

Innovation this way



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RWE is one of Europe's leading electricity and gas suppliers, with core markets in Germany, the UK, Benelux and Central and Eastern Europe. With 65,000 employees and an annual turnover of nearly €50 billion, RWE produces three billion cubic metres of gas and more than 220 billion kilowatt-hours of electricity. We operate an electricity grid that is 11,300 kilometres long and a gas network extending to 23,700 kilometres. We supply electricity to more than 20 million customers and gas to more than ten million, making us one of Europe's top five utilities. We're proud of these figures. But they are by no means everything.

RWE stands above all for responsible and safe energy – combining climate protection with security of supply. The world behind the power socket is changing. Our customers demand clean, affordable and safe energy. They demand sustainability. We know that and have responded accordingly.

RWE also stands for the energy to lead, for new and forward-looking ideas, and for aspiring to be one step ahead of the rest. The energy world of the future will place high demands on

utilities. That's why we've launched the largest investment and innovation programme in our company's history. We will be optimising power supply across our entire production chain, while we continue to seek further innovations. This will allow us to lay the groundwork for the low-carbon electricity supply of tomorrow. The tools we're using are greater energy efficiency, expansion of renewable energies, innovative energy storage concepts, efficient power plants and e-mobility.

This brochure shows you what's behind RWE's climate strategy, what a healthy future energy mix might look like, and how we exercise our sense of social responsibility.

RWE stands for a reliable, trustworthy company with a clear vision. In short, RWE stands for a good partner.



WIND FARM
OPENS HERE BY 2020

OUR TARGET: 10,000 MEGAWATTS FROM RENEWABLE.

Responsible use of resources and far less CO₂ – these are the cornerstones of our corporate philosophy. They explain why RWE has set its sights on renewable.

And why RWE Innogy, which we founded in the spring of 2008, focuses the expertise of 750 RWE employees on developing energy supply solutions from renewables.

Our goals are ambitious. We want more than 10,000 megawatts (MW) of capacity to come from renewable energy sources by 2020, and RWE Innogy is moving quickly towards this target. Every year we invest more than €1 billion in the expansion of green energy generation. A prime example is wind power, where major projects include the 1,000 MW

Innogy Nordsee 1 wind farm off the coast of Germany and the 750 MW wind farm Gwynt y Môr off the coast of North Wales. We also aim to develop a 2,000 MW farm off the coast of the Netherlands.

This is one of Europe's most ambitious project pipelines for offshore wind, which will greatly enhance our expertise in this important technology. As each project is successfully completed, our knowledge will grow and our efficiency will improve.

Biomass is another example, and we intend to increase energy generation from wood fivefold by 2011. In order to produce this carbon-neutral fuel, we are even growing our own trees – on

low-yield soil that is unsuitable for food crops. This fuel is particularly economical for our combined heat and power plants, which can use it with up to 90% efficiency.

Our biogas plants are also built in harmony with nature. Each plant is fuelled by the most suitable raw materials available in the local region – depending on the soil, available water and climate. The use of liquid manure has led to the development of a new generating concept. This enables us to ease the burden on groundwater in regions with intensive livestock breeding, while opening up a new source of income for farmers.



ENVIRONMENTALLY FRIENDLY POWER GENERATION IS OUR MISSION.

RWE has been turning water into power for more than 100 years. We operate 45 hydropower plants in Germany alone, with additional plants in the UK, France, Portugal and Switzerland. Whether it comes from flowing rivers, ocean waves, tides or currents, hydropower is the reliable workhorse of renewable energy – available around the clock, no matter what the weather, and always emission-free.

Our tapping of geothermal energy deep underground – with technology that is still in its infancy in Germany – is further evidence of our innovative approach. We plan to drill 4,000 metres into the earth in Oberallgäu in southern


Germany, in search of ground heat that can be harnessed to produce electricity.


