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Climate Challenge:
CLIMATE STAR 2004.
Awards for 22 European Communities.

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CLIMATE PROTECTION ASSURES QUALITY OF LIFE. Communities are important partners.



Lower Austria
Governor
Dr. Erwin Pröll

Our province has been preparing itself for the enlargement of the European Union and has taken all necessary steps for Lower Austria and its population. We now find ourselves trying to place our country within this larger Europe. This also applies to the area of climate protection: we do not restrict our ideas and know-how to our province but also promote them abroad, thus offering our citizens and neighbours an improved quality of life. A few weeks ago, together with the Czech Republic and Slovakia, three new cross-border Climate Alliance regions were started in the Waldviertel and the Weinviertel. We know from those regions which were members of the Climate Alliance already, such as

Bruck-Hainburg-Schwechat and Bucklige Welt, that the quality of life of our citizens depends on the state of the environment. Climate protection also improves the quality of life in the 64 communities in the three new core regions. Lower Austria has placed great importance on environmental protection for years. In 1993, the province joined the Climate Alliance. Since then a lot has happened – Lower Austria is one of the leading European regions. This only works

because, for us, environmental protection does not impede the provincial economy in any way. As the provincial government, we establish the guidelines and provide important stimulus. The overall concept is outlined in the Climate Programme for the years 2004-2008, in which numerous environmental protection measures are specified. Important stimuli, for example, are programmes for ecology-sensitive buildings, the Lower Austrian Eco-construction Cluster and the strengthening of communities and city centres. In Lower Austria, 250 municipalities have already joined the alliance. In other words, more than half of the population lives in alliance communities. This is very important, because the local communities are crucial for the implementation of essential measures. For us, Climate Star is a clear signal of what the municipalities can accomplish – for their citizens and for our province.

Lower Austria Governor **DR. ERWIN PRÖLL**,

Provincial Councillor for Environment **DI JOSEF PLANK**

SHOWING THE WAY IN PROTECTING THE ENVIRONMENT.

Extraordinary performances from Climate Alliance municipalities.

The brilliant examples of the Climate Star cities should lead the way for successful environmental protection at the community level. We have established high targets for environmental protection, and the large number of submissions, as well as the high quality of the presented projects, prove that many members have innovative ideas. They are fulfilling their self-imposed duties with dedication, energy and resources.

Furthermore, the number of inquiries from non-members of the alliance has been growing constantly. We are very pleased by the excellent performance of the participants and winners at this year's contest.



We would like other communities to follow our example. However the Climate Star is not stationary. As the first European award for environmental protection, Climate Star is in continuous flux, in order to meet the demands of an effective climate policy. We will continue to reward our participants in future and we will measure success according to our members' desires. Especially when it comes to saving energy, rational energy use, the municipalities' solutions are often unspectacular. Their appeal lies in their broad approach and efficient implementation. In order to implement and improve, with verifiable assessment of the quality of environmental protection, Climate Star is to become a quality parameter, a rating which will hopefully be awarded to all the cities in the Climate Alliance. And last but not least, we congratulate this year's winners!

DR. KARL-LUDWIG SCHIBEL, Vorstand Climate Alliance –
Klima-Bündnis – Alianza del Clima e.V. Città di Castello



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Dr. Karl-Ludwig
Schibel,
deputy Chairman

Climate Star 2004
the european award for
local climate protection activities





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Minister of Environment DI
Josef Pröll

CLIMATE PROTECTION IS AN OPPORTUNITY FOR COMMUNITIES.

Climate Star projects demonstrate great commitment.

The effects of global warming are already noticeable – even in Europe. The floods of 2002 and the heat wave of 2003 clearly showed that protecting the climate is an imperative investment in our future. Nevertheless, greenhouse gas emissions are increasing across the globe. Reducing these emissions effectively is one of the greatest

sorts leads to a reduction in the number of visitors; periods of drought affect agriculture, the lumber industry and water supplies. However, cities and municipalities have a large number of options at their disposal in order to implement long-term projects aimed at protecting the climate. Climate protection creates jobs in the re-

be applied to almost any region, and production generally takes place in small and medium-sized businesses. The money remains in circulation locally, and the regional economy profits directly. Using modern technology to produce energy from biomass requires new qualifications and provides new forms of employment for the future. By educating existing industries, they too are provided with new opportunities. The award-winning projects from Climate Star 2004 demonstrate that we can be successful in protecting the environment, if enough committed and dedicated people move common projects forward. I would like to take this opportunity to congratulate all the winners at Climate Star 2004.



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Climate protection is an imperative investment in our future.

and most pressing challenges of our time. Cities and municipalities feel the impact of climate change directly; flooding can devastate areas; a lack of snow in ski re-

gion, improves the quality of life and safeguards the future of our children. Using renewable energy sources harbours great potential – the technology available can



Federal Minister of Environment **JOSEF PRÖLL**

LEAVING FOSSIL FUELS BEHIND.

The industrialised nations need to reduce their consumption by 80%.

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Researches worldwide concur: medium-term climate protection requires an almost complete renunciation of fossil fuels. The industrialised nations need to reduce their consumption of oil, gas and coal by 80% over the next 50 years, in order to achieve any long-term effects. The Kyoto Protocol, the most important international agreement on climate change, is just the small first step

on the road to global climate protection. The Kyoto Protocol envisages a reduction of greenhouse gas emissions by a minimum of 5% world-wide. Even if the targets are met, it is still only a drop in an ever-rising ocean. Furthermore, the Kyoto Protocol was always riddled with loopholes for the worst polluters. The exceptions granted for international flights alone reduce the



Mag. Wolfgang Mehl

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effectiveness of the Kyoto Protocol by half. Climate Alliance means climate protection, with solid foundations and practical implementations. Climate Star 2005 rewards the best communal projects and is a global alternative to shortfalls in international climate policy. ■

MAG. WOLFGANG MEHL, *Climate Alliance Austria*

CLIMATE & Alliance



INCREASING COMMITMENT WORLDWIDE.

Gotelind Alber, Managing Director of the Alliance, talks about the international statement issued by cities and municipalities, regarding energy efficiency and renewable energy.



Climate Star 2004
the european award for
local climate protection activities

The commitment shown by cities and municipalities to the construction and expansion of renewable energy sources is growing – not just in Europe, but worldwide. The first international statement on this issue is a testament to this fact. The statement was issued by numerous cities and municipalities as part of the international Conference on Renewable Energy that took place in June 2004.

LOCAL POLICIES ARE VITAL. A central theme of the statement is the important role played by cities and municipalities regarding the construction and expansion of renewable energy sources. The cities and municipalities play more than just a supporting role; their commitment is vital to certain courses of action, and a significant increase in renewable energy sources would not be possible without their dedication. For example, communities can make it easier to implement solar, biomass, hydro- and wind energy sources through local planning decisions infrastructure development. Local politics have an important role to play when it comes to securing investors, service providers and consumers, as well as securing financing. Local communities also play an important role



**Gotelind Alber, Director
Climate Alliance, European Secretariat**

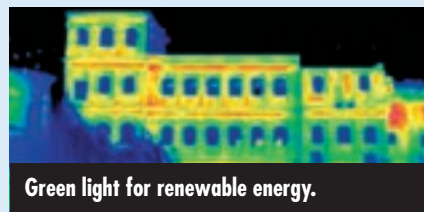
involving the local population and stimulating the economy by securing long-term energy solutions.

FOCAL POINT: SAVING ENERGY. The communities also emphasise the fact that renewable energy cannot be seen and treated as an isolated issue. Energy needs to be saved in order for renewable energy sources to be able to supply a large percentage of energy consumption, as well as in order to meet national and international targets. A focal point of the statement is therefore the commitment to increasing sources of renewable energy systematically, whilst placing special emphasis on saving energy. This includes pro-

jects within public buildings and institutions as well as initiating and promoting private projects through cooperation, support, financial incentives, regulations and planning decisions. The global impact of local policies also needs to be taken into account and partners need to be sought around the globe.

COMMITMENTS. The Climate Alliance negotiated the statement and introduced commitments at the international Conference on Renewable Energy, which were included in the international action plan. One of the proposals was to place the focus of the next Climate Star on renewable energy. This proposal has been implemented, and with considerable success, as you will witness in the following pages. ■

INFO: The statement can be found in several languages on the Climate Alliance homepage:
<http://www.klimabuendnis.org/buendnis/renewables.htm>



Green light for renewable energy.

'THE CLIMATE ALLIANCE IS OUR FLAGSHIP.'

The dedication shown by the local population forms the basis for successful climate protection, says new Provincial Environment Councillor, Josef Plank. Climate Star awards pioneers and provides a platform for new ideas.

U&G: Councillor, you have taken over responsibility for environmental issues, including the Climate Star award for climate protection. What does this award offer?

PLANK: My department, Agriculture and Environment, is responsible for the three most important resources for life: water, soil and the air. In my opinion, the environmental policies are departmental policies, and cover a range of areas. There are a few guidelines: the directive on establishing a framework for community action in the field of water policy, the European Land and Soil Alliance to which Lower Austria is a signatory and the Climate Alliance. Climate Star, the so called Oscars for environmental protection, in my opinion represent important motivation for municipalities.

