all employees in their day-to-day work.

 www.enbw.com/umweltschutz

Specific CO₂ emissions (electricity generation¹ of the EnBW Group)



¹ Own generation also includes long-term procurement agreements.
² The German average for the reporting year in question is not published until the autumn of the following year. Comparison is therefore with the German average for the previous year.

Our goals for the period up to 2015

Based on defined indicators, we have laid down quantitative corporate goals for renewables, direct and indirect CO₂ emissions, air pollutants and biodiversity for the period from 2011 to 2015. The reference year for these goals is 2010.

At the end of the first year, the status report shows that we have already fully or partly achieved some of these goals. Using selected corporate environmental protection goals as a starting point, the following section outlines the status for 2011.

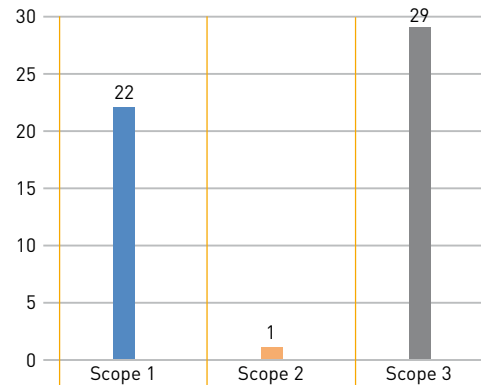
Renewables: the share of renewables in total own generation is slightly up on 2010, and we intend to significantly increase this share in the coming years: in the period up to 2020, we will be investing 8 to 10 billion € in the energy transition and therefore also in renewable forms of energy. In particular, our investment to date in the expansion of renewables as well as the start-up of the Rheinfelden run-of-river power plant and the EnBW Baltic 1 offshore wind farm in 2011 underline the consistency and determination with which we are pursuing the defined objectives.

Specific CO₂ emissions: the goal is to secure our outstanding status as a low-CO₂ power generator and to keep the emissions from our electricity production operations below the German average. Compared to the previous year, 2011 emissions were up by around 15% to 346 g/kWh. This is due to the lower share of nuclear energy following the shutdown of the Neckarwestheim I and Philippsburg 1 units, while the volume of conventional power generation remained more or less unchanged. Nevertheless, emissions are still well below the overall average for Germany of 494 g/kWh in 2010. (The figures for 2011 were not available at the time of going to press.)

Energy efficiency projects: we intend to reduce CO₂ emissions by a further 28% by implementing energy efficiency projects at the locations of our customers. In 2010, we were able to implement numerous projects with "energy-saving guarantees", thereby avoiding an above-average volume of CO₂ emissions. We were regrettably unable to maintain this high level of avoided CO₂ emissions in 2011, but we did succeed in increasing energy savings by just under 4% – from 143,995,000 kWh in 2009 to 149,515,000 kWh in 2011.

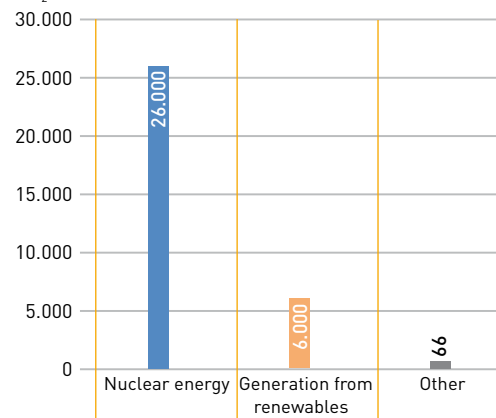
CO₂-footprint in 2011

CO₂-emissions in million t



Avoided CO₂-emissions in 2011

CO₂-emissions in thousand t



CO₂- footprint

2010 was the first year that EnBW calculated its group-wide CO₂ footprint based on Scope 1 and Scope 2 of the international "Greenhouse Gas Protocol" standard. Scopes 1 and 2 were incorporated in the CO₂ audit. We have optimised our group-wide CO₂ footprint for 2011 and now additionally report our Scope 3 emissions, the calculation of which is optional under the GHG Protocol.

Avoided CO₂ emissions: numerous business activities of EnBW result in the avoidance of CO₂ emissions. They include electricity generation from nuclear and renewable sources, energy efficiency projects at customer and partner locations, international climate protection projects (CDM and JI projects) within the context of the Kyoto Protocol and the generation of electricity and heating energy from biogas.

Energy efficiency at EnBW

Drinking water supply: the drinking water supply system operated by EnBW in Stuttgart produces more energy than it uses. The reason for this is that, instead of "destroying" the hydraulic potential via pressure-reducing valves, we use this energy to produce electricity prior to feed-in into the municipal network. Since EnBW took on responsibility for water supply in 2002, we have been able to reclaim over 33 million kWh of electricity from the power of the water and feed this energy into the electricity grid. Although the electricity withdrawn from the network in

2011 caused CO₂ emissions of 582 tons, the recovery of energy from the hydraulic potential enabled us to avoid CO₂ emissions in the order of 1,316 tons at the same time. The bottom line, therefore, is that we succeeded in avoiding an annual 734 tons of CO₂ through our water supply operations. By continuously optimising this process, EnBW Regional AG intends to increase the reclaimed electricity volume by 8% to around 4 million kWh a year by 2020 while reducing the amount of energy needed by 10% to 2.5 million kWh a year.

IBEC project: the goal of EnBW's 20/20/20 energy efficiency programme is to reduce CO₂ emissions by at least 20% and cut costs by at least 20% in its property portfolio by the year 2020 based on 2010 reference values. We are currently analysing around 500 buildings with a total gross floor area of roughly one million square metres.

EnBW Real Estate GmbH has launched the project "Improving Building Energy Costs" (IBEC) in order to achieve this goal. IBEC will develop the necessary structures, processes and methods to ensure holistic and sustainable energy management for the property portfolio of EnBW. The project is geared towards the requirements of the ISO 50001 standard entitled "Energy Management Systems".

The project focuses not only on technical and operational optimisation but also on usage habits. Purpose-designed training courses and information campaigns are in place to increase awareness levels among our employees for

energy efficiency potential in their working environment and to motivate them to change their energy utilisation habits.

Green IT: we also keep a particular eye on energy consumption in our computing centres. The efficiency with which the energy is used can be determined with the help of the internationally recognised "power usage effectiveness" (PUE) factor. The PUE calculates the ratio between the power used and power delivered to the IT components. A good PUE is below 2.0, and the figure for the EnBW computing centres is 1.75. In 2011, we were able to reduce the PUE by a further 0.12 points through measures such as the retrofitting of an external air cooling system.

Virtualisation and consolidation are further ways to optimise energy and process efficiency in computing centres and make better use of IT resources. It was to this end that we launched our project "Increasing the server virtualisation level to 90%" at the end of February 2011. We had already achieved 85% virtualisation by the end of 2011. By the time the project is completed in mid-2012, we will have reduced the number of physical servers by around 300.

Biodiversity, nature conservation and species protection

Amphibian Protection Programme: in 2011, we initiated the EnBW amphibian protection programme "Stimuli for Diversity" together with the Baden-Württemberg State Institute for the Environment, Measurements and Nature

Conservation (LUBW). Through the EnBW amphibian protection programme, EnBW is for the first time supporting projects throughout the whole of Baden-Württemberg that are not linked to specific locations with the aim of protecting amphibian species in its home state, thereby making an important contribution to the "Biodiversity" action plan called into being by the Baden-Württemberg state government.

EnBW not only provides the necessary funding for the various measures but also deploys employees together with the LUBW for the specialist evaluation of projects and PR activities.

In 2011, a total of 46 support applications were received for funding under the "Stimuli for Diversity" programme from associations, local groups of the nature conservation federations, cities and municipalities as well as private individuals. 16 of these applications were approved by a specialist committee made up of representatives of the state government, species experts and EnBW employees and were implemented in 2011. The supported measures not only create new habitats and spawning waters but also improve existing habitats for amphibious animals.

Due to the great success of the EnBW amphibian protection programme "Stimuli for Diversity", the support scheme will remain in place in 2012 and tenders will once again be invited for projects.