The best ideas often come from young companies, so RWE shares its capital and expertise with innovative businesses to enable good ideas to reach the market quickly. Our strict criteria have been applied to investigate the merits of more than 100 proposals from young engineering firms or start-ups. We are already investing in some progressive technologies, such as ocean-current power plants and mini wind farms, and in the Dutch company Topell, which develops biocoal pellets that can also be used in conventional power plants.




BREAKING NEW GROUND
IN RENEWABLE ENERGY.


RENEWABLE ENERGY AT RWE.

 RWE Innogy head office

 RWE Innogy subsidiaries

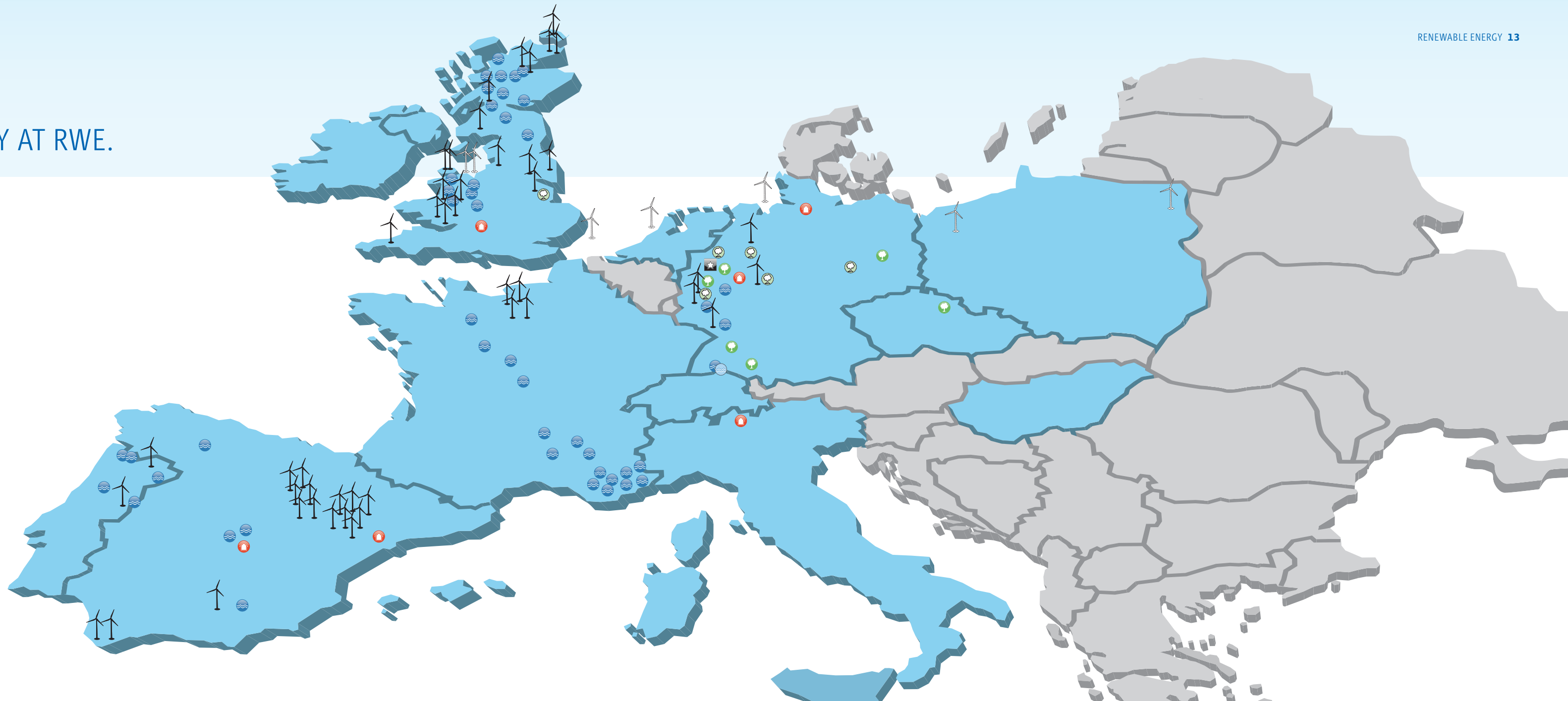
 Wind

 Hydroelectric

 Biomass

Projects planned/under construction





WE MAKE CLIMATE PROTECTION COST-EFFICIENT.