U&G: What does the Climate Alliance mean to Lower Austria?

PLANK: The Climate Alliance is the flagship of our environmental policy. It has been a real success story so far. Lower Austria became a member of the Alliance in March 1993. Since then, the local population has shown real commitment to protecting the climate on various levels and shown that the issue is taken seriously in our province. 250 municipalities are participants in the Climate Alliance, more than anywhere else



**Provincial Councillor for the Environment
DI Josef Plank**

in Austria and other EU member states. More than half of the population lives in communities which are part of the Alliance. The result: the CO₂ emissions in Lower Austria have been reduced much further than in the country as a whole, even though the region is experiencing significant economic growth. We were able to reduce harmful emissions by 500.000 tonnes a year. This was made possible by a boom in renewable energy sources, as well as thousands of individual projects in the municipalities.

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Communities are the drive in climate protection.



Students active in Climate Alliance.

U&G: How important a role do municipalities play in regional climate policy and protecting the climate?

PLANK: The regional government determines the framework, for example with the introduction of concessions for environmentally friendly construction projects which are designed to protect the climate, as well as determining key regions in the Climate Alliance. The municipalities are the driving force behind the projects, and many of them have impressive results to report. I would hope that all municipalities in Lower Austria will join the Climate Alliance, so that we can increase our numbers significantly. 300 member municipalities would be a realistic target for the near future.

U&G: What do municipalities really contribute to climate protection?

PLANK: They are the foundation of the



movement. They are networked efficiently and cooperate closely with the regional government. And they are the areas where people live. Important decisions that affect people's lives are made there, for example infrastructural and employment policies. Take, for example, the Lower Austrian award winner, Krumbach. The new biomass plant has provided six people with new jobs, and this in a region where most of the population are commuters. The plant provides environmentally-friendly energy for 150 households. Obviously, from a global perspective these numbers are only a small contribution. But the large number of communities participating in such projects can result in real reductions in carbon dioxide emissions.

U&G: You mentioned the award-winning Krumbach municipality. 2 of 4 winners at the Climate Star in the category for smaller



Biogas has a future in Lower Austria.

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municipalities come from Lower Austria.

PLANK: I am extremely pleased, as around 200 municipalities from 17 countries participated. The winners were selected by a competent panel of experts. Furthermore, a prize donated by the Lower Austrian People's Party was also awarded to the most active municipality. The winner, Bruck/Leitha demonstrated in a convincing manner what a single community can achieve. Bruck is a role model and a deserved winner, demonstrating that it is good to rely upon local players.

U&G: It sounds as though you do not have much to do regarding climate protection.

PLANK: No, we still have a long way to go. My predecessor, Provincial Minister Wolf-

gang Sobotka, was responsible for initiating the Climate Star award in order to motivate municipalities – the award has been a great success. We are on the right track but a lot remains to be done. One of our biggest problems is traffic. In a boom region, traffic also increases, especially between regions. But what gives me hope are the successes in the municipalities. In places such as Langenlois or Wienerwald, where measures are in place, the volume of traffic is decreasing. I would hope that people would consider protecting the climate when choosing their mode of transport. For short distances, the bicycle is an option, benefiting the climate as well as our citizen's health.

U&G: What is the future of climate policy? Where will the focus lie?

PLANK: Exporting expertise, for example. We have just formed a new cross-border region for climate protection with the Czech Republic and Slovakia. On our side of the border, the region encompasses the areas around Laa and Marchfeld. Especially now Europe is united, we all need to pull on the same rope. We would like to offer our expertise to our neighbours, and inspire them to participate in protecting the climate. The first projects implemented have shown that there is a great deal of interest in this area.

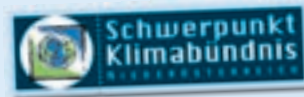
U&G: Key regions, exporting expertise and reducing traffic – these are the most important goals in your future plans?

PLANK: Yes, those are the central themes. But we are operating on many fronts. The number of measures is set to increase rather than decrease. After all, we wish to continue to play a leading role in protecting the climate. And we also want to continue – this is not a paradox – continue being a top region economically. The buzzwords are sustainability and close-loop-recycling-management. Renewable energy sources play an important role here. Furthermore, reducing refuse is also a core issue. We need to make progress on all fronts. The climate programme agreed for Lower Austria at the end of 2004

sets out the guidelines. The Climate Alliance is a tool, allowing us to implement direct and targeted measures for environmental and climate protection. Our environmental policies aim make people feel at home in Lower Austria.

U&G: Thank you for the interview. ■

RIKI BÖRNER



INFO

CLIMATE PROTECTION IN LOWER AUSTRIA.

- Lower Austria has been a member of the Climate Alliance since 1993
- 250 municipalities, from Albrechtsberg to Zwentendorf are members.

THE LOWER AUSTRIA CLIMATE PROGRAMME. At the end of the year 2004, the Provincial Government agreed on the climate programme for 2004-2008, establishing important steps to safeguard the protection of the environment in all areas, from traffic to energy sources; from environmentally-friendly construction projects to agriculture.

THE CLIMATE ALLIANCE KNOWS NO BORDERS. The Czech Republic, Slovakia and Lower Austria wish to cooperate more tightly in current key regions of the Climate Alliance. The necessary measures are to be bundled for the whole region, in order to stimulate the entire province. The key regions are:

- Thayaland and Slavonice (The Czech Republic)
- The areas around Laa and Hrusovansko (Südmähren/The Czech Republic)
- Between Marchfeld and municipalities in the Stupava region (Slovakia). ■

THE PRESSURE IS ON.

Climate change may be spiralling out of control faster than previously anticipated. Measures at a local level can be an important factor in the fight against greenhouse gases.

Droughts, floods – news of disasters continue to pour in from all corners of the globe. And the words “climate change” appear more and more often when searching for the culprit. “The climate is indeed changing more noticeably and quicker”, says climate researcher Helga Kromp-Kolb from the meteorological institute at the University of Natural Resources and Applied Life Sciences, Vienna. “These spectacular catastrophes are not as indicative as developments of long periods of time”. The increase in global temperatures over the past 150 years tells an obvious story: since the beginning of the industrial revolution, temperatures have risen by between 0.6 and 0.8 degrees Celsius. And they are continuing to rise. This increases the chance of climatic instability.

HEADING FOR AN ICE AGE. A current Pentagon study warns of a dramatic scenario. The continual warming of the Earth

pheres will increase, and poor countries will be even further disadvantaged. Resources will become scarcer everywhere, and over time will become the focus of conflicts for survival”. What sounds like a bleak vision from Hollywood is closer to the truth than we think. Science cannot calculate the point in time when the climate suddenly flips. Nobody knows for sure how long our planet can withstand the warming. It is therefore of paramount importance to have a limit, up to which point we are safe”. This limit has been placed at two degrees above the temperature before the industrial revolution. This leaves us with 1.2 – 1.4 degrees before reaching the limit. However we should not be lulled into a false sense of security: “According to current calculations, this point could be



Local initiatives can make a big difference.

could bring the Gulf current to a standstill. The consequences: icy winds, dead forests and the flat areas surrounding the North Sea and the Baltic Sea freeze, becoming tundra. In other words: a new ice age in the northern hemisphere. Scandinavia would become an icy desert; heavily populated coastal areas, such as the Netherlands or Bangladesh would be flooded. Researcher Kromp-Kolb warns of the political dynamite resulting from these changes: “Climate change will have far-reaching consequences. The economic divide between the northern and southern hemis-

reached in between 20 to 40 years. Some researchers even believe that it might take as little as ten years.”

HOT AIR. There are also natural fluctuations in the climate. However, in the current state of affairs, mankind bears a large portion of the responsibility from continually burdening the atmosphere with greenhouse gases. These gases are released when fossil fuels such as oil and coal are burnt. The greatest producers of greenhouse gases are the energy sector and transportation. In both these sectors, redu-



“Hot air” soon all over the globe?



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The energy sector ...

ctions lag far behind what is possible. "The problem is not a lack of capability but a lack of desire", Kromp-Kolb is convinced. "It is the responsibility of politicians to create the necessary framework. One only needs to look at how quickly the economy can respond to a war, for example".

TIME IS OF THE ESSENCE. Russia, after years of deliberation, finally ratified the Kyoto Protocol, aimed at reducing green-

house gas emissions. The EU aims to reduce emissions to half of the output of 1990 by the year 2050. These are important political signals. However the facts are sobering: greenhouse gas emissions in Austria rose by 5.9% in 2003, to a total of 91.6 million tonnes, according to the Federal Environmental Agency. Achieving the goals of the Kyoto Protocol is becoming increasingly unlikely. However, the province of Lower Austria provided a reason to be more optimistic: the province bucked the national trend and reduced greenhouse gases by 3.3%, or 500,000 tonnes. The province is set to take a leading role from the end of 2004, thanks to its climate programme designed to implement the goals of the Kyoto Protocol.