Bird protection in the network area: bird protection in the overhead line network has long been a matter of high priority for EnBW, and we once again implemented active bird protection

measures at numerous locations in 2011. Our fitters mounted further nesting boxes on overhead line pylons for peregrine falcons, kestrels, little owls and other birds and also ringed young storks in cooperation with nature conservation societies and associations. These activities show just how well modern energy supply operations and sustainable species protection can complement each other.

TransnetBW, EnBW's independent transport network operator, commissioned an ecological institute to prepare a study on bird protection for the period from 2008 to 2011 together with experienced ornithologists and biologists. The objective was to determine the potential collision hazard for birds due to the earthing ropes on the top of the pylons. In 2011, TransnetBW used the findings of the study to identify the overhead line sections where measures needed to be taken to protect the birds from possible collisions. These findings will also be incorporated in the future planning of new overhead power lines.


Reducing noise levels during the construction of offshore wind farms: it gets loud underwater when offshore wind energy installations are being built. The monopiles, jackets or tripods that anchor the wind turbines to the sea bed are driven into the floor using piling hammers. Efforts are underway to reduce the resulting noise emissions in order to protect marine mammals, in particular the threatened harbour porpoise. Together with the Hochtief company, EnBW therefore tested the bubble curtain column developed by Hochtief and designed to significantly reduce ramming noise before the start of

serious construction work on the second Baltic wind farm, EnBW Baltic 2. After this trial phase, we became involved in the ESRA research programme to evaluate systems for ramming noise mitigation together with seven other builders and operators of offshore wind farms.

All systems have resulted in noise reduction in certain frequency ranges from 15 to 20 dB but did not reduce noise levels across the full relevant frequency range. Nevertheless, this unique series of trials has provided key insights for the development of tested and new noise reduction systems, and the findings of the 3.9 million € project are available to the entire German offshore industry. The aim is to reliably achieve a level of below 160 dB in the foreseeable future and then to further reduce noise levels in the long term.

Environmentally based supplier assessment

In 2011, we once again regularly assessed the performance of the group's strategically most important suppliers and those with the highest turnover on site using the "Feliks" Web-based supplier assessment system. Environmentally relevant aspects such as the handling of waste, resources and substances that pose a threat to water or the correct transport of dangerous goods account for 12% of the overall assessment score. With a fulfilment level of 68%, the environment-related requirements and expectations of EnBW were once again met by our suppliers in the year under review.

 At www.enbw.com/umweltschutz, you can find information on further environmental protection activities of EnBW such as:

- › Environment management system in line with ISO 14001
- › Immission protection
- › Climate protection projects
- › Water conservation and soil protection
- › Waste management



A new habitat is also being created for the European green toad

Compliance in the EnBW Group

Observing rules – taking responsibility

As the third largest energy supplier in Germany, we are fully aware of the paramount importance of compliance, in other words adherence to legal regulations and internal guidelines, and we have therefore defined "compliance with the rules" as one of the fundamental elements of our business practices.



Compliance was also one of the key topics at last year's management meeting



www.enbw.com/compliance

Our efforts are geared towards establishing integrity of action as something that is second nature throughout the entire group and instructing all employees to act in line with this principle, as integrity – in other words compliance with laws and regulations, honesty, dependability and fairness – is an essential precondition for the sustainable success of our business operations.

One of the key elements of our compliance management system is the code of conduct of the EnBW Group. It helps employees to find their bearings in their day-to-day work and sets out binding guidelines for dealings with customers, competitors, officials and public institutions. A risk-oriented and preventive compliance strategy protects our company sustainably and over the long term from damage to our reputation or liability risks. Such a strategy requires a perfectly aligned compliance management system (CMS) that meets the defined standards in interplay with an appropriate compliance programme including specific measures. Our CMS is tailored to the circumstances within our group and forms the basis for compliance with legal regulations and internal rules.

Compliance Management System and annual compliance programme

The CMS at EnBW integrates three key aspects: prevention (risk management, code of conduct, guidelines, training courses etc.), identification (business partner review, monitoring, internal control system etc.) and reaction (reaction to violations, follow-up, ongoing development of methods and processes). In the latter area, the continuous development of compliance processes

is geared towards the requirements of the IDW auditing standard 980. The next step in this process will be the introduction of an external efficacy review.

The annual compliance programme approved by the Management Board and forwarded to the Supervisory Board and Audit Committee is based on a risk assessment that is performed every autumn and that covers all group companies. Relevant functions are reviewed to identify inherent and new compliance risks; the findings of these process form the basis for the fields of action defined for future measures. The implementation and monitoring of these preventive measures with regard to the compliance issues of corruption, fraud and anti-trust violations are the primary tasks of the employees in the Corporate Compliance unit.


Compliance training courses

Compliance with the rules begins with understanding and insight. This is why EnBW attaches major importance to the training of employees and management personnel in this area. Face-to-face seminars for management personnel and employees in sensitive areas as well as e-learning modules that can be accessed

throughout the group create a better understanding of the relevant issues. Since 2009, over 150 face-to-face training courses have been held within the group and have been attended by practically all management personnel as well as around 2,400 employees, over 10% of the EnBW workforce.

Advisory services and communication measures

The internal advisory hotline is open to all employees and management personnel and received around 770 inquiries in 2011; the calls mainly concerned the acceptance/giving of presents, the approval of sponsoring commitments, business partner reviews and questions on competition and anti-trust law. EnBW reporting on the key compliance themes is fully transparent and takes the form of such things as regular newsletters for employees and articles in the employee newspaper. Alongside the Corporate Compliance unit, other departments and employees at EnBW are also tasked with ensuring compliance with the relevant laws and internal guidelines in the group, such as those covering work safety, data protection, information and communication security, environmental protection and unbundling compliance. To promote the exchange of information between all the units and departments, a "Compliance Day" is staged every year where internal and external speakers raise awareness levels for integrity of action and practical conduct in the day-to-day working environment.

 www.weforum.org/issues/partnering-against-corruption-initiative

Sustainability based on clear rules: the Guideline Management System of EnBW

The precondition for sustainable action based on compliance with rules is that the rules are important, complete, understandable and up-to-date. This is ensured on group level by the guideline management system introduced at EnBW in 2010. A clearly defined process is now in place covering all aspects from the compilation to the suspension of a set of rules, and this not only ensures greater transparency but also underpins the binding nature of compliance. By the end of 2011, all the group-wide regulations on the key cross-functional activities such as procurement, accounting and risk management had been reviewed, revised and centrally published.

Integrity in business dealings

But compliance is not only about adherence to rules by EnBW employees. What is equally important is the painstaking choice and review of EnBW's business partners to ensure that problems like corruption or violations of social and environmental standards do not reflect badly on our company. Equally business partners should feel committed to a compliance standard comparable to that defined by EnBW in its code of conduct.

The business partner review process at EnBW is governed by clear-cut rules that provide for the careful selection and monitoring of business partners with regard to the aforementioned

risks. The overriding aim of these rules is to avoid financial damage and risks to the reputation of EnBW in its activities outside Germany.

This process comprises an integrity check to classify the compliance risk by the competent specialist department as well as a case-based follow-up review by the Corporate Compliance unit. The system is designed to ensure that future partnerships entered into by EnBW not only generate business success but also make a positive contribution to underscoring our image and reputation as a responsible company.