Our clearly stated goal is to produce less CO₂ – but we must not pursue it at the expense of secure supply for our customers. In fact, there's no need to do so, because local energy resources and nuclear power provide effective insurance against fluctuations in worldwide supply. That's why a climate-friendly and secure energy mix for an industrial nation will probably include renewables, natural gas, nuclear power and coal for some time to come.

By 2012, RWE wants to reduce its CO₂ emissions by more than 20%, rising to more than 30% by 2015. But we also believe that we cannot do without subsidy-free lignite – Germany's prime energy resource – which will be available for many years to come. It is a competitive fuel, and has proved its worth for baseload supply.

Nuclear power will also be an indispensable part of the energy mix for several years.

With 136 gigawatts (GW) of installed capacity, nuclear power is a first-class energy source for Europe, and nuclear power plants are responsible for one third of European electricity production. All of the major industrial nations, and many of the smaller countries in the EU, rely to a high degree on nuclear power as a clean, safe and climate-friendly energy source.

MAKING CLIMATE
PROTECTION AFFORDABLE.





WE SUPPLY GAS TO MORE THAN 10 MILLION CUSTOMERS.

As the sixth largest gas provider in the European market, RWE is playing its part in securing the supply of gas to Europe. At present, Germany has to import 83% of the gas it uses, while Europe as a whole imports around 60% – and the trend is rising in both cases. Experts estimate that over the next 20 years Europe will consume up to 200 billion cubic metres more per year than it does now. Where is it all going to come from?

One possible answer lies in the Caspian region. Nations such as Azerbaijan, Turkmenistan and Kazakhstan have immense gas reserves. There is twice as much gas in Central Asia and the Middle East as in Russia. As a partner in the Nabucco international consortium, RWE is joining forces with other companies to link the gas-rich Caspian countries with Europe. Nabucco is the name of a 3,300-kilometre-long gas pipeline that will extend from the eastern

Turkish frontier to the eastern border of Austria. The first pipes will be laid in 2011. In 2014, eight billion cubic metres of gas per year will start flowing, with 31 billion cubic metres anticipated annually by 2019. This is equivalent to one-third of Germany's current annual gas consumption. Together with our partners, we are investing €8 billion in this mega-pipeline – so that Europe can continue to rely on a secure supply of gas.



NEW ENERGY SOURCES MEAN
GREATER ENERGY SECURITY.



24-hour coal wash



MAKING COAL CLEAN.

INTRODUCING THE CLIMATE-FRIENDLY COAL-FIRED POWER PLANT.

RWE is a broad-based energy supplier. This means we are fighting climate change on several fronts, including coal. Lignite is indispensable in the long term as a reliable source of energy for many countries. However, our carbon balance will be consistently improved through the use of modern technologies, using coal in a way that ensures optimum energy efficiency and climate protection.

We are working hard to achieve this. The latest type of lignite-fired power plant, which we are now building, is equipped with optimised technology (BoA for short) and has an efficiency rating of 43% – well above the European average. Compared with older plants, carbon emissions are reduced by 30%. We have also set the bar high for our new power plants fired by hard coal. With a new plant currently under construction,