ACT LOCALLY. Where should we begin if we want to prevent climate change? "Everywhere", is Helga Kromp-Kolb's reply. "It is up to each individual. Successfully combatting climate change is dependent on local initiatives". There is no lack of possibilities: construction and renovation projects can achieve enormous reductions by implementing the correct techniques; well-structured public transport can reduce the emissions from a large number of private vehicles. "Initiatives at a local level can make a difference to the big

picture. The Climate Star Award is important in this respect: Presenting successful projects can provide others with ideas and motivate people to emulate them", Kromp-Kolb is convinced. "Installing venetian blinds instead of air conditioning already makes a difference. Obviously, this will not solve all our problems, but it is one of a multitude of possibilities and is worth

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... could massively reduce CO₂ emissions.

pursuing. There is no patented solution to climate change, and we need to leave this illusion behind us". ■

ROLAND GOISER

THE SPARK OF RIO.

Milestones in international climate policy since 1992.

1992: United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. The Framework Convention on Climate Change provides a legal basis for international climate protection.

1995: Signatories conference in Berlin. One year after the Framework Convention on Climate Change came into effect, industrial nations are unable to agree on concrete aims and deadlines for the re-

duction of greenhouse gas emissions.

1997: Signatories conference in Kyoto. The Kyoto Protocol is passed, and commits the signatories to reduce greenhouse gas emissions by 5.2% (as compared to 1990) in the period 2008-2012.

1998: Signatories conference in Buenos Aires. The implementation of the Kyoto Protocol is negotiated. An action plan defines the practical implementation of measures.

2001: Signatories conference in Bonn. 178 countries agree on a compromise for the implementation of the Kyoto Protocol.



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2004: After lengthy deliberation, Russia signs the Kyoto Protocol. This fulfills the conditions, specifying that 55 countries, responsible for more than 55% of global carbon-dioxide emissions (based on 1990 levels) need to ratify the treaty. The EU decides to reduce greenhouse gas emissions by 50% by 2050 (as compared to 1990). ■

CLIMATE STAR 2004. Results of the Competition.

The Climate Alliance invited all European cities, municipalities and counties to present their most successful climate protection projects and compete for a Climate Star for the second time. The Climate Star is awarded for outstanding programmes, and documents their experience and success at a communal level. The diverse local strategies employed to protect the climate are provided with a platform aimed



© HEERLEN

at motivating other municipalities to follow suit. The focus at the Climate Star 2004 was placed on renewable energy sources – solar, wind, hydro, biomass and geothermal power. 203 municipalities from 17 European countries competed for the award in one of three categories.

- **CATEGORY 1:** population up to 10,000
- **CATEGORY 2:** population up to 100,000
- **CATEGORY 3:** population over 100,000

Submissions were received from Belgium, Bulgaria, Denmark, Germany, France, Greece, Great Britain, Italy, Lithuania, Luxemburg, the Netherlands, Austria, Slovakia, Slovenia, Switzerland, Sweden and Hungary, with those countries in which the Climate Alliance is strongly

represented being weighted. However, some of the cities competing are not members of the Climate Alliance – or not yet.

SELECTION PROCEDURE: The selection procedure took place on two levels. First of all, the Climate Star checklist was evaluated, and was completed by all competitors as a form of self-evaluation. The focus was placed on the measures implemented by the project. This made it possible to determine whether important fields of action were included in the communal climate protection programme and where the emphasis of the project lay. Quantitative data was also requested for core areas of the climate protection programme, for example the extent to which a reduction in greenhouse gases could be proven and whether indicators were available for the key areas; for example the energy savings in public buildings or the power available from renewable energy

sources. The volume of data available is not yet sufficient to incorporate the data in the final appraisal, as comparisons are problematic. However, the Climate Star is set to place more focus on proving success in the future. The current submissions provide important information for further developments in this area.

ASSESSMENT CRITERIA: 62 submissions which had achieved the minimum number of points required from the checklist, were included in the final shortlist. They were then assessed by a panel of experts according to their contributions in the following categories: climate protection, effectiveness and cost efficiency, innovation, impact and portability. After the combined results of the checklist and the project assessment resulted in an overall ranking, the panel agreed on the final selection following intensive discussions.

MEMBERS OF THE JURY: *Pirita Lindholm, CEMR – Council of European Municipalities and Regions; Dr. Stefan Schleifer, University of Graz, member of the Austrian Council on Climate Change; Klara Schoeters, Director at Climate Action Network Europe; Oliver Wagner, Wuppertal Institute for Climate, Environment, Energy.* ■



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203 municipalities from 17 European countries competed for the award.



BEHIND THE SCENES ...

Panel members' impressions.

PIRITA LINDHOLM: *The selection was difficult. "I was impressed by the number of good projects with numerous innovative aspects. This made the selection process extremely difficult. I would like to draw special attention to the number of integrated and*



Pirita Lindholm

sustainable projects, which went much further than taking a purely technical approach. I found the projects associated with social issues were especially creative and fresh. And we should not forget the projects aimed at increasing awareness, as their potential and resuability are very high".

DR. STEFAN SCHLEICHER: *Local initiatives are the foundation of climate policy. "Being a member of the panel*



Stefan Schleicher

was fascinating for two reasons: Firstly, so many initiatives deserve credit and an award. Secondly, I found it very stimulating to see how other members of the panel assessed the projects.

Overall, I have been left with a feeling of optimism: It becomes apparent that we are not only dependent on the success of long-winded political negotiations, as local initiatives are the foundation of climate policy".

OLIVER WAGNER: *Smart ideas impress. "It was no easy task for the panel to select the best project from the numerous submissions. To*



Oliver Wagner

be honest, all participants deserved a prize. I was particularly impressed by the smart ideas presented by smaller communities, which were testimony to their commitment and community spirit. All in all, the submitted documents distinguished themselves through their diversity and their innovative and ambitious solutions".

KARLA SCHOETERS: *The future of climate policy after the Kyoto Protocol came into effect. "The key to the future for international agreements lies with the European Union. The EU needs to ensure that a substantial reduction in greenhouse gases can be achieved. Only then can the EU exert believable pressure in future negotiations on the fu-*

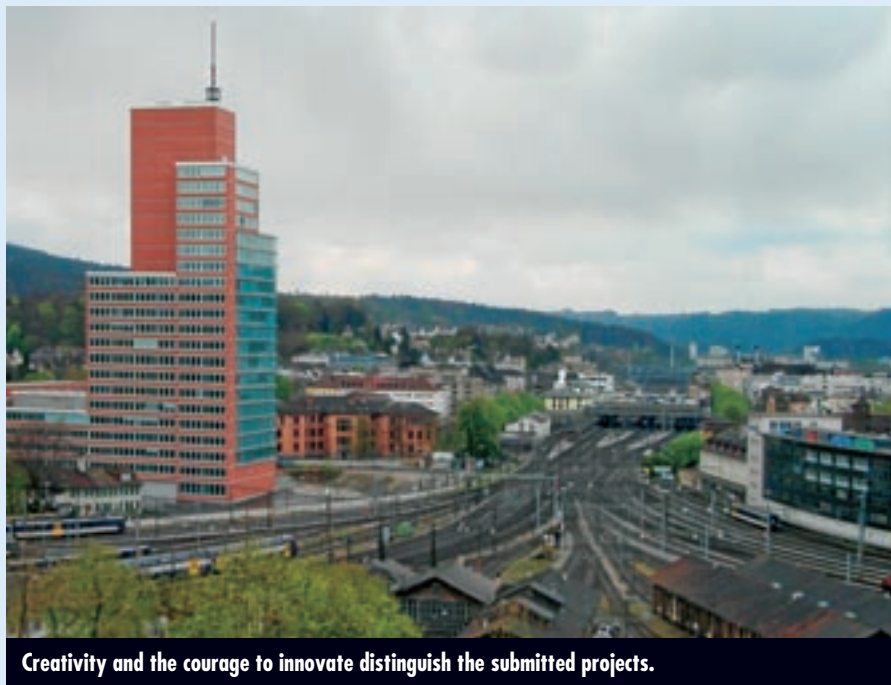
ture of global climate protection. Developing countries will also play an important role; the question is how to incorporate them further into global climate policy, and how they can develop their economies accordingly. Environmental organisations do not expect any concrete steps from the Bush administration regarding climate change. Therefor the US states play a much more important role. We would like to point out that a large number of US states are playing a leading role in protecting the climate. American environmental organisations are ex-



Karla Schoeters

tremely active in promoting agreements on climate protection in their own country. We need to place more focus on working from bottom to top: if cities, municipalities and counties can demonstrate that they

are willing to accept responsibility for protecting the climate and can achieve success, their efforts can provide an additional boost, which is an important signal for national policies especially following the successful ratification of the Kyoto Protocol." ■



Creativity and the courage to innovate distinguish the submitted projects.

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PROJECTS THAT GET THINGS MOVING.

The submissions for the Climate Star prove that environmental awareness is developing in cities and municipalities.



The Central European Biomass Conference 2005 in Graz in January was sold out. The massive interest proves that the topic is a pressing issue. This is due to the European Union setting clear goals for 2010; 12% of gross domestic power consumption is to come from renewable energy sources, 22% from green power sources and 5.75% from biomass energy sources.