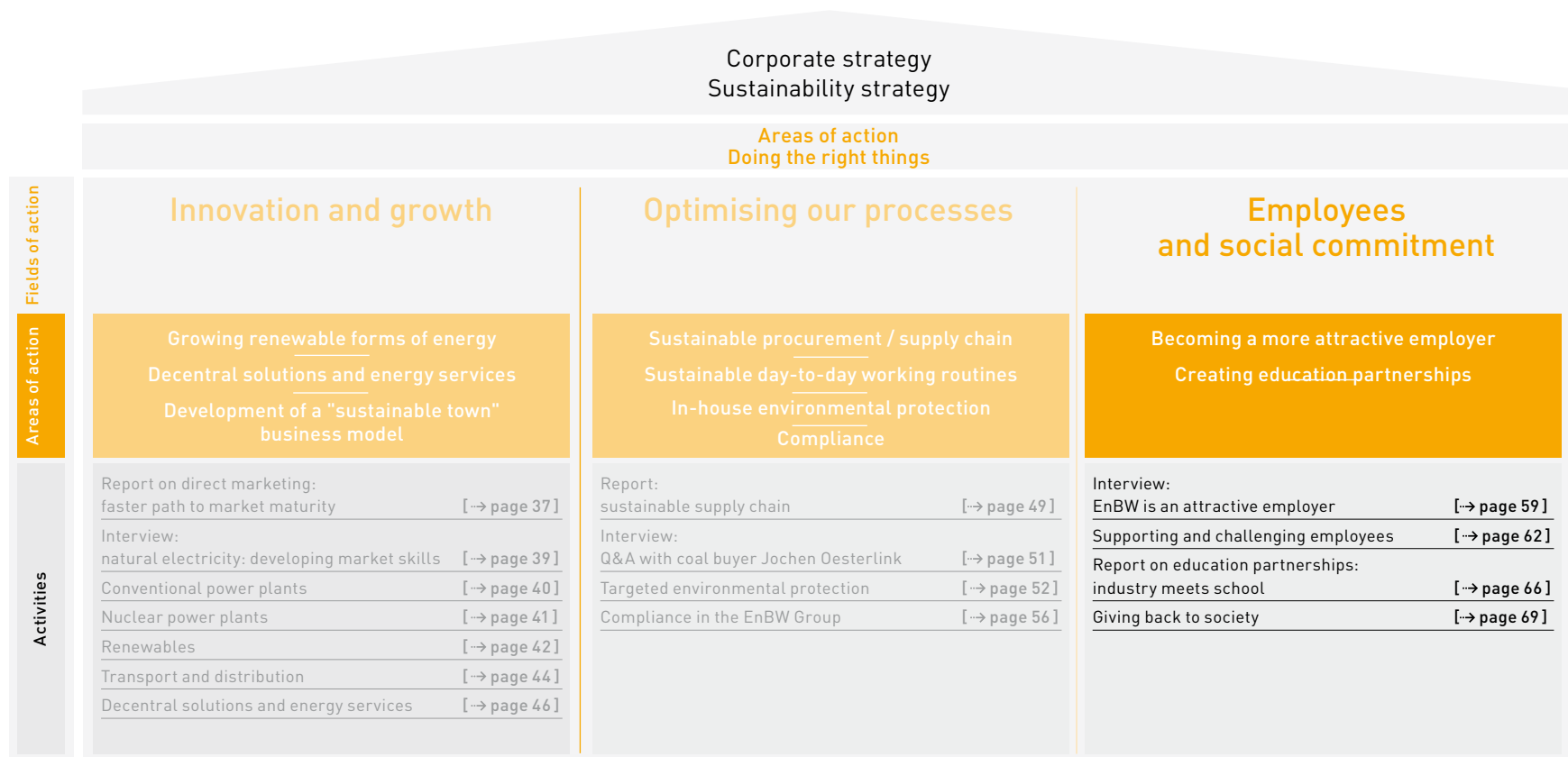
In addition to engaging in the regular exchange of information and ideas in various national forums on promising approaches to the prevention of corruption, EnBW is also involved in international initiatives. This means that we are also committed to fighting corruption and promoting human rights outside our company. We are, for example, a member of the UN Global Compact and – since 2010 – the "Partnering Against Corruption Initiative" of the World Economic Forum.

Reporting

Every year, reports are submitted to the Management Board, the Supervisory Board and the Audit Committee on topical compliance issues and the ongoing development of the compliance management system. Moreover, the Director of Personnel, Legal and IT – the Board member responsible for compliance – receives regular status reports. As and when necessary, the management teams at the group companies are also informed about relevant compliance issues or incidents.

Employees and commitment

It is always the employees at EnBW who are responsible for the success of our business operations. This is why we support and challenge our employees in a variety of ways. But it is not just what happens inside the company that draws our attention. We also and always focus on the "outside world" – as shown by our wide-ranging social and societal commitments ranging from popular sports complete with youth promotion schemes to cultural institutions and the education of future generations.



Work in the era of the energy transition

For Juliane Pilster, Michael Gruber and Martin Kuhn the "energy transition" is more than just a buzzword: it is part and parcel of their daily working reality at EnBW and determines the tasks they perform. A wide range of exciting challenges provides them with the opportunity to play a part in shaping the future of the energy industry while acquiring valuable qualifications.

Juliane Pilster (27) has been with EnBW since 2009 and was appointed Head of the "Coordination and Technology" department at EnBW Regional AG in September 2011.

What is your academic background?

I studied Business and Electrical Engineering at Chemnitz University of Technology specialising in electric power engineering, and my main fields of interest were energy supply and renewable forms of energy.

You're head of department at just 27. How did you achieve that?

After graduating I applied for a job at EnBW and started working in the "Coordination and Technology" department of EnBW Regional AG in December 2009, where I was involved in and headed many different projects. In December 2010 I was put in charge of the "Low-Voltage Network Lab" project in Sonderbuch. When the head of "Coordination and Technology" department took on new tasks, I was presented with a great opportunity and was able to apply for the vacant position.

Isn't it generally the case that it's tough for women in technical professions?

I haven't encountered any problems at EnBW to date just because I'm a woman. Some colleagues might perhaps still be slightly surprised that a woman is planning, say, the measuring technology for a project. When all's said and done, it's results that matter. Regardless of whether you're a man or a woman, what counts most of all is expertise and personality!

Everyone's talking about the energy transition. How does it affect you?

It more or less determines the nature of my job. The "Low-Voltage Network Lab" was also directly concerned with the energy transition. It was about planning the regional electricity grid of the future, which has to be equipped to cope with increasing volumes of power from renewables. The work of the "Coordination and Technology" department focuses on technical innovations in the power networks. And it is precisely now, when the energy sector is undergoing far-reaching change, that we need to optimise the technologies that ensure that the company is successful and



Head of department after only three years – Juliane Pilster is involved in the field of action entitled "Employees and commitment" and is shaping the energy future of the electricity networks



Ensuring the success of the EnBW Baltic 2 wind farm: Michael Gruber from EnBW Erneuerbare Energien GmbH

always up to date in years to come. We are cooperating closely with ten universities in Germany within the framework of a research programme. Our research focuses on issues like the integration of renewables or smart grids, which have gained considerably in importance as a result of the "energy transition".

What do you particularly like about your current job?

I have been involved in the very latest topics from the outset, and that can only be of advantage in my future career. In addition to its involvement in numerous internal and external projects, the department also supports the "Young Guns" working group which gives young employees a chance to work on innovative ideas and review their feasibility. We also cooperate closely with various units and group companies, and our remit is rounded off by the performance of coordinating functions for the Technical Director on the Board. My job is extremely varied.

What other advantages does working for EnBW have?

I like the flexible working hours. I can use time in lieu for my private activities – writing my dissertation, for example. I don't need to worry about planning family life when the day comes, as EnBW provides valuable support in this area, like the childcare centre at the Stuttgart location. And I'm already being given excellent opportunities for further training through the part-time programme leading to the qualification of certified project manager in line with the international standard.

Michael Gruber (29) has been with EnBW since 2010 and was appointed Quality Assurance Officer at EnBW Erneuerbare Energien GmbH (EEE) in 2011.

You've just returned from Denmark. What were you doing there?

I was at the production facilities of Siemens Wind Power A/S in Brande, Ølgod and Aalborg, where the turbines for our second offshore wind farm in the Baltic, EnBW Baltic 2, are being made. I was laying the groundwork for the monitoring of production by EnBW and the certifier.

What does your job entail exactly?

I work from the offshore office of EEE in Hamburg and I'm generally responsible for quality management. Together with our suppliers I draw up quality concepts – as I've just been doing in Denmark – and coordinate quality monitoring of the construction work. My main job at the moment concerns the wind turbine for Baltic 2. This wind farm will be four times bigger than the first one,

EnBW Baltic 1. The new wind turbines are around one third as large again at just under 140 metres. The success of the project is extremely important for the group in the context of the energy transition.

That sounds like a lot of responsibility! Tell us a bit about your career background?