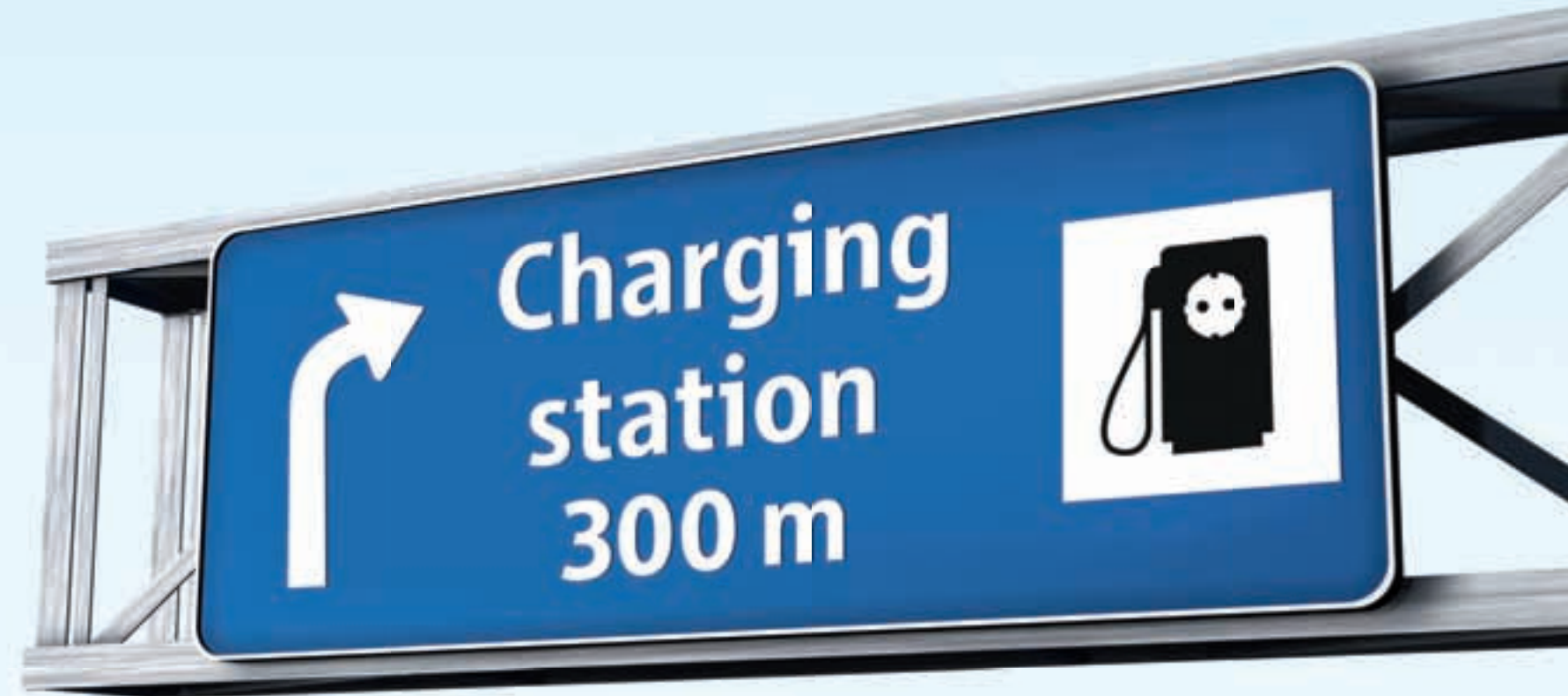
we will save around 2.5 million tons of CO₂ per year, starting in 2011/2012.

We also want to develop new skills in “co-firing”. Here the question is how biomass can be used as a supplementary fuel in power generation, because technical limitations can arise when the combustion properties of biomass differ too greatly from those of coal. However, this field offers considerable potential for effectively reducing carbon emissions. We are already relying on this form of climate protection at our Didcot plant in the UK, and we’re looking for additional opportunities in Germany.

But that’s not all. The next step is the virtually emission-free coal-fired power plant. The idea is to capture and then store CO₂ released during electricity generation – a system known as

Carbon Capture and Storage (CCS). We are working on processes that scrub CO₂ out of the flue gas of conventional power plants. New power plants are already being built in such a way that this technology can be retrofitted as soon as it is ready for large-scale use.

We aim to put the first large-scale CCS power plant in Europe into operation by 2014 – and in this case the CO₂ will be captured from the outset. Synthesis gas produced from the coal will be used to fire a gas turbine, and the only thing coming out of the chimney will be steam. The CO₂ resulting from the gasification of the coal will be recycled or stored – a process for which we can draw on our expertise in building and operating natural gas storage facilities.