Edwin Vasquez

GREEN FUTURE. Renewable energy is high on the agenda in all European countries. The new member states are

beginning to embrace the technology at various speeds. This is also reflected in the list of winners from the Climate Star 2004: Biomasa, a Slovakian project, and Szedged (Hungary) managed to fend off competition from the "old" EU member states. However, there is still a long way to go before renewable energy sources are used to their full potential everywhere. There remains hope that the topic will become part of everyday life in many countries around the globe – and possibly help them avoid the mistakes made by the industrialised nations. Edwin Vasquez of the Coordina-

ting Body for the Indigenous Organizations of the Amazon Basin (COICA) reports, "We have also begun using renewable energy sources. Some Amerindian communities in the Amazon Basin already communicate using solar-powered radio

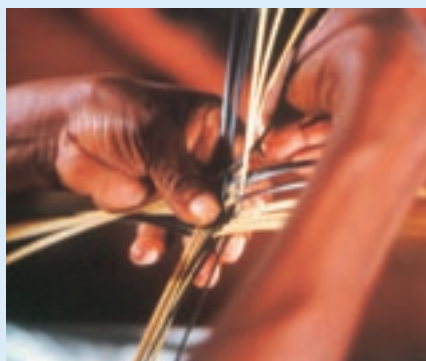


... supporting indigenous peoples ...

sets; others power their schools and public buildings using solar power. We see the long-term potential for a better future for our people." The award-winning projects at the Climate Star concentrated biomass and solar energy sources. The driving force behind this development is the desire of many communities to become independent of fossil fuel supplies, such as gas and oil, from distant regions; this is the case with the winners from Weiz (A) and Bruck (A). Larger cities can also gain from using biomass energy sources, as Frankfurt (D) and Stuttgart (D) prove.

THE COURAGE TO USE NEW TECHNOLOGY. Leading the way with solar energy projects requires imagination and courage, as demonstrated by the winners Delft (NL) and Apeldoorn (NL). The courage to

employ new technologies plays an important role; Heerlen (NL) uses old mine shafts for heating, Braunau (A) built Europe's largest geothermal power plant in cooperation with Simbach (D). Previously unthought of sources of energy can also be used to produce green power, as Wuppertal (D) demonstrated: electricity is generated by the city's water supply. A positive development, as fossil fuels are increasing the rate of climate change. Edwin Vasquez from the Amazon Basin gets straight to the heart of the issue: "What we primarily expect from the developed countries is for them to expand their renewable energy sources. Fossil fuels are one of the biggest threats to the Amazon rainforest and their inhabitants." But district heating from biomass and solar panels are not all. Integrated projects appeal to the sense of responsibilities of individuals and create a desire to live in a clean environment with consideration for future generations and an improved quality of life. Examples of this are provided by Trier (D), Luxemburg (L), Apeldoorn (NL) and Münster (D), which approaches the younger generation directly. Future generations there are learning to see renewable energy as a part of daily life. ■



One of the aims of the Climate Alliance is ...



... to conserve the rain forests.



CLIMATE & Initiatives

★ CLIMATE STAR CATEGORY 1

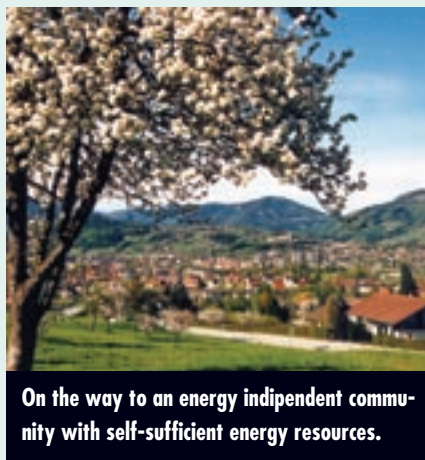
FREE FROM COAL AND OIL.



The tiny town of Weiz wants to abandon the use of fossil fuels and rely on district heating (long-distance heating services) with wood gasification instead.

Weiz has set high targets for the future years: the departure from fossil fuels and the switch to domestic renewable resour-

ces. By 2010 the town should be self-sufficient in generating about 90 per cent of its energy. The strong interest in last year's conference about future perspectives made it clear how important it is for all involved to continue the development in that direction. The energy plan for Weiz so far envisages only the steps necessary to redu-



On the way to an energy independent community with self-sufficient energy resources.

listic and utopian. Now, step by step, we have come closer to its realisation. It is vital to have more citizens connecting their heating to the district heating network". ■

A NOTICEABLY BETTER MICRO-CLIMATE.



The switch to biomass district heating turned out to be a sustainable success for Stetteldorf am Wagram.

Stetteldorf am Wagram in Lower Austria is a pioneer in biomass developments. Ever since 1994 its district heating plant has been burning straw. The effect is three-



A pioneer in biomass development.

fold: during the first winter the air quality was much improved due to highly sensitive filters, when compared to the previous years when the households were still using fossil fuels. The pollution also decreased because straw was not being burned in the fields any longer. The ashes of the heating plant were returned to the fields as organic fertilizers. Mayor Josef Trabauer says: "Our very sensitive winter microclimate has become noticeably better! For

INFO

- **WEIZ** (9.320 inhabitants), Austria
- Awarded the **CLIMATE STAR IN CATEGORY 1.**

■ **PROJECT:** The Weiz energy plan should make the town independent of fossil fuels. After surveying the current state of heat usage with the heat consumer register, the district heating company will be established, which will then take over the biomass heating plant. The town will cooperate with two companies. The district heating should be perfected by 2010 and a wood gasification plant is due to pump gas into the existing gas pipeline. That will enable the town to provide 90 per cent of the energy it requires.

■ **COSTS:** 200,000 euro for creating the district heating company ■

CONTACT: Environmental official Mag. Oswin Donnerer, Environmental advisor Barbara Kulmer, www.weiz.at

us, climate protection means sustaining and improving our quality of life. The careful usage of the tight resources and the investments in renewable energy provide us with a fair amount of independence and



Straw—an environment-friendly energy source.

additional revenue, but it also allows us to make our small contribution to the global climate protection. ■

INFO

■ STETTENDORF AM WAGRAM

(1.021 inhabitants), Austria.

■ Awarded the

CLIMATE STAR IN CATEGORY 1.

■ **PROJECT:** The biomass district heating plant was built in 1994. Over 200 households and public buildings have been connected to it since then. There hasn't been a single increase in the heating price to this very day. The straw-fuel is stored in two halls, where it is kept dry throughout the year. Highly sensitive filters keep the air pollution at an extremely low level. The future upgrade of the systems capacity should ultimately make the plant sufficient for all households in the community. The district heating plant could distinctly decrease the CO₂ emissions, as well as provide job opportunities and an additional source of income for the farmers. The entire revenue would in that way remain within the region.

■ **COSTS:** 3 million euro when finally completed ■

CONTACT: Josef Danksagmüller, e-Mail: josef.danksagmueller@mwave.at or gemeinde@stetteldorf-wagram.gv.at

ABSOLUTELY NATURAL.



The municipality of Krumbach is fostering biomass district heating, thus opening new jobs and opportunities for its farmers.

“No new oil heating in our municipality” – Krumbach puts the battle for independence from fossil fuels on top of its priority list. That is why the municipality invests in renewable energy sources: a biomass district heating plant has operated for the last ten years with great success. Krumbach is an exemplary climate-friendly community in other ways as well: it supported the building of 150 solar energy units for hot water and heating. The municipality also provides financial support for wood

INFO

■ KRUMBACH

(2.254 inhabitants), Austria.

■ Awarded the

CLIMATE STAR IN CATEGORY 1.

■ **PROJECT:** A farmers cooperative and the energy provider EVN have been running a biomass heating plant since 1994. It now serves 150 households and has an eight kilometre-long network that provides 10MWh per annum. Additional power plants are being built in cooperation with EVN, providing jobs for six people. Support of solar energy units, wood heating, district heating connections and heat insulation, as well of energy-awareness development plans are the additional measures that eventually led to a 12 per cent reduction in the 10.800 tonne CO₂ emission. ■

CONTACT: Marktgemeinde Krumbach, Mayor Dipl. Ing. Friedrich Trimmel, Tel.: 0043/2647/42238, www.krumbach-noe.at



An example of a climate-friendly community, above: Mayor Friedrich Trimmel with energy-saving lamps.

heating and district heating connections, as well as for energy-saving upgrades of households. Krumbach is working for an environmentally-friendly future: construction sites are equipped with the infrastructure for district heating and the development plans aim to save energy. A pilot project should introduce the bio gas plants to the farmers, with the motto 'The future of the farmer as an energy producer.' ■

★★ CLIMATE STAR CATEGORY 2

ECONOMY MEETS ECOLOGY.

Winterthur stimulates businesses to reduce CO₂ emissions and become more competitive on the market.

A pilot project of the Winterthur municipality has motivated 20 small and medium-sized companies to reduce CO₂ emissions. The project called KMU Programme Energy Efficiency was initiated by the Swiss CO₂ law. In the first phase,



© BEAT KUNZ

100 BLUE ROOFS.

Bright future for the solar energy in Delft: the last years have seen the building of 1.700m² of solar energy panels.