After studying Mechanical Engineering at the Esslingen University of Applied Sciences, I joined EnBW in 2010 as a group trainee and got to know different companies within the group, including EEE. I found the topics they were dealing with – new technologies and the planning and construction of large-scale projects – particularly exciting. After completing the trainee programme, that's why I applied for the job in wind offshore quality management in Hamburg.

Have you ever regretted this decision?

Never, the offshore field is currently one of the most exciting fields to be involved in. The expansion targets set out in the energy transition cannot be achieved on the required scale without offshore wind farms. Offshore is a key element in the energy transition. As we regularly enter uncharted territory, there are very few established standards and a great many challenges.

What do you particularly like about your job?

My daily work plays a role in determining whether the wind farm will be a success and whether it will be a profitable venture for EnBW in years to come. This entails a great deal of responsibility. It calls for independent initiative

and the courage to make decisions. But it is precisely this opportunity to actively shape processes and projects on my own initiative that I enjoy and that makes my job so exciting.

Martin Kühn (51) joined EnBW in 1986. He has been working in the Nuclear Power unit since 1999 and was appointed Head of Operations for Unit 1 of Philippsburg nuclear power plant (KKP 1) in January 2012

To what extent have the events in Fukushima changed your work?

The events in Fukushima and the ensuing decision to launch the energy transition have totally changed not only my day-to-day work and my career prospects but also those of all my colleagues. It was because of what happened in Fukushima that the number one units in Philippsburg and Neckarwestheim were permanently shut down. This is a major turnaround for someone who has been with EnBW since 1986 and in various jobs at the KKP 1 nuclear power plant since 1999.

How has it impacted your working environment in concrete terms?

Up to December 2011, I was head of the shift team for the unit, which means I was responsible for coordinating employees and work tasks to ensure the flawless functioning of the installation in terms of both technical efficiency and safety. I was named head of overall operations for KKP 1 in January 2012. In view of the energy transition and the resulting uncertainty for employees, I will continue to face major challenges in terms of employee leadership.

What are the issues that preoccupy you most?

After Fukushima everyone, myself included, experienced a rollercoaster of emotions. We were naturally extremely moved by events in Japan, and the political impacts it all had in Germany have affected us directly. Adapting to the new situation from one day to the next was a real challenge. The job now is to prepare the team for the new tasks to be performed during decommissioning. This is a highly complex process and represents a major challenge in terms of both the technical aspects involved and the necessary project management. But it's a challenge we will master with our highly skilled employees.

How is EnBW supporting you in this difficult situation?

Many employees are now performing new jobs related to the decommissioning process. The company provides active support to help them adapt. The "change management" concept for shutdown and demolition planning drawn up by EnKK (EnBW Kernkraft GmbH) also includes targeted further training courses. These measures will be continued in the coming years and adapted to cater to the changes that arise. The EnKK training department stages other further training courses that are tailored to our specific situation. At the same time, the company is trying to respond to the increased demand for communication and orientation. We have been and still are being informed on an ongoing basis about the situation in Fukushima and the resulting impacts on the company. As early as last autumn, the management launched the "5 Questions of the Week" scheme, via which employees



Martin Kühn and his colleagues master the challenges presented by the decommissioning of the nuclear power plant in Philippsburg

can give their feedback to the management anonymously.

What effect do these measures have on employees?

They show that they have the backing of EnBW even under the current difficult circumstances. The workshops are tailored to our situation and also give employees the feeling that the management is doing everything it possibly can to develop future-oriented solutions. The further training measures open up new career perspectives. We know that we will still have a job to do in the company after our nuclear power plants are shut down..

Supporting and challenging employees

Change as an opportunity

The restructuring of our company as a result of the energy transition calls for the commitment and know-how of all employees and requires a willingness to accept change.



School-leavers receive quality vocational training at EnBW

In response to the increasingly difficult context in which our business activities take place, we decided in summer 2011 to raise the volume of the group-wide improvement target set out in our "Focus" efficiency project to 750 million € a year from the end of 2014. This includes a sustainable personnel contribution of 250 million € a year. The first immediate measure taken in July 2011 was a temporary recruitment freeze. One of the main elements of "Focus" is the restructuring of the group. In the new EnBW structure

central management will be strengthened and the complexity within the group reduced. All employees are called upon to show a willingness – and the will – to change during this process. Despite or perhaps because of these developments, it is in our interest to maintain our status as an attractive employer, who not only challenges but also supports its employees.


Attractive employer

In 2012, the international research company CRF once again conferred the title of "Top Employer in Germany" on EnBW. We were ranked third overall out of a total of 118 participating companies; EnBW recorded particularly high scores in the categories "Secondary Benefits & Work-Life Balance" and "Corporate Culture". The fact that we have been awarded this title for the eighth time in succession confirms that we are constantly viewed as an attractive employer even in this dynamically changing business environment. On the whole, we are highly rated as a quality employer relative to other companies. And this is extremely important, as this is the only way to ensure that we can recruit new employees with the necessary skills and retain the in-house expertise that is critical to the success of our company.


High-profile training

As a company that trains apprentices, EnBW competes with other companies for the interest of young people. This is why a clear-cut training profile is so important.

As a major employer in the state of Baden-Württemberg, it is important to us to be able to offer young people in the region an opportunity to undergo high-quality training. And we naturally also need well-trained and committed young employees for our business activities. This is why we do everything we can to ensure that apprentices and students enjoy comprehensive and thorough training at EnBW. We support them in their day-to-day work right from the outset so that they can put the theoretical knowledge they have acquired into practice as quickly as possible. The training programmes comprise not only courses on specialised topics but also seminars on methodological and social skills. In addition to offering conventional technical or commercial apprenticeship training, we also organise cooperative study courses. And our "Girls' Day" and "Girls' Technology Camp" formats are designed to interest higher numbers of young women in technical occupations.

 www.enbw.com/karriere

[www.enbw.com/
traineeprogramm](http://www.enbw.com/traineeprogramm)

 You can find more information on our personnel strategy on page 84 of our latest Annual Report.

Starting a career

In 2011, we once again offered many students the opportunity to gather hands-on experience as working students during internships or while completing their degree theses. We are also involved in advancing the prospects of students through schemes like the "Energy Career Program", "Network2", "Competence Compass" or as a partner company of Femtec, a university career centre which aims to advance the careers of women in the fields of natural science and technology. Our activities in the field of university recruiting also pay dividends: around one in three graduate career starters who joined us last year worked in some capacity at EnBW while they were still studying.

Our 15-month group trainee programme serves as an attractive stepping-stone into the energy industry for university graduates and helps us to find suitable new personnel with academic backgrounds. In several practice phases at different companies, during stays abroad and by interacting with specialists and management executives, the trainees become familiar with the core business activities of EnBW and are well prepared to head up teams or projects by the end of the programme.

Securing and developing skills and expertise Knowledge management

In addition to recruiting qualified employees in the relevant target groups, a further core objective of our personnel management strategy is to develop the skills and abilities of employees and management personnel in the company and to ensure that the group retains the expertise that is critical to our business success. The EnBW competence management scheme systematically prepares employees for future challenges with the aim of increasing the competitiveness of the company. Standardised target profiles for employees, clearly defined evaluation criteria and structured employee reviews enable us to identify developmental needs more easily and to respond to these needs more effectively. All employees in the EnBW Group can take advantage of the targeted further training measures organised by the EnBW Academy. Our annual "ME EnBW" management development process is designed to strengthen management skills within the company. It forms the basis for systematic and effective development and succession planning on all management levels. The securing and development of skills is one of four central focal areas that EnBW defined for its personnel strategy in 2011 with the aim of ensuring that the company workforce continues to be fit for future.

Our "Knowledge Transfer" programme systematically secures the retention of knowledge in the company. It ensures that key expertise and experience are passed on when the personnel make-up changes. Knowledge management coordinators and "business partners" take goal-focused measures to pool the broadly based knowledge within the company and make this knowledge readily accessible. They define, establish and pass on proven methods and processes.

Since 2005, EnBW is the only major company in Germany that has regularly reviewed its intellectual capital using the "Intellectual Capital Report – Made in Germany". In this process, the factors that influence intellectual capital in the central companies of the group are evaluated in a targeted self-assessment performed by employee groups whose members represent the various specialities and hierarchical levels at EnBW. The findings of the intellectual capital report pave the way for assessment of the development of intellectual capital in the group and the identification of optimisation potential, based on which specific measures are then implemented.