Charging
station
300 m





ELECTRIC VEHICLES –
AN IDEA WHOSE
TIME HAS COME.

PLUG 'N' DRIVE.

The dream of driving without noise or emissions – of mobility at no cost to the environment – will soon be reality if RWE gets its way. We are leading the development of the electric car, whose time has now come thanks to new battery technologies and growing awareness of the impact of traffic on the environment.

Together with Daimler AG, we are already demonstrating what the future of private transport might look like. Over 100 electric cars will soon take to the streets of Berlin in a pilot project – initially Smarts, and then Mercedes A-Class vehicles. RWE will be in charge of setting up and operating 500 recharging points for the scheme.

This unique pilot will show that electric cars are already well suited to daily use. It will also allow us to gain valuable experience. For example, we will try to define the possible industry standards of the future – for everything from the charging plug to onboard software. When it comes to marketing and invoicing models for charging an electric car, we are breaking new ground.

Our goal is to set up a comprehensive recharging infrastructure. The driver of an electric car should be able to recharge its battery any time, anywhere, and pay as easily as for a mobile phone bill. This means having the right supplier, the right tariff and the right power mix, no matter where recharging takes place.

Later, when enough electric cars are on European roads, other, bigger dreams could come true. Then, millions of batteries could serve as a gigantic storage facility, compensating for fluctuations in the electricity grid. When a particularly high volume of electricity is drawn from the grid, cars that are parked and hooked up at that moment could share a portion of their battery power to help cover peak demand. Utilities would not have to keep so much surplus capacity to hand, and power plants could be smaller and run more efficiently – providing welcome relief for the environment and the consumer's wallet.

Caution!

Biting algae



WE'RE TAKING THE LEAD WITH NEW TECHNOLOGIES.

Innovations are RWE's bread and butter. Whether in electricity generation, gas, renewable, infrastructure or services, our motto is having the energy to lead – which means producing great ideas for tomorrow. Both in Germany and internationally, we're setting a brisk pace and driving innovation in a variety of fields. For example, we are pursuing new technologies at our Coal Innovation Centre in the Rhineland. And we are working with General Electric to develop new ways of storing electricity. We are also pursuing new technologies at our "Coal Innovation Centre" in the Rhineland. On both the international and national level, we're setting a brisk pace. We are driving innovation and doing it in a variety of different fields.

MIGHTY MITES

Coal has a long history, and a great future. We are convinced of this and are working hard to make it happen. In late 2008, for instance, we put the tiniest of employees to work at our Innovation Centre. In the world's most modern algae cultivation facility, our experts are

researching how the CO₂ from coal-fired power plants can be recycled with the help of micro algae. For this purpose, the scientists "feed" the algae with CO₂ from the flue gas. The result is less CO₂ in the power plant, and flourishing algae cultures, which in turn can be used as biomass for such things as biofuel. The advantage is that the microalgae grow faster than other energy plants, but don't fight for field space with key food crops.

INNOVATIONS THAT GO DEEP

What should we do with CO₂? Microalgae is just one possible solution for keeping it out of the atmosphere, but we are also working to achieve this underground. As the German company with the longest history of oil and gas production, RWE Dea has gained a wealth of knowledge about geological formations that are suitable for storing gas. This experience will be invaluable in the search for CO₂ storage solutions. Once captured, the CO₂ could be locked away safely underground in the sites of former natural gas deposits and sedimentary

rock layers. With projects like these, RWE is building a chain of expertise unequalled anywhere in the world, in everything from fuel extraction and energy production to CO₂ capture and storage.

TURNING UP THE HEAT

We are developing equipment to withstand the enormous additional pressure and heat of new 700-degree power plants. This technology involves increasing the pressure and temperature in hard-coal and lignite-fired power stations significantly – to 700 degrees and 350 bar. This enables the efficiency factor to be raised by a full four percentage points, making efficiency rates of over 50% a realistic prospect. For this to happen, however, all plant equipment must be able to withstand the enormous additional pressure and heat. So that's exactly what we're working on – quite literally at full steam!