'100 blue roofs' is the solar energy programme of the Dutch town of Delft. However, the 1.700m² of solar energy panels supply energy to several hundred houses. Delft is thus setting new standards in the usage of solar energy. An Old People's home has switched fully to solar energy with the aid of its 285m² of solar panels. Another 253 buildings are equipped with a total of 1.100m² of panels that provide them with 113.300 kWh per annum. The municipality has also provided for 400 private houses to be set up with 1,100 solar energy panels. An elementary school has a double gain from its wall of solar energy panels – it receives ecological energy and it has been furnished in an attractive, eye-catching way. Even the De

every company that takes part in the pilot project receives analysis of the energy and resource-saving potential. If the results are promising, experts prepare an operational plan. Half the costs for the analysis are paid by the KMU Programme. In the second phase, the companies implement the proposed measures. If a company concludes an agreement with the Energy Agency, it can be exempt from the steering tax stipulated by the CO₂ law. All of the companies profit from the publicity of the programm. ■

Witte Roos monument has been fitted with solar panels and it now unites tradition with modern practical achievements. Nu-

© DELFT (2)



Delft relies on the power of the sun.

merous other public places in the town have also been furnished with solar panels. The deputy Mayor of Delft Rik Grashoff said: "Delft's Climate Plan defines 20 concrete projects that are aimed at reducing the town's CO₂ level, and that by 33,500 tonnes in comparison to 1999". ■

WARMTH WITHOUT FRONTIERS.

The largest geothermal power plant of Central Europe provides ecological heating to both banks of the Inns River, saving a yearly total of 16.000 tonnes of CO₂.

The geothermal power plant is operated by the Upper Austrian town of Braunau and the German town Simach in Bavaria. It is the first cross-border district heating plant in Europe and the greatest geothermal plant of its kind in Central Europe. It runs on subterranean energy: two holes were drilled in 1999 in order to reach the

© BRAUNAU



INFO

■ WINTERTHUR

(92.875 inhabitants), Switzerland

■ Awarded the

CLIMATE STAR IN CATEGORY 2.

■ **PROJECT:** The project's goal is to provide small and medium-sized companies with more efficient ways of saving energy and resources. Half of the costs will be covered by the KMU Programme. The Winterthur project is continuously being improved and further upgrades are expected. Other regions have already expressed interest.

■ **COSTS:** 153.000 CHF (99.000 Euro) ■

.....
CONTACT: Erik Schmausser, Environmental Office of Winterthur, Tel.: 0041/52/2675302

INFO

■ **DELFT** (95.817 inhabitants), Netherlands

■ Awarded the

CLIMATE STAR IN CATEGORY 2.

■ **PROJECT:** The umbrella project '100 Delft-blue roofs' engulfs a wide array of solar initiatives, all of them based on close cooperation with the citizens, the housing companies and the local technical University. The initiatives are complementary with the Delft Climate Plan, developed by town for the period between 2003 and 2012.

■ **COSTS:** 2 million euro (the whole programme) ■

.....
CONTACT: Elke Wisseborn, City of Delft, 0031/15/2602997.



© BRAUNAU AM INN

Successful cross-border cooperation.

80 degree water. The water is run through the heat exchanger and then returned to the earth. This trail-blazing project involves pioneering efforts in many areas, like the decentralised supply concept, the selected 'Einrohrschleifen' of the cross-border collaboration. ■

INFO

■ **BRAUNAU** (17.258 inhabitants), Austria, and

■ **SIMBACH** (9.943 inhabitants), Germany.

■ Awarded the

CLIMATE STAR IN CATEGORY 2.

■ **PROJECT:** Braunau and Simbach jointly operate Central Europe's largest geothermal power plant. The period between 2001 and 2003 has seen the expanding of the district heating network to 35 km and it continues to grow. By the end of 2004 the plant supplied almost 600 users (including schools, municipal buildings and recreational facilities) with approximately 33 MW. The projected output is 40MW, which equals the energy requirements of about 5,000 to 6,000 households. The power plant annually saves the pollution that would be caused by using eight millions oil: 16.000 CO₂, 13,000 kg sulphur dioxide and 14.000 kg nitrogen oxide.

■ **COSTS:** 20,2 million euro ■

CONTACT: City of Braunau/Inn: Günter Linecker, 0043/7722/808340; City of Simbach/Inn: Anton Schuhbauer, 0049/8751/606-21.

WOOD-CHIP PLANT FOR THE NEW TOWN HALL.

The city of Eupen serves as an example. A wood-chip plant and an ecological model house are setting new standards in the region.

Sometimes it can be fortunate if an official building is too small. The Belgian town of Eupen has used such an opportunity and taken over the 9,000 m² building complex. Eupen's authorities got much more than a modern, citizen-friendly administration: the new town hall will be equipped with wood-chip heating. The processing of wood leaves residue material that is ideal as a climate protection energy source. The central heating boiler is also suitable for burning fresh wood. Apart from that, the former slaughter house building will be

transformed into a model house, built according to the strictest ecological criteria. It will offer living space fully suitable for disabled people. Eupen is an example in terms of protection of the environment, the nature and the countryside. It is also the first municipality in Wallonie that will financially support the building of solar ener-



© EUPEN

Eupen invests in solar energy panels.

gy panels. The Mayor Dr. Elmar Keutgen says: "This award is very gratifying, but it is also a great incentive for my municipality to continue our efforts in the protection of the environment and nature. Climate protection at a local level also means a higher quality of life for our population". ■

INFO

■ **EUPEN**

(17.788 inhabitants), Belgium

■ Awarded the

CLIMATE STAR IN THE CATEGORY 2.

■ **PROJECT:** The relocation of the town hall will be used to switch to a biomass heating system. The available wood from the town's forestry will guarantee short transport routes and a sustainable and environment-friendly energy supply. The local revenue will be increased. Eupen also implements numerous other climate protection projects, like the building of an ecological model house.

■ **COSTS:** 539.000 euro for the wood chip heating ■

CONTACT: Georg Kremer, Eupen Town Council, Tel.: 0032/87/595817, e-mail: georg.kremer@eupen.be

RENEWABLE ENERGY IS GAINING GROUND.

Luxembourg's strategy is to promote renewable sources and save energy.

The City of Luxembourg is taking part in an exchange programme with three other cities, known as QuattroPole Energy Tours, which supports and informs people about climate-friendly construction projects. But that is just one of many environmental projects underway in Luxembourg and the city has already recorded successes in its attempts to cut down on carbon dioxide emissions. The city has developed an energy strategy aimed at significantly reducing



its use of fossil fuels. It has avoided 28,800 t/a of CO₂ emissions – or saved 9.8 million litres of heating oil – through the widespread use of combined heat and power scheme and district heating as well as a range of other environmental measures



Successfully reduced CO₂ emissions.

like large-scale photovoltaic plants. A district heating power plant that runs on gas from sewage purification plants with a capacity of 1,200 kW_{el}, two thermal and four large photovoltaic plants have already been built and a 2,000 kW_{th} heating plant that uses wood chips is currently under construction. The city also has plans to install a pellet furnace at one of its schools. Roughly six per cent of the city's electricity is currently covered by renewable energy sources. ■

INFO

■ LUXEMBOURG

(83,607 inhabitants), Luxembourg

■ Awarded a

CLIMATE STAR CATEGORY 3.

■ **PROJECT:** The City of Luxembourg has developed an energy strategy that focuses on three aspects: rational use of energy by production facilities, the use of renewable energy sources and information and public relations work to promote climate protection.

■ **COST:** 37 million euro between 1998 and 2004 ■

CONTACT: Administration des Travaux,
Tom Eischen, e-mail: teischen@vdl.lu

★★★ CLIMATE STAR CATEGORY 3

ELECTRICITY FROM NEW SOURCES.



Energy production has become an environmentally-friendly sideline for the Wuppertal Valley's water suppliers.

Germany's Wuppertal is demonstrating how unconventional approaches can create amazing new opportunities. They have started extracting ecological electricity from energy sources that were ignored in the past. A feasibility study commissioned by the Wuppertal Stadtwerke as part of a contracting project in 2003 found that it would be worthwhile to make use of two nearby dams, which were utilised for the



© WUPPERTAL

city's water supply, to produce electricity as well. The report said that the incline and volume of water would suffice to produce 'green' electricity. The hydro-electric power plant in the bottom outlet of the Kerpe Dam started producing environmentally-friendly electricity for the Wuppertal Stadtwerke in April 2004. A small power plant in the water pipes at the waterworks in Herbringhausen will start producing power later this year and another hydro-electric plant will be installed in the bottom outlet at the Obere Herbringhauder Dam in 2006. The city hopes to produce a total of 1.3 million kWh per year. ■

INFO

■ **WUPPERTAL** (365,000 inhabitants), Germany

■ Awarded the

CLIMATE STAR CATEGORY 3.

■ **PROJECT:** Wuppertal is killing two birds with one stone by using the town's waterworks to produce electricity. In future, it will be able to produce around 1.3 million kWh/a of ecological power at two dams and in the water pipes belonging to a waterworks. The incline of the pipes is enough for three new hydro-electric power plants, as is the volume of water. One plant is already delivering power and the others will take up operation in 2005 and 2006 respectively.