During a meeting of the women's network, the participants were able to gain some insights into the day-to-day working routines of their female colleagues in unit 8 of the Rheinhafen steam power plant.



You can find details of the findings for 2011 in our updated Annual Report on pages 74 et seq. and 86

Flexible and family-friendly

As a family-friendly company – as confirmed by the "berufundfamilie" certificate from the Hertie Foundation – we make it possible for our employees to reconcile the demands of work and private life. The measures in place include such things as flexible working hours, health promotion, company-level integration management,

part-time working arrangements, part-time retirement and support in looking after children or family members in need of care.

Around 80 childcare places are reserved for the children of EnBW employees in public nurseries near EnBW City in Stuttgart, close to the corporate headquarters in Karlsruhe and in Biberach. In emergencies, employees can also bring their children with them and work in one of the "child offices". These measures are also designed to increase the percentage of female management personnel at EnBW.

If family members are in need of care, we support our employees within the framework of the German Nursing Leave Act and provide expert and comprehensive advice on all matters related to caregiving together with the pme Familienservice provider. A project launched in 2001 called "Mobile Working" will in future allow more flexible working routines that cater to the specific needs of individual employees. To this end, we have signed a pilot agreement with employee representatives to create a transparent and reliable framework for day-based work from home. 150 employees from four companies are currently testing the new work model over a period of nine months.

Women's network and mentoring

The women's network at EnBW serves as a platform for the internal and external exchange of information and experience; it encourages female employees to engage in the constructive discussion of a wide range of topics and increases the visibility of "female high potentials". In 2011, a mentoring scheme was created that allowed members of this network to enter into dialogue with a female management executive of their choice so that could learn and benefit from the latter's experiences – for example in the planning of their own careers. The women's network also staged several events during the year under review focusing on topics like promoting the prospects of women and increasing the share of women at EnBW management level.

Sought-after employees

The findings of the most recent and second employee survey in 2010 underlined the close bond between the workforce and the company. In 2011, we began to develop and implement measures based on the survey findings. In this way, the employee survey makes an important contribution towards making our company better. Our improvement schemes "Impuls", "WIN" and

"KVP" (continuous improvement process) are also geared towards the ongoing optimisation of EnBW together with our employees. A total of 3,561 suggestions for improvements were submitted by our workforce in 2011 with the aim of optimising work routines; 2,114 of these ideas concerned increased efficiency in the working sphere of the person submitting the idea, while the remainder related to superordinate routines and processes within the group.

Work safety and occupational health

Seminars, workshops, roadshows: in 2011, a total of 570 EnBW employees attended work safety courses staged by the German accident prevention and insurance associations, and bookings were 42% percent up on 2011. Alongside special courses in the field of chemicals, transport management or chainsaw operation, the programme of seminars has also included numerous in-house courses in recent years. In May 2011, EnBW employees had the chance to obtain information and take part in hands-on exercises during the "Take Out the Risk!" and "Preventive Fire Protection" roadshows. The topics covered included traffic safety, load securement, safety on two wheels, personal

protective equipment, fire simulation, fire alarms and the right way to use a fire extinguisher.

Certification: the occupational safety management system was successfully certified in the first EnBW companies in 2011 in line with the Occupational Health and Safety Assessment Series (OHSAS) 18001. The groundwork for certification had been laid in 2010, and the process will continue in 2012. This certification promotes the work safety, health protection and safety awareness of our employees and therefore helps to reduce the number of work-related accidents. Certification also creates a higher level of legal certainty.

Declining accident figures: the rate of reportable accidents (accidents resulting in four or more lost working days) at work has been steadily falling and reached a new low in 2011 at 6.1‰, in other words around 6 reportable accidents at work per 1,000 employees. There were no fatal accidents at work in 2011. The number of days lost due to accidents also fell – from 1,779 in 2010 to 1,561. Accident levels at EnBW are also extremely low compared to the rest of the industry.

Stem cell donation: the cross-location typing programme organised by the occupational medicine department of EnBW lasted four weeks. Around 1,000 employees agreed to be entered in the German Bone Marrow Donor Database in line with the motto "Working together to combat leukaemia". This impressive response was certainly also driven by EnBW's offer to pay the cost of typing – 50 € per examination. Six employees have already been identified as potential stem cell donors, and one of them donated stem cells in October 2011.

Industry meets school

Education partnerships are meanwhile just as much a part of school life as the morning break. Cooperation between companies and schools paves the way for learning activities that add a vibrant element to the standard lessons; they also make it easier to further the education of individual pupils. EnBW pursues both strategies: we support gifted children by providing scholarships and we enrich school projects by providing hands-on teaching content.



EnBW employee Christina Schäfer with her mentee Jothini Sritharan

Jothini loves ice cream, and that's why she meets mentor Christina Schäfer in one of Stuttgart's ice cream parlours. They meet in the late afternoon, as Jothini has a lot to do. The 15-year old grammar school student from Kornwestheim also has lessons in the afternoon; not only that: she also spends much of her free time with internships, tours, seminars and workshops.

Scholarship for school students through the Roland Berger Foundation

Jothini Sritharan was awarded a pupil scholarship by the Roland Berger Foundation at the beginning of 2011. The Foundation has been supporting gifted children and youths through its promotion programmes since 2010. The scholarships are funded by well-known German companies, while the programme content is developed by the Roland Berger Foundation and scientifically supervised by Berlin University. In 2011, EnBW took on the funding of two scholarships for schoolchildren from Baden-Württemberg, and Jothini is one of them.

Our commitment extends beyond the funding of the scholarships – in the form of Christina Schäfer. She was a teacher before she became responsible for maintaining school contacts and developing education projects as well as coordinating these projects with the regional education ministry. Besides performing her daily working tasks, Christina Schäfer provides support for Jothini as a volunteer mentor for the Roland Berger Foundation.

Unpaid mentoring

Christina Schäfer met her mentee in person for the first time in the summer of 2011: "I was a member of the jury tasked with deciding on scholarship allocation. We interviewed 70 young people between the ages of 8 and 15. It was a real "application slalom" for the kids, who had to introduce themselves and take part in a Q&A session. Jothini performed so convincingly that it was only natural that she was chosen for the scholarship."

Ever since, Jothini has been benefitting from the support measures of the Roland Berger Foundation tailored to her talents and interests as well as from the advice of her mentor. "The subjects I'm most interested in are maths and natural sciences. Unfortunately, I can't get enough of them at school. I'd like to learn more, for example, about how they are used in IT. And so my support programme enabled me to do a one-week internship in the IT department of a big engineering company. I'm now applying for a natural science internship at Stuttgart University, and the application training I did at the Foundation is coming in extremely useful." Christine Schäfer adds: "One element in the scholarship concept is that the partner companies create hands-on learning opportunities for the children based on their business areas. For us at EnBW, this means we can not only provide the children with information on the key technical and energy themes in an energy company through such things as plant tours, seminars and workshops but can also give them concrete insights into potential future careers."

In addition to imparting knowledge that picks up on conventional school subjects, the promotion scheme also includes measures in the area of personality development and value orientation. Allowing the children to develop their creativity plays a central role. One of the modules focuses on the joint organisation of a theatre play on a big stage. Despite school and her activities under the scholarship programme, Jothini still has enough energy to pursue her hobbies: she loves to paint and take photographs in her free time.

Statement

Learning from each other

Several employees at EnBW are involved in these education promotion activities. Christina Schäfer is responsible for the development and organisation of school projects and education partnerships.

"When two partners come together from different spheres of life, something new is automatically created. This has positive effects for both parties. The schoolchildren profit from the education partnerships as it ensures learning content which is more hands-on and more "real-world", while the scheme allows EnBW to share above all technical and economic knowledge with the school. This underpins our contact with the young generation and promotes a better mutual understanding. It is a kind of connection to the future for a company with a sustainable corporate strategy."

Christina Schäfer



The winning team from Riedlingen Grammar School following the presentation of their business idea

Business@school

How can schools learn business? EnBW responds to the call for more "business education" in schools by going into the schools to promote hands-on projects under the "Business@school" programme.