ALGAE – SMALL ORGANISMS THAT DO A BIG JOB.



FROM INNOVATION TO STANDARD

One result of our research is a process called “fluidised-bed drying with internal waste heat utilisation” (whose German acronym is WTA).

In order to use lignite for industrial purposes, it must first be dried. This used to be done by means of hot flue gas during the grinding process, which lowered the efficiency rate of the power plant. However, our engineers have come up with a new solution that separates the grinding and drying processes. The lignite can then be dried at lower temperatures and, as another benefit, the steam produced can be harnessed for energy. This increases the efficiency factor by around 4% to as much as 47% – well above the European average of 36%.

RWE doesn't have the patent on innovation, so we use the RWE Future Award to encourage promising work by non-RWE researchers and developers. Conferred every two years, this award honours the scientific work of engineering and technical science graduates who focus on key energy industry issues and future energy

trends. This helps to ensure not only the safe energy of tomorrow, but also a steady supply of fresh ideas.

EFFICIENCY IS OUR JOB.

We constantly work on producing energy more efficiently, but we also support and advise our customers on how to consume as little energy as possible. This may look like a contradiction for an energy business, but only at first glance. Climate change and rising energy costs are issues on everyone's lips, so the only responsible action for an energy supplier is to address these realities openly with its customers.

On the generation side, energy that is produced more efficiently is also more economical.

This applies to extracting raw materials as well as to power plants and grids. RWE shares this energy efficiency expertise with its customers, whether they are industrial enterprises, private households or public institutions.

How can I insulate my windows to keep the heat inside the house? What kind of streetlights could help my town save energy? How can I identify the most power-hungry parts of my operation? These are the questions that concern our customers. We have the answers, and we can help put them into practice.

We support the energy-saving efforts of our residential customers with, for example, consumer education and how-to guides containing practical tips. At regular public information events and in our Customer Centres, RWE experts advise both homebuilders and energy savers. Through media collaboration, advertising campaigns and promotional awards, we create greater awareness of the need for energy efficiency. And in schools and kindergartens we nurture the smart energy consumers of tomorrow.

At RWE npower in the UK, efficiency consulting is based on the same idea as our German initiative – providing energy efficiency advice via a free helpline and printed and web materials. Free home visits are available in some areas. Loft and cavity wall insulation is fitted free for the over-70s and people receiving certain social benefits. Between 2008 and 2011, RWE npower will invest nearly £500 million in improving the energy efficiency of UK homes at no cost to customers.

In the business world, RWE npower offers small business customers tips, advice, and energy monitoring through its e3 (energy, efficiency, environment) programme. For major businesses it offers a programme called m3 (measure, monitor, minimise). Services range from measurement of current energy use to recommendations on major investment programmes, to reap larger savings in the longer term. For the largest customers of all, bespoke programmes cover everything from technology

changes to risk management and flexible purchasing.

British pupils also have a chance to learn how to save energy. Our school programme in the UK is called “Climate Cops” – the flagship initiative of RWE npower's Brighter Futures programme – which aims to inspire young people from their first day at school to their first day at work. The programme is designed for children between the ages of 7 and 11, encouraging them to think about the environment and the future through messages of climate change, energy efficiency and sustainability. Climate Cops Academies, hosted by selected schools across the UK, engage children in interactive days dedicated to climate change and how to save energy and the planet.



OUR ENERGY IS IN HIGH DEMAND – INCLUDING ENERGY FOR SOCIAL PROJECTS.

A company's performance cannot be measured by economic success alone. It also matters how seriously the business takes its responsibility to society – as an employer, a contractor and a sponsor. RWE has a great deal to offer here as well, as a forward-looking employer that faces up to social challenges.

WE GIVE YOUNG PEOPLE A CHANCE.

We employ a total of 3,000 trainees, and every year some 1,000 young people begin their training at RWE in one of 50 or so different occupations. This means that we provide three times as many trainee positions as are required to meet our own needs. And almost every trainee we can't take on at RWE on a fixed contract receives a one-year contract with RWE to gain additional experience in the working world. This makes RWE one of the biggest training firms in Germany. We know that training young people and integrating them into the working world is an important way to deal with demographic change.