■ **COST:** Total 820,000 euro ■

CONTACT: Hermann Bucks, WSW AG
Bromberger-Str. 39-41, D-42281 Wuppertal

PUT IT ON THE CLIMATE CARD.



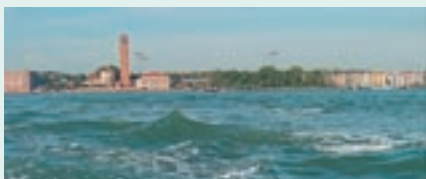
Venice – the city on water – is fighting for sustainability and climate protection with a comprehensive energy plan.

Venice City Council passed a new energy strategy in October 2003 with the aim of creating a tool to reduce greenhouse emissions and promote a more responsible approach to the use of energy. The paper was a joint effort by authorities, industrial representatives, service providers and citizens and introduced so-called Action Cards as an integral part of the strategy. Activities that are either already running or being planned are recorded on these cards and are regularly assessed with regard to their actual sustainability and



© VENEDIG (2)

their relevance to the city's climate protection goals. The city administration and important energy providers and clients signed a number of statements of intent to ensure that the strategy could be implemented. Special bodies were also estab-



lished to make sure that the parties comply with these declarations of intent. Venice views every change as a dynamic process and believes that the most effective way of ensuring that the projects are realised in the best possible manner is regular assessment. ■

INFO

■ **VENICE** (252,000 inhabitants), Italy

■ Awarded the **CLIMATE STAR CATEGORY 3.**

■ **PROJECT:** Following a detailed analysis of the city's energy requirements and the resulting greenhouse gas emissions, Venice established the goal of formulating a comprehensive new energy strategy. The city on water has agreed to a number of goals and policies, which will regularly be assessed by experts, that were established in talks with citizens and businesses.

■ **COST:** 135,000 euros ■

CONTACT: City of Venice, Eliana Caramelli. 0039/041/2748627, e-mail: eliana.caramelli@comune.venezia.it

BIOMASS IN THE HEART OF THE CITY.

Stuttgart uses wood that is a by-product of landscape conservation in the city to heat public buildings.

Heating with biomass – an idea that is a matter of course in many rural communities is still something of a rarity in densely-populated areas like the state capital of Baden-Württemberg. But renewable energy sources are right at the top of a list of priorities at the centre of Stuttgart's climate protection programme. That is why the ci-

ty took a decision to start using the 18,000 cubic metres of wood and tree cuttings that are collected each year by the city's gardeners. The city previously disposed of nearly two thirds of the biological waste, at a large cost to the council. It therefore selected three buildings from the city's 1,400 public buildings to have wood-chip heating facilities installed. The buildings chosen for the biomass heaters – a school, an indoor swimming pool and the city gardens – have enough room to store the wood and accept deliveries. A clever logistical plan ensures that the facilities receive enough fuel. Two of the facilities are already in operation and the third has been approved. The third furnace will see the proportion of the city's public buildings heated by energy won from renewable sources increase to more than two per cent. ■



© STUTTGART

INFO

■ **STUTTGART** (590,000 inhabitants), Germany

■ Awarded the **CLIMATE STAR CATEGORY 3.**

■ **PROJECT:** A pioneering project to build up biomass logistics in the city of Stuttgart. Its goals are the increased use of renewable energy sources that are available locally, improved value creation in the city council and a reduction of biological waste disposal costs. Three public buildings have been chosen as suitable to be heated by biomass furnaces and two furnaces have already been installed. The buildings also have the necessary storage space for the fuel. Success factors: Good public information, especially low emissions levels due to a waste-gas filtering system and a high-quality fuel.

■ **COST:** Cost of constructing the furnaces ■

CONTACT: Dr. Görres, Amt für Umweltschutz der Landeshauptstadt Stuttgart, 0049/711/216-2912, e-mail: u360510@stuttgart.de

FROM THE BLUE DANUBE.

A small hydro-electric power plant is due to start providing 10,000 Viennese households with environmentally-friendly electricity later this year.

Producing ecological energy without interfering with the environment right in the heart of a capital city: A new hydro-electric power plant at the start of the Danube Canal in Vienna's Nussdorf district is due to start doing just that later this year. The plant will produce around 24.6 million kilowatt-hours of power every year and provide 10,000 households with clean electricity. The facility includes 12 underwater matrix turbines that ensure that the resources are used optimally. The pro-




© WR. STADTWERKE



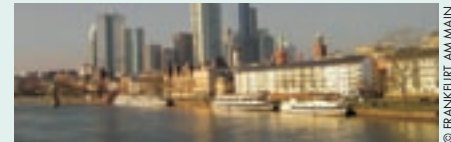
ject has been realised by Wien Energie and Wienstrom and Verbund-Austrian Hydro Power AG and even Naturkraft who are equal partners in the project. A combined heat and power scheme is also planned in Vienna's Simmering district, which will be able to produce a maximum fuel heat capacity of almost 66 megawatt-hours for district heating as well as electricity. The facility will burn an estimated 600,000 cubic metres of biomass from the forests during the 8,000 hours that it will operate each year. A climate protection programme implemented by the City of Vienna – includes 36 separate packages of measures covering district heating and electricity production, living, business, city administration and mobility. These areas include more than 300 individual projects, which are due to be implemented by 2010. One of the programme's main goals is to boost the use of renewable energy sources. Vienna's Environment Councillor Ulli Sima said she was pleased by the Climate Star project and added: "Climate protection is one of the greatest challenges for the future. It would be grossly

negligent not to do anything about it. But I am confident that Vienna will reach its climate protection goal of reducing carbon dioxide emissions by 14 per cent by 2010." Deputy Mayor Dr. Sepp Rieder said: "A safe, sustainable and economical energy supply will be a deciding factor in Vienna's success as a business location. Environment and conserving resources, saving energy – these goals are extremely important to us. The small power station in Nussdorf marks a further contribution and will help to guarantee a sufficient supply of electricity." ■

THE GENTLE GIANT.  *A biomass power plant in Fechenheim supplies electricity to 20,000 households per year and in doing so has managed to avoid 84,000 tonnes in carbon dioxide emissions.*

Frankfurt am Main is doing well with a combined heat and power scheme. The

biomass power plant at Fechenheim that is setting new standards in the industry was built as part of the city's climate protection programme. A network of wood suppliers, energy companies and industry has been established around the facility which works in an exemplary fashion. The biomass plant, which is one of the most modern facilities in the world, started operating recently and has proved to be



© FRANKFURT AM MAIN

exceedingly efficient by avoiding large amounts of carbon dioxide emissions. At the heart of the plant there is a 35-tonne generator, which is powered by a steam turbine and produces 70,000 megawatt-hours of electricity per year – enough for 20,000 households. The facility also produces thermal energy that can heat around 8,000 households (95,000 megawatt-hours). The city took particular care to ensure that the plant was efficient and environmentally-friendly when selecting the project. Officials were also careful to make sure that the plant is sturdy, to ensure that it can operate safely. ■

SOLAR POWER 
FOR SCHOOLS.

Schools in Münster are sprouting solar panels on their roofs. This futuristic network is being built by a team of dedicated teachers and eager students.

Three factors played a key role in ensuring the success of the SolarNet – Renewable Energy in Schools project: dedicated teachers, eager students and solar panels installed on the roof of the Schiller Gymnasium high school in Münster. It all star-

INFO

- **VIENNA** (1,627,173 inhabitants), Austria
- Awarded a **CLIMATE STAR CATEGORY 3.**
- **PROJECT:** To produce 100 per cent pure ecological energy at a small hydro-electric power plant that will start operating in Vienna in 2005 and produce 24.6 million KWh of electricity annually for 10,000 households. The city is also planning a combined heat and power scheme that will produce district heating and electricity with a maximum capacity of 66 MWh per year.
- **COST:** Small hydro-electric power plant in Nussdorf: 15 million euros. Biomass power plant in Simmering: 52 million euros. ■

KONTAKT: WIENSTROM GmbH, Ing. Friedrich Rois, Tel.: 0043/1/4004/34610, e-mail: friedrich.rois@wienstrom.co.at

INFO

- **FRANKFURT/MAIN** (650,000 inhabitants), Germany
- Awarded a **CLIMATE STAR CATEGORY 3.**
- **PROJECT:** Biomass power plant in Fechenheim, which saves 33 million litres of heating oil or cubic metres of natural gas compared to fossil fuel plants. The facility can handle a variety of different types of biomass. The project helps to avoid carbon dioxide emissions of 84,000 tonnes per year.
- **COST:** 30 million euro ■

KONTAKT: Mainova AG, Mr Ruch, Tel.: 0049/69/213-82602, www.biomasse-kraftwerk-frankfurt.de



ted with a partnership between the town administration and the local utility company Stadtwerke Münster. The council agreed to buy 500,000 kilowatt-hours of ecological energy from the Stadtwerke, which in return built solar facilities on the roofs of