Business@school is a Europe-wide initiative of the Boston Consulting Group, in which pupils in the last two years of grammar school have the chance to learn how companies and business work and to try out what they have learned for themselves. The schools cooperate closely with big and small companies to ensure that the projects have a real-world feel. Experts from EnBW were on hand to act as contacts for the team from Riedlingen District Grammar School and to provide the youths with advice and support.

The 20 or students had to master a three-phase challenge: in the first phase they analysed the key indicators of a publicly listed company together with their three EnBW mentors using the EnBW Annual Report as a model and addressed questions like: What conclusions can be drawn from the EBIT margin? What is the relationship between investments and equity? What are the advantages of depreciation? By answering ques-

tions like these, the students were able to get to grips with the parameters and conditions in a major corporation. In phase 2, the spotlight was turned on a smaller regional company, and – as the highlight of the project – the students had to develop their own business idea complete with a business plan. Each phase ended with a presentation in front of an audience and an expert jury. The winning team has a chance to progress through further rounds all the way to the European knockout stage.

The EnBW employees who provided intensive support for the students from Riedlingen, above all during phase 1, were not only on hand to answer EnBW-specific questions. They also shared their knowledge in the field of business management and, for example, helped the students to establish contact with managing directors in the Riedlingen region and win them over to the project. "The students made extensive use of our coaching services: they simply sent us their questions via e-mail", says Carolin Mink, a member of the EnBW support team.

Giving back to society

Commitment in the fields of education, the arts and social affairs

Education, social interaction, arts and culture shape the character of a society. We are committed to promoting this system of values – both in our home region of Baden-Württemberg and beyond.

Paving the way

Creating a consciousness for the environment, our climate and natural resources and awakening an interest in technical and natural science themes at an early stage – this is the goal of projects like the "EnBW Energy Box" for childcare centres and the mobile "Energy Parcour" for slightly older children. We also support institutions like the "experimenta" science centre in Heilbronn which allow children and young people to experience the natural sciences and technology in a hands-on setting.

The annual school competitions we organise together with the Foundation for Cultural Youth Work are also designed to raise awareness among young people. The "Energy Reporters" were in action once again in 2011: around 2,500 young people engaged the complex subject of energy – and naturally acted as multipliers among friends and family.

Every year for more than 30 years now, around 200 primary school children in Stuttgart have been learning in hands-on lessons at the Münster Waterworks about topics like the path taken by drinking water en route to the city. We stage workshops and outings to provide information to

teachers and trainee teachers, student teachers and childcare centre staff and around 2,600 of them attend these events every year.

We are also active at universities and research institutions – firstly to promote knowledge in the field of energy technology and the energy industry and secondly to attract promising graduates to our company. The efforts of forward-looking entrepreneurs whose innovative drive changes the business world and the markets are recognised with the "German Innovation Award", in which we sponsor the awards for the winners in the "SME entrepreneur" category.

Generating cultural stimuli

We have been supporting art and culture in the region for many years. The organisations that benefit from these activities include the ZKM Centre for Art and Media in Karlsruhe, Stuttgart Art Museum, the Baden-Baden Festspielhaus opera house, the Stuttgart Ballet Company and the Bach Academy, the initiator of the Stuttgart Music Festival. We are also an official sponsor of the Baden-Württemberg Art Foundation, which has been promoting young talents for over 30 years and supporting them with scholarships, concerts, readings or exhibitions.

We naturally also promote young creative talents from Baden-Württemberg directly by giving them a platform at our events or by staging exhibitions at EnBW locations like the "Ateliereinblicke" ("Studio Insights") event as well as through our longstanding cooperation with the Stuttgart State Academy of Art and Design. Every year in the run-up to Christmas, we also provide a forum for "Release Stuttgart". The proceeds from the sale of the works of art created by both well-known and unknown artists are divided between the artists themselves and the contact point providing advice and assistance for people with drug problems.

Motivating young people

We have been supporting the Swabian and Baden Gymnastics Federations for many years now. The highlights of this commitment are the state and children's gymnastics festivals, the international youth camp, the EnBW Gymnastics World Cup and the sports and entertainment programme at the Gymnastics Gala. In 2011, we acted as co-organiser for "Tour de Ländle" leisure cycling event for the tenth time, when thousands of cyclists once again took to the roads. Over a period of seven days, this event not only provides a good reason for people to enjoy some exercise



Participants at an EnBW camp as part of the soccer school of the VfB Stuttgart soccer club

but also serves to support social projects in the region: the "EnBW money per mile" campaign raised over 67,000 € in 2011.

We have also been supporting talented young soccer players in Baden-Württemberg through our EnBW First Division Juniors since 2007/2008, and around 1,000 football-mad boys and girls between the ages of 13 and 18 have taken to the pitch to date.



www.enbw.com/sport

Demonstrating social commitment

In 2011, we sponsored the "Echt gut! Ehrenamt in Baden-Württemberg!" scheme (Thumbs Up for Voluntary Work in Baden-Württemberg) for the eighth time. The awards in this state-wide competition are presented to volunteer projects that set new standards.

We support the EU-wide "School Fruit" scheme in the Ravensburg and Lake Constance districts, supplying fruit to virtually all schools and daycare centres in the region. In the school year 2010/2011, a total of 368 institutions with around 56,000 children benefitted from the regular deliveries of tropical and regional fruit and vegetables.

EnBW has been cooperating with the integration company AfB, which promotes employment for people with disabilities, since 2006. The non-profit company has around 150 employees, half of whom have mental or physical handicaps. AfB specialises in repairing IT hardware discarded by big companies and public institutions and then selling it on. In 2011, the company ensured that, for EnBW alone, around 28 tons of IT terminals and electrical material were properly overhauled and made ready for reuse.

Our congratulation cards have been adorned by pictures painted by children for seven years now. In return, we donate money to a different social organisation in Baden-Württemberg every year. In 2011, it was the Support Group for Children Suffering from Cancer. And at Christmas 2011, we didn't send gifts to our business partners as we usually do – but spent the money on four

regional and sustainable projects instead: two social institutions and two nature conservation projects each received 15,000 €.

Active beyond national borders

We successfully completed our "Wells for Uganda" project in 2011, and 30 new village wells meanwhile supply a total of around 30,000 people with clean drinking water.

Since 1990, EnBW employees have been helping to promote development in Transylvania through the support group for the "Zsobok Children's Home". Each year, just before Christmas, they drive a convoy of EnBW transporters and private cars to Romania. The vehicles are packed to the roofs with donations from employees: toys, clothes and sweets. In 2011, they were able to hand out around 900 packages to the 78 children in the home as well as to children and families in eight neighbouring towns. We also help communities to help themselves by making heavy-duty donations like tractors, ploughs and tracked vehicles or by supplying equipment for workshops or bakeries.

Facts and Figures

We document our sustainable actions comprehensively and transparently.