We're also stirring up enthusiasm in the UK with "Enthuse" – our career preparatory programme. Through a partnership with selected schools

near our power stations and engineering sites, students in Year 9 participate in an interactive day of science and engineering activities at school, prior to choosing their GCSE options. To create a positive change in perception of science, technology, engineering and maths, each Enthuse activity challenges students to use and develop their skills as if they were a scientist or engineer. During the day our employees share their knowledge with the students, helping to bring the world of work to life.

WE EQUIP OUR YOUNG EMPLOYEES WITH THE RIGHT QUALIFICATIONS.

Our trainees can take part in demanding project work, or spend part of their trainee period working with one of our companies

abroad. We also provide and promote the option of combining on-the-job training with studies in various subjects.

WE TAKE A TARGETED APPROACH TO FOSTERING EMPLOYEE DEVELOPMENT.

In most of RWE's European markets, low birth rates are leading to a rise in the average age of the population. This means there is stiffer competition for qualified young staff. Our response is to seize a host of opportunities now for recruiting young talent for RWE. It helps that we create a working environment that meets their expectations.

WE HELP EMPLOYEES ACHIEVE A WORK-LIFE BALANCE.

We have it in writing that we're on the right track – the "berufundfamilie" (work and family) audit in Germany and the "Business in the Community" report in the UK tell us so. These audits are recognised quality seals for family-friendly personnel policies. They examine what companies are doing to help their staff balance the demands of work and family. Are flexible working hours available? Can parents do some of their work from home? Are they offered support with childcare? At RWE, the answer to all these questions is "yes".

WE ACCEPT OUR REGIONAL RESPONSIBILITY.

Solely for the construction of the new twin-unit lignite-fired power plant at Neurath near Cologne, we have awarded contracts worth well over €1 billion to businesses in North Rhine-Westphalia. Our ongoing investments secure tens of thousands of jobs with suppliers. In these large-scale projects, and in our daily

business, we contribute substantially to regional value creation by, for instance, using services, purchasing goods and providing jobs in our many companies

WE SUPPORT SOCIAL COMMITMENT.

Employees who volunteer for charitable activities are actively encouraged by RWE through RWE Companius, the umbrella organisation for RWE volunteer work. Founded in September 2007, it supports employee projects with grants of up to €2,000, true to the motto "People make it possible". In addition, RWE Companius develops its own projects with RWE staff participation, in some cases involving cooperation with charitable organisations. Not only has RWE Companius put a face to community involvement at RWE, it has also provided some fresh stimulus. Since its launch, more than 1,550 employees have applied for help with more than 1,800 projects. This makes RWE Companius one of the largest

volunteer organisations in our core market of Germany.

Social commitment is a top executive priority at RWE, and we are determined to live up to the expectations of our stakeholders. To make sure we demonstrate the energy to lead in this field – as well as in our core business – we have set up corresponding corporate structures within the executive Human Resources portfolio.



EPILOGUE

Dear readers,

I can almost hear you saying, "Oh no, not another of those glossy PR products..." as you picked up this brochure. And yet you read through to the end! Maybe that's because RWE really is a bit more innovative, green, modern, international and exciting than you thought? If that's the case, I am very glad to hear it.

RWE is determined to pursue a sustainable energy supply. We are working hard to offer our customers all over Europe reliable, affordable and climate-friendly power.

Research and development are important here, but equally significant are the use of renewables, the efficient operation of coal-fired, gas-fired and nuclear power plants, and our dedication to

providing customers with high-quality service and advice. We want not only to ensure a secure supply of energy for our customers at fair prices, but also to show them how to use it sensibly and efficiently. That's where all our efforts are directed.

If you have any suggestions for how we can do this even better, we would love to hear from you at newrwe@rwe.com

Yours,

A handwritten signature in blue ink, reading "Juergen Grossmann". The signature is fluid and cursive, written on a light-colored background.

Juergen Grossmann

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The energy to lead