© MÜNSTER

schools in the town. Today there are 20 such solar facilities installed on school roofs across Münster. But the schools would also like to see the topic 'renewable energy' featuring more heavily in their curricula. One teacher at the Schiller Gymna-

sium school took the matter into his own hands and connected the solar panels on the school's roof to a measurement centre, in cooperation with Nütec eV, allowing students to monitor the success and efficiency of the photovoltaic station on a regular basis. The project has since grown into a network that includes schools in Namibia and Poland as well as Münster. It even has its own website where student Media Groups document and share information on their findings with other schools. The network regularly gets requests for information from schools interested in joining the project and the work load has increased so much that the project's volunteers and students are beginning to have trouble dealing with all the requests. But there is certainly room for expansion: 20 schools in Münster have solar panels on their roofs and the few remaining schools are expected to join the network soon. Mayor Dr Berthold Tillmann said: "Münster traditionally believes in climate protection and will continue to in the future. It is an important task and we feel bound to it." ■

WITH A LITTLE HELP FROM ABOVE. *The world's largest solar power plant installed in a council housing project produces 1 MW per year in Apeldoorn.*

A project of the highest order has been realised in Apeldoorn in the Netherlands. A 35-year-old council estate with 364 houses has been redeveloped into an exemplary photovoltaic project. The local authorities have replaced tiles on the roofs of the houses in the complex with solar panels measuring up to 20 square metres in size, making it the world's largest pho-

tovoltaic facility installed in a residential settlement. The plant avoids more than 12,000 tonnes of CO₂ emissions each year. But this is by no means the only environmental redevelopment that has taken place on the estate; the council also installed heat pump boilers, a central heating system, mechanical ventilation systems and insulation in the attics. People living on the estate joined in to help instal the equipment in an effort to keep the project's costs as low as possible. Apeldoorn set itself the goal of becoming an energy neutral city by 2020 in a year 2000 resolution. J. A. C. M. van Beckhoven, the local Councillor for sustainability, said: "As a community, you do not walk towards your goals on your own. We work in a partnership with the citizens, businesses and council housing developers. That way we can ensure that our goals benefit everyone and that the environment is the real winner." ■



© APELDOORN

INFO

- **MÜNSTER** (281,285 inhabitants), Germany
- Awarded a **CLIMATE STAR CATEGORY 3**.
- **PROJECT:** The project's basic aim is to support the use of more solar power in urban areas. It not only provides environmentally-friendly energy but allows a meaningful use of school roofs as well. Citizens are also given the opportunity of contributing to a solar facility. So far 20 solar power plants have been installed on the roofs of state schools with a peak level of around 100 kWp. Four further facilities have been applied for totaling 65 kWp. The project has further provided schools with an opportunity to teach students about energy from a practical point of view.
- **COST:** The school project uses existing facilities. ■

CONTACT: Stadt Münster: Amt für Grünflächen und Umweltschutz (Environmental Protection Office), Mrs Wildt, Tel: 0049/251/4926703, e-mail: wildtb@stadt-muenster.de. Schillergymnasium: Mr Lammen, lammen@muenster.de

INFO

- **APELDOORN** (155,958 inhabitants), the Netherlands
- Awarded a **CLIMATE STAR CATEGORY 3**.
- **PROJECT:** The world's largest photovoltaic facility in a council estate produces 1 MW per year. A total of 364 households were equipped with solar panels as part of the redevelopment project, which also saw the houses get new equipment and insulation. The project has also had positive effects for public awareness about environmental issues: They are sensitised to the existence of alternative energy sources and 90 per cent of the estate's residents said that they would like to live in another energy-saving house if they were to move.
- **COST:** 11 million euro ■

CONTACT: Sjaak de Ligt, e-mail: sjaak.de.ligt@klimaatverbond



★★★ SPECIAL PRIZE CATEGORY 3

HEALTHY ENERGY FOR THE CLINIC.

The new energy supply of the Szeged hospital is also beneficial for the climate.



The energy experts of the Szeged hospital have wisely used Hungary's accession to the EU and the following EU subventions. They have produced a convincing concept for the hospital's new energy system and their usage of the subventions for that project has been awarded the Climate Star Special Prize. The concept for the upgrade envisages replacement of the old and inefficient steam boilers with solar

energy – 2,800 m² of solar energy panels are supposed to provide the warm water supply by making use of the average 2,050 sunny hours that Szeged gets from Spring to Autumn. The clinic will have Hungary's largest solar energy panel surface. The old devices are to be replaced by new heating appliances and the new system will be computercontrolled. The wise application for subventions now leaves the town with only a fourth of the project's costs – the rest will be divided between the state and the EU. The construction works should be over by October 2005. Szeged's Mayor Dr. Botka Laszlo said: "Following the motto 'Think globally, act locally' the town of Szeged



Hungary's largest solar energy panel surface.

has dedicated itself to climate protection. Our success so far enables us to strengthen our efforts and employ further means to improve quality of life not only for our municipality but also for the rest of the world". ■

BOUNDLESS INFO-TOURS.



Four cities and three provinces are included in the info-exchange project Quattro Pole Energy Tours of the city of Trier.

How can comfort of life that includes healthy materials, renewable energy and regional resources be made available and convenient for many people? Five years

ago, the city of Trier has started the Energy Tours project. It involves monthly bus excursions to construction sites and innovative housing facilities. Not only future home builders, but also professionals from diverse branches have had the opportunity



Great success for the 'Energy Tours'.

for an exchange of experiences while visiting exemplary construction projects and construction businesses. Subjects like construction biology, passive house standards, pellet heating, wood heating and solar energy were on the programme. Last year, the project was expanded into the young city network QuattroPole, including Trier, Luxembourg, Metz and Saarbrücken.

INFO

- **SZEGED** (160.000 inhabitants), Hungary
- Awarded the **CLIMATE STAR IN CATEGORY 3 – SPECIAL PRIZE** for especially good use of regional EU funds.
- **PROJECT:** Modernisation of the energy system of Szeged's town hospital: replacement of steam boilers, installing 2,800 m² solar energy panels for hot water supply, efficient kitchen facilities, new installations, new heating appliances and a computer control system. It should lead to a drastic decrease in pollution and energy consumption. The natrium oxide emissions should drop from 1,127 kg per year to 558 kg per year, while the CO₂ emissions are to drop from 1,372 tonnes per year to 780 tonnes per year.
- **COSTS:** 1.468 million euro ■

CONTACT: Tpäter Rác, e-mail: racz.peter@polgahiv.szeged.hu

INFO

- **TRIER** (100.175 inhabitants), Deutschland
- Awarded the **CLIMATE STAR IN THE CATEGORY 3 – SPECIAL PRIZE** for cross-border cooperation.
- **PROJECT:** Experience exchange on the topic of "Ecological Construction" between constructors, planners and architects, as well as service providers and companies through info bus tours of exemplary construction projects and companies from the four cities of Luxemburg, Metz, Trier and Saarbrücken (Luxemburg, France and Germany). The project enabled exchange of experience and know-how between crafts men, planners, architects and students.
- **COSTS:** under 1.000 Euro per City (excl. personal costs) ■

CONTACT: Johann Hill, Rathaus Am Augustinerhof, D-54290 Trier, umweltberatung@trier.de, 0049/0651/718-4120/4444



Every city organised its own bilingual theme-tours which involved participants from all four cities. The costs were low: bilingual info-brochures and the bus tours. Trier's Mayor Helmut Schröer said: "Climate protection is a global commitment and the most effective way of realizing it is working on a local level. The European cities and municipalities can use the collaboration of the local and the regional participants to make an essential contribution to the climate protection". ■

★★ SPECIAL PRIZE CATEGORY 2

THE PEDAL TO THE MEDAL.

Karditsa wants to become the number one bicycle city in Greece and is ready to implement a wide variety of measures for enabling climate-friendly mobility.

The Greek city of Karditsa is way in front of the other cities of the country – and that with the bicycle. The city's traffic planners have built an exemplary bicycle path that was incorporated in the general concept of traffic. The citizens' awareness and acceptance of environmentally friendly mobility was intensively stimulated. For that purpose, the city organized courses in bicycle security, while the European Mobility Week organised thematic events. There are different information resources



Exemplary bicycle-path-network.

© KARDITSA (2)

INFO

- **KARDITSA** (50.000 inhabitants), Greece
- Awarded the **CLIMATE STAR CATEGORY 2 – SPECIAL PRIZE** for mobility
- **PROJECT:** The project's aim is to enable sustainable development on an environmental, social and economic level, with special emphasis on mobility. The city wants to complete the most developed bicycle-infrastructure in Greece. Karditsa is also setting the standards for establishing the first Greek city-network for sustainable mobility.
- **COSTS:** 1 million euro per annum ■

CONTACT: Municipality of Karditsa, Evangelia Tsivou Artessianou 1, GR- 43100 Karditsa, Tel.: 0030/24410/79525, www.Karditsa-city.gr

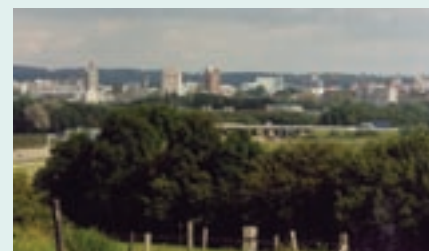
for the different target-groups. The Mayors Meeting of last September has decided to establish a Greek city-network for sustainable mobility, in order to spread the ideas and experiences of Karditsa through the rest of the country. ■

A BRIDGE TO THE FUTURE.