Corporate environmental goals for the period from 2011 to 2015

Corporate environmental goals for the period from 2011 to 2015

Direct CO ₂ emissions	Goal	Unit	Reference value	2011	2010
Specific CO ₂ emission (own generation by Group)	Below German average	g/kWh	494 ¹	346	299
Emissions from operation of gas pipelines	Goal	Unit	Target value 2015	2011	2010
Emissions from operation of gas pipelines	Reduction of CO ₂ eq emissions per km by 5%	t CO ₂ eq/km	5.82	6.05	6.13
Emissions from fossil-based building heating	Reduction of CO ₂ emissions per m ² by 15%	kg CO ₂ /m ²	8.8	10.5	10.4
Emissions from own vehicles	Reduction of CO ₂ emissions per km by 10%	kg CO ₂ /km	217	228	241
Indirect CO ₂ emissions	Goal	Unit	Target value 2015	2011	2010
Electricity consumption in buildings	Reduction of CO ₂ emissions per m ² by 10%	kg CO ₂ /m ²	25	29.4	27.8
District heating consumption in buildings	Reduction of CO ₂ emissions per m ² by 10%	kg CO ₂ /m ²	10.2	10.8	11.4
Electricity consumption of computing centres	Improvement of average PUE value ² by 10%	-	1.68	1.75	1.87
Avoided CO ₂ emissions	Goal	Unit	Target value 2015	2011	2010
Energy efficiency projects at customer locations	Increase in CO ₂ avoidance by 28%	t avoided CO ₂	102,336	53,424	79,950
CDM/JI projects	Increase in CO ₂ avoidance to 2,200,000 tons	t avoided CO ₂ eq	2,200,000	0 ³	0
Bio natural gas	Fivefold increase in CO ₂ avoidance	t avoided CO ₂	28,970	11,940	5,794
Renewables	Goal	Unit	Target value 2020	2011	2010
Share of renewables in generating capacity ⁴	Increase by 3,000 MW in Germany	MW	under review	2,538	2,478
Air pollutants from group electricity generation ⁵	Goal	Unit	Reference value	2011	2010
Specific NO _x emission	Below German average	mg/kWh	400 ¹	231	204
Specific SO ₂ emission	Below German average	mg/kWh	206 ¹	206	192
Air pollutants from coal-fired generation ⁶	Goal	Unit	Target value	2011	2010
Specific NO _x emission	Reduction of spec. NO _x emissions of EnBW's own power plants	mg/kWh	not quantified	551	580
Specific SO ₂ emission	Reduction of spec. SO ₂ emissions of EnBW's own power plants	mg/kWh	not quantified	459	450
Biodiversity	Goal	Unit	Target value 2015	2011	2010
Biodiversity index ⁷ of EnBW Group	Increase to 0.9	-	0.9	0.54	0.52
Environmental management	Goal	Unit	Target value 2015	2011	2010
Percentage of measures from audits completed on time	Increase to 100%	%	100	80	75

¹ Source: German Association of Energy and Water Industries (BDEW), specific emissions from public electricity generation in Germany in 2010; the figure for 2011 was not known at the time of going to press

² PUE = Power Usage Effectiveness (optimum = 1.0)

³ Greenhouse gas emissions were already successfully avoided in 2011 through CDM/JI projects; verification of emission reduction is not yet complete, however, and the corresponding CO₂ credits have not yet been allocated. Allocation is only performed for CDM projects following verification of actually achieved emission reductions.

⁴ Run-of-river power plants, storage power plants with natural inflow and other capacities in the area of renewables

⁵ Own generation including contracted power plants and long-term procurement agreements; not included: short-term procurement where the primary sources of energy are unknown

⁶ Basis: power plants of EnBW Kraftwerke AG

⁷ Biodiversity index = indicator for the importance of the issue of biodiversity in the field of environmental management: min. = 0.2, max. = 1.0

Expenditure on environmental protection in 2011

Environmental protection spending in 2011 in 1,000 € ^{1, 2}	Investments	Ongoing expenditure
Waste disposal	12,812	18,724
Water conservation	8,614	33,559
Noise abatement	96	2,787
Clean air	21,878	27,692
Nature conservation and landscaping	6,689	4,473
Soil decontamination	448	2,774
Climate protection	194,759	97,335
Research and development	690	37,242
Measures and initiatives to improve customer energy efficiency	6,479	1,966
Other environmental protection activities	53	3,491
Total	252,518	230,043

¹ Breakdown by environmental medium based on the reporting requirements of the German Federal Statistical Office

² Figures cover companies with environmentally relevant installations and activities (EDH, EEE, EnKK, EOG, ESG, ESW, ETG, EVG, GAS, GVS, HOL, KWG, ODR, REG, SIS, SWD, TNG, TPLUS and ZEAG), see www.enbw.com (Group/EnBW companies)

Environment ratios – Input¹

Input ²	Unit	2011	2010
Fuels³			
Coal (1 t coal eq. = 8.14 MWh = 29.304 GJ)	GJ	203,424,996	190,305,735
Heating oil (1 t coal eq. = 8.14 MWh = 29.304 GJ)	GJ	1,673,676	1,294,967
Natural gas (1 t coal eq. = 8.14 MWh = 29.304 GJ)	GJ	23,847,593	25,266,415
Waste	GJ	8,855,220	9,297,054
Sewage sludge	GJ	240,355	287,431
Biomass	GJ	2,836,802	1,752,844
Liquid fuels (petrol, diesel)	l	5,619,594 ⁴	6,462,768
Input of nuclear fuels ⁵	t ⁶	38	84
Other input materials³			
Lime products (CaCO ₃ , CaO, Ca(OH) ₂)	t	291,878	315,459
Ammonia	t	14,762	17,203
Ammonium hydroxide	t	6,214	5,607
Soda lye	t	8,174	8,377
Hydrochloric acid	t	6,057	6,495
Odorant (THT)	t	36	45
Water conservation³			
Surface/River water extraction	Mio. m ³	2,762	3,027
Well water/Groundwater extraction	Mio. m ³	7.76	8.00
Drinking water extraction	Mio. m ³	41.2	46.0
Avoided extraction due to reutilisation (not including cooling water)	Mio. m ³	1.29	1.00

Environment ratios – Output¹

Output ²	Unit	2011	2010
Products			
Electricity	TWh	155.7	146.9
District heat, process heat	GWh	7,565*	6,755
Gas	TWh	57.4	53.6
Drinking water	million m ³	91.3	85.3

* Preliminary value

Output ²	Unit	2011	2010
By-products³			
Coarse ash (boiler sand)	t	137,406	125,660
Fly ash	t	486,116	433,950
Gypsum	t	545,941	617,900
Slag from waste incineration	t	-	-
Other	t	10,823	13,290
Odorant (THT)	t	36	45
Waste disposal³			
Total waste	t	558,470	774,515
Hazardous waste for reutilisation	t	48,570	53,967
Non-hazardous waste for reutilisation	t	398,405	687,672
Hazardous waste for disposal	t	75,221	3,922
Non-hazardous waste for disposal	t	36,274	28,954
Recycling rate	%	80.0	95.8
Water conservation³			
Evaporation	million m ³	48	53
Cooling water discharge (direct discharge)	million m ³	2,751	2,965
Direct discharge of waste water	million m ³	4.13	3.00
Waste water (indirect discharge, sewage system)	million m ³	1.72	2.00
Radioactive waste water volume	m ³	46,498	53,124
Activity without tritium	Bq	1.2E+08	6.2E+08
Tritium	Bq	49.2E+12	38.3E+12
Greenhouse gas emissions⁸			
Carbon dioxide [CO ₂]	million t	21.9	20.9
Sulphur hexafluoride [SF ₆] ^{6,7}	t	< 1	< 1
Classic air pollutants⁸			
Sulphur dioxide [SO ₂]	t	12,641	13,149
Nitrogen oxides, listed as NO _x	t	16,894	15,055
Carbon monoxide [CO]	t	1,267	1,245
Dust	t	413	275
Activity emission to the atmosphere⁵			
Waste air volume	million m ³	7,903	21,108
Inert gas	Bq	1.61E+12	3.09E+12
Iodine	Bq	18.3E+06	35.4E+06
Aerosols	Bq	3.45E+06	10.5E+06

¹ Included companies: EDH, EEE, EnKK, EOG, ESG, ESW, GAS, GVS, HOL, KWG, ODR, REG, SIS, SWD, TNG, TPLUS, ZEAG, see www.enbw.com [Group/EnBW companies]

² Absolute environmental ratios provide concrete information on material flows

³ Own generation including contracted power plants; not included: long-term procurement agreements and short-term procurement where the primary sources of energy are unknown

⁴ The balancing group was corrected for 2011 compared to the previous years. The values from previous years were not adjusted.

⁵ Own generation

⁶ Total heavy metal load

⁷ Monitoring in line with the voluntary commitment on SF₆

⁸ Own generation including contracted power plants and long-term procurement agreements; not included: short-term procurement where the primary sources of energy are unknown

Personnel indicators

		2011	2010	Change in %
Employees by business area				
Electricity/Generation and trading		4,940	4,850	1.9
Electricity/Grid and sales		6,173	5,535	11.5
Gas		702	704	-0.3
Energy and environmental services		7,990	9,378	-14.8
Holding		491	485	1.2
Employees by region				
Baden-Württemberg	%	72.6	73.2	-0.8
Other German states	%	19.4	19.3	0.5
Outside Germany	%	8.0	7.5	6.7
Employees by qualification				
Degree from uni or uni of applied sciences	%	25.4	23.8	6.7
Technical college or apprenticeship	%	68.7	69.9	-1.7
School diploma with no documented vocational training	%	5.9	6.3	-6.3
Employees by age group				
≤ 25	%	5.9	5.8	1.7
26 – 35	%	17.4	17.9	-2.8
36 – 45	%	27.1	29.0	-6.6
46 – 55	%	36.0	35.5	1.4
> 55	%	13.6	11.8	15.3
Management personnel by age group				
≤ 35	%	4.5	5.1	-11.8
36 – 45	%	38.0	39.4	-3.6
46 – 55	%	40.9	39.7	3.0
> 55	%	16.6	15.8	5.1

		2011	2010	Change in %
Employee groups				
No. of severely handicapped employees		977	944	3.5
Share of non-German employees	%	10.6	10.3	2.9
Part-time employees	%	12.4	11.3	9.7
of which, women	%	59.9	59.5	0.7
No. of new apprentices		over 300	around 330	around -9.1
Total apprentices		over 1,200	around 1,300	around -7.7
EnBW accident statistics				
Reportable accidents at work		97	111	-12.6
Reportable commuting and sport accidents		54	71	-23.9
Lost days due to reportable accidents at work		1561	1779	-12.3
Lost days per reportable accident at work		16.1	16	0.6
Employees		15,989	15,430	3.6
Reportable accidents at work per 1,000 employees		6.1	7.2	-15.3
Reportable accidents at work per 1,000 employees with the BG ETEM ¹		16.9	17.3	-2.3
Accidents at work from 1 lost day		144	173	-16.8
Commuting and sport accidents from 1 lost day		82	99	-17.2
Lost days due to accidents at work from 1 working day		1,645	1,907	-13.7
Lost days per accident at work from 1 working day		11.4	11	3.6
Employees		15,989	15,430	3.6
Accidents at work from 1 working day per 1,000 employees		9	11.2	-19.6
LTIF ² (accidents per 1 million working hours)		5.3	6.6	-19.7

¹ German Accident Prevention and Insurance Association for Energy, Textile, Electrical and Media Products

² Lost Time Injury Frequency (number of accidents per million hours worked, without employees of external contractors)

Core indicators based on the Global Reporting Initiative (GRI) and the UN Global Compact (UNGC)

The application level of reporting by EnBW for the business year 2011 has been reviewed by the GRI and is classed as "A GRI checked".

The GRI statement is available on the company website at www.enbw.com (SR = Sustainability Report; AR = Annual Report).

UNGC	GRI G3	Report element	Scope	Page
		Vision und Strategie		
	1.1	Statement from the CEO about the relevance of sustainability	Full reporting	SR 2011 p. 4-5
	1.2	Description of key risks and opportunities	Full reporting	AR 2011 p. 93-101
		Organisational profile		
	2.1 – 2.10	Organisational structure, markets, facts and figures		SR 2011 p. 2, 28, 69; AR 2011 p. 24, 28, 39-47
	EU1	Installed capacity	Full reporting	AR 2011 p. 1, 40
	EU2	Electricity generation by primary energy source	Full reporting	AR 2011 p. 58
	EU3	Residential, industrial and commercial customer accounts	Full reporting	AR 2011 p. 58
	EU4	Length of above and underground transmission and distribution lines	Full reporting	AR 2011 p. 41
	EU5	Allocation of CO ₂ emissions permits	Full reporting	see Carbon Disclosure Project (CDP) questionnaire
		Report overview		
	3.1 – 3.4	Report parameters	Full reporting	SR 2011 p. 6
	3.5 – 3.12	Report content, reporting limits	Full reporting	SR 2011 p. 6
		Governance, commitments and engagement		
1-10	4.1 -4.7	Corporate governance	Full reporting	AR 2011 p. 21, 44, 103, 208-210; SR 2011 p. 56
1-10	4.8 – 4.13	Commitments and engagement	Full reporting	AR 2011 p. 208-216; SR 2011 p. 5-6, 27, 52, 56, 65
1-10	4.14 -4.17	Stakeholders	Full reporting	SR 2011 p. 6, 14, 16, 26-27; AR 2011 p. 30-31
1, 6, 7		Economic performance indicators		SR 2011 flap, p. 14-16, 41
		Management approach		AR 2011 p. 22-26, 44-45, 87-90
	EC1	Direct economic value generated and distributed	Full reporting	SR 2011 cover page; AR 2011 cover page
7	EC2	Impacts of climate change	Full reporting	AR 2011 p. 107-114
	EC3	Company pension plan obligations	Full reporting	AR 2011 p. 142
	EC4	Financial assistance received from government	In progress	
	EC6	Policy, practices, and proportion of spending on locally-based suppliers	In progress	
6	EC7	Personnel selection	Full reporting	AR 2011 p. 83
	EC8	Investment for public benefit	Full reporting	SR 2011 p. 66-70
	EU10	Planned long-term capacity vs. calculated demand	Full reporting	AR 2011 p. 19
	EU11	Average efficiency of generating processes	In progress	
	EU12	Efficiency of line system, transmission and distribution losses	Full reporting	AR 2011 p. 80

UNGC	GRI G3	Report element	Scope	Page
		Ecological performance indicators		www.enbw.com/umweltmanagement
		Management approach		
8	EN1	Materials used by type, except water (installations containing PCBs)	Full reporting	SR 2011 p. 74
8, 9	EN2	Percentage of materials used that are recycled	In progress	SR 2011 p. 74-75
8	EN3	Direct energy consumption broken down by primary energy source	Full reporting	SR 2011 p. 74
8	EN4	Indirect energy consumption broken down by primary energy source	In progress	
7	EN5	Energy conservation through increased efficiency	Full reporting	SR 2011 p. 52-54, 72
8, 9	EN6	Energy efficiency initiatives	Full reporting	SR 2011 p. 46-47
8, 9	EN7	Initiatives to reduce indirect energy consumption	Full reporting	SR 2011 p. 52-54, 72
8	EN8	Total water withdrawal by source	Full reporting	SR 2011 p. 74
8, 9	EN10	Re-use of water	Full reporting	SR 2011 p. 74
8	EN11	Location and size of land in protected areas	In progress	
8	EN12	Description of significant impacts of activities on biodiversity	Full reporting	SR 2011 p. 54-55
8	EU13	Biodiversity of offset habitats	Full reporting	www.enbw.com/biodiversitaet
8	EN13	Initiatives to reduce emissions of greenhouse gases	Full reporting	SR 2011 p. 54-55
8	EN14	Strategies for managing impacts on biodiversity	Full reporting	SR 2011 p. 72
7, 8, 9	EN16-20	Total direct and indirect greenhouse gas emissions by weight	Full reporting/ In progress (EN 19)	SR 2011 p. 53, 72
8	EN21	Waste water	Full reporting	SR 2011 p. 76
8	EN22	Waste	Full reporting	SR 2011 p. 75
8	EN23	Pollutant spills/release	Full reporting	SR 2011 p. 75-76
7-9	EN26	Reduction of environmental impacts	Full reporting	SR 2011 p. 72, 75-76
8	EN28	Fines/Sanctions for non-compliance with applicable environmental regulations	Full reporting	www.enbw.com
7-9	EN30	Total environmental protection expenditures by type	Full reporting	SR 2011 p. 73
		Social performance indicators: working environment and conditions		SR 2011 flap, p. 58-65
		Management approach		AR 2011 p. 81-86
6	LA1 – LA2	Workforce	Full reporting	SR 2011 cover page; AR 2011 p. 83-86
	EU17	Subcontractors	In progress	
	EU18	Health and safety training for contractors	Full reporting	SR 2011, p.50
1, 3	LA4 – LA 5	Employee representation/Collective agreements	Full reporting	AR 2011 p. 83
1	LA7 – LA 8	Workplace safety	Full reporting	SR 2011 p. 64-65
	LA10	Training hours	In progress	
	LA11	Knowledge management	Full reporting	SR 2011 p. 63, AR 2011, 74-75, 86
1, 6	LA13	Employee structure/ Diversity of top management	Full reporting	SR 2011 p. 83-86
1, 6	LA14	Ratio of basic salary of men to women	Full reporting	AR 2011 p. 83-86



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