The former coal town Heerlen is using its heritage in an effective way: a district heating plant provides hot water from mine tunnels.

Energy was always a central subject in Dutch Heerlen: the closure of the great coal mines 30 years ago has caused a rise in unemployment and a loss of identity. Many houses were not renovated after 1970 and therefore left with insufficient insulation. Thirty years after the end of the coal-era Heerlen invested in renewable energy

sources as a perspective for the future. The city runs a district heating plant that operates with hot water from the abandoned coal shafts. It also supports the research on alternative energy sources and introduces the subject 'Energy' in elementary schools. On an Energy-day the municipa-



Renewable energies as perspective for the future.

© HEERLEN

lity distributed insulation material worth 70 euro for the symbolic price of 5 euro to the inhabitants of a particularly underdeveloped area. ■

INFO

- **HEERLEN** (95.000 inhabitants), Netherlands
- Awarded the **CLIMATE STAR CATEGORY 2 – SPECIAL PRIZE** for social achievements.
- **PROJECT:** A district heating plant was built in collaboration with the Scottish city of Midlothian. It generates heating from the warm water of the abandoned coal mines. The Solland Solar company is located in the business park Avantis, which is divided between Germany and the Netherlands, and it produced there a new generation of solar energy panels. The elementary schools were equipped with solar panels that are used during classes about alternative energy.
- **COSTS:** Mine-water district heating plant: 15 million euro, Solland solar Avantis: 20 million euro, School projects: 84.000 euro ■

CONTACT: Elianne Demollin-Schneiders, e-mail: e.demollin@heerlen.nl



★ SPECIAL PRIZE CATEGORY 1

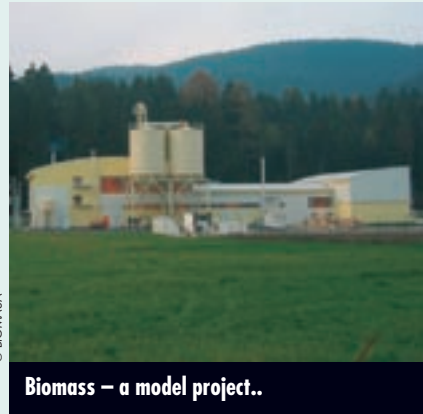
PELLETS FOR SLOVAKIA.



The integrated logistic of a new pellets processing plant should promote biomass in the Slovak Republic.

The municipality of Kysucky Lieskovec in the Northwest of the Slovak Republic opened a central processing plant for the production of wood pellets in September 2004. It was developed by BIOMASA, an independent organisation established in 1999, which includes 27 members ranging from municipalities, through health institutions to schools. The model project for

production and sale of biomass functions according to a concept of integrated logistics. It should create a market for climate-friendly energy sources in Slovakia,



© BIOMASA

Biomass – a model project..

where wood pellets were scarcely used in the past. At the same time, 44 schools and public buildings from the region will be equipped with modern pellet-heating that will be supplied with fuel by BIOMASA. The plant will employ 12 people. ■



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constructed a wind park of its own. Last year the park also installed a biogas plant. The next step will be to extend the park's success to the entire Leader and Auland Carnuntum areas (16 communities with 32,000 inhabitants). ■

INFO

■ **BRUCK AN DER LEITHA** (7,300 inhabitants), Austria
 ■ Awarded the **CLIMATE STAR SPECIAL AWARD FOR BEING LOWER AUSTRIA'S MOST CLIMATE-FRIENDLY COMMUNITY, DONATED BY THE ÖVP'S NÖ GEMEINDEVERTRETERVERBAND**¹⁾

■ **PROJECT:** The Energiepark Bruck has set itself the goal of providing all of the town's energy from renewable sources, to use as many forms of renewable energy as possible, to inform the general public about the topic and thereby achieve its climate protection goals this year. The Energiepark delivers district heating to households in the town; its wind park produces green electricity and it has installed a biogas plant. The Energiepark also aims to facilitate the transfer of know-how.

■ **COST:** 21 million euro ■

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CONTACT: DI Martina Prechtl, 0043/2162/68100, m.prechtl@energiepark-bruck.at, www.energiepark.at

¹⁾ The Austrian People's Party (ÖVP) NÖ Gemeindevertreterverband represents the communities' (and the citizens') interests at the provincial and federal level and sees itself as a service provider for towns. Contact: office@noegvwoevp.at, Tel.: 0043/2742/9020-800.

INFO

■ **PROJECT CARRIER:** BIOMASA združenie právnických osôb, Slovak republic

■ Awarded the **CLIMATE STAR CATEGORY 1 – SPECIAL PRIZE** for cooperation.

■ **PROJECT:** A processing plant for production of wood pellets, so far the only one of its kind in Slovakia, is at the heart of the project. The whole production and operation process will be improved through integrated logistics. The pellets from the region will be supplied to schools and public buildings, whose heating systems will be renovated and adapted to the use of wood chips. Slovakian boilers with a total capacity of 20,000 kW that annually burn more than 6,150 tonnes of coal and coke will eventually be replaced. That will reduce the CO₂ emissions by approx. 402,000 tonnes.

■ **COSTS:** 6,7 million euro ■

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CONTACT: Biomasa, RN Dr. Ladislav Zidek, General Director, Kysucky Lieskovec No. 743, SL-02334 Kysucky Lieskovec, Tel.: 00421/414231500, www.biomasa.sk

SPECIAL AWARD LOWER AUSTRIA

CLIMATE OBJECTIVES



ACHIEVED! *The town of Bruck an der Leitha has already reduced by half its CO₂ emissions from electricity and heat production.*

Which is Lower Austria's most climate-friendly community? The Climate Star judges chose Bruck an der Leitha in the east of the province. The impatient community has already reached its climate protection goals for electricity and heat production and reduced CO₂ emission by half. The Energiepark Bruck, which was founded in 1995, has provided an excellent basis for this success. The park took over the city's biomass district heating facility and con-

IMPORTANT ADDRESSES FOR THE CLIMATE ALLIANCE:



CLIMATE ALLIANCE
KLIMA-BÜNDNIS
ALIANZA DEL CLIMA

■ CLIMATE ALLIANCE/ALIANZA DEL CLIMA E.V.

D-60486 Frankfurt am Main, Galvanistr. 28,

Phone: 0049/69/717139-0

Fax: 0049/69/717139-93

e-mail: europa@klimabuendnis.org,

Internet: www.klimabuendnis.org

■ CLIMATE ALLIANCE AUSTRIA

1060 Wien, Mariahilferstr. 89/24,

Phone: 0043/1/581 5881,

Fax: 0043/1/581 5880,

e-mail: office@klimabuendnis.at,

Internet: www.klimabuendnis.at

■ CLIMATE ALLIANCE LOWER AUSTRIA

3100 St. Pölten, Wiener Straße 35

Phone: 0043/2742/26967-0,

Fax: 0043/2742/26967-30,

e-mail: niederosterreich@klimabuendnis.at

■ PROVINCIAL COUNCILLOR FOR THE ENVIRONMENT DI JOSEF PLANK

3109 St. Pölten, Landhausplatz 1, Haus 1

Phone: 0043/2742/9005-0,

Fax: 0043/2742/9005-13510,

e-mail: post.lrplank@noel.gv.at,

Internet: www.noel.gv.at

■ DIE UMWELTBERATUNG

- ASSOCIATION OF AUSTRIAN CONSULTANCY
OFFICES FOR ENVIRONMENTAL PROTECTION

3100 St. Pölten, Wiener Straße 35,

Phone: 0043/2742/70 855, Fax: DW 20,

e-mail: oesterreich@umweltberatung.at,

Internet: www.umweltberatung.at

■ DIE UMWELTBERATUNG LOWER AUSTRIA

3109 St. Pölten, Wienerstr. 54/A/2, Postfach 47,

Phone: 0043/2742/71829, Fax: DW 120

e-mail: niederosterreich@umweltberatung.at

LINKS:

■ PLATFORM FOR INNOVATIVE TECHNOLOGIES FOR SUSTAINABLE ENERGY AND ENERGY EFFICIENCY

(an initiative of the Federal Ministry for
Transport, Innovation and Technology)

Internet: www.energytech.at

■ SUSTAINABLE BUSINESS

(an initiative of the Federal Ministry for

Transport, Innovation and Technology)

Internet: www.nachhaltigwirtschaften.at

■ AUSTRIAN COUNCIL ON CLIMATE CHANGE

Internet: www.accc.gv.at

■ FEDERAL ENVIRONMENTAL AGENCY

Internet: www.umweltbundesamt.at

■ AUSTRIAN ENERGY AGENCY

Internet: www.eva.ac.at

■ AUSTRIAN ASSOCIATION FOR ENVIRONMENT AND TECHNOLOGY

Internet: www.oegut.at

■ INTERNATIONAL ENERGY AGENCY

Internet: www.iea.org

■ EUROPEAN PROGRAMME FOR CLIMATIC CHANGE

Internet: <http://europa.eu.int/comm/environment/climat/eccp.htm>

■ HORIZONT 3000

Internet: www.horizont3000.at ■

