

ECO

LEADERSHIP IN
ENERGY AND
ENVIRONMENTAL
TECHNOLOGY

ECO WORLD MAGAZINE

www.eco.at Issue price € 5
Issue 8, May 2010

Technology

Styria:
country of research

Top-Cluster

ECO WORLD STYRIA
at the global forefront

Tianjin, China

ECO is consultant for
ecological development

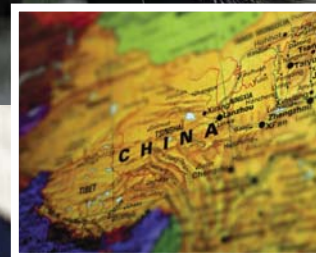
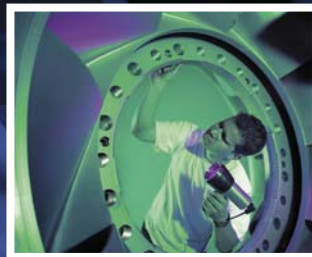
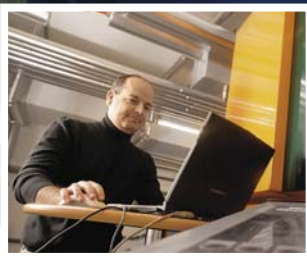


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Dear Readers,

One global secret less: Styrian environmental technology and renewable energy expertise is the number one worldwide according to international rankings by the US investors network "Cleantech". 30 environmental technology groups were scrutinised and the companies from Styria came out on top. Further details regarding the background of the rankings, as well as an interview with the author Shawn Lesser can be found on pages 8 and 9.

This accolade also acts as an incentive to work even harder, to research even more thoroughly and to develop new green technologies, so that more green jobs will be created in the coming years.

Details regarding the "Green Tech Valley's" targets until 2015 as part of the ECO strategy 2.0 can be found on page 10.

On page 4 we give an insight into the research centres and technologies of tomorrow.

It is impossible to avoid the highly competitive Chinese market, the central hotspot being the port of Tianjin near Beijing (see page 11).

We hope you enjoy reading this issue of ECO WORLD magazine

Sincerely, *Bernhard Puttinger*, CEO,
and the whole team of
ECO WORLD STYRIA



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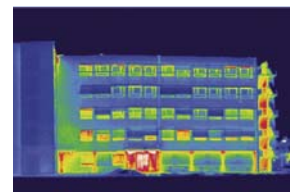
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"WINenergy" is a model for
the energy efficiency offensive

IMPRINT

Publisher: „ECO WORLD STYRIA“ Umwelttechnik-Netzwerkbetriebs GmbH, Reininghausstraße 13, 8020 Graz, Austria, Tel.: +43 316/40 77 44-0, office@eco.at, www.eco.at. Production: Corporate Media Service GmbH, Arche-Noah-Gasse 8–10, 8020 Graz, Tel.: +43 316/90331-0, office@cm-service.at, www.cm-service.at. Editorial Direction: Mag. Andrea Kreuzer. Contributors to this edition: Mag. Helmut Römer – in cooperation with the ECO WORLD STYRIA team. Cover: Andritz AG/Andreas Hofer, Andritz AG/Studio 2, iStockphoto.com/wsfurlan, iStockphoto.com/dougberry, KWB Biomasseheizungen; Layout: m4! Mediendienstleistungs GmbH & Co KG, www.m-4.at. Printer: Niederösterreichisches Pressehaus. Recycling-Paper: RePrint, Lizenz 544.070: Nordischer Schwan. Issue 8, May 2010, Circulation: 15,000.

World-News

1 CASH FOR GREEN TECHNOLOGY

Warren Buffet discovering environmental technology as an extremely worthwhile area of investment removed all doubt: green technology is profitable in the truest sense of the word. Venture capital for green technology firms has increased by a hefty 83 percent in the first quarter of 2010 as compared to the same period last year, according to investment firm Cleantech Venture Network. The areas of infrastructure, transport and energy efficiency, in particular the LED development sector, are very attractive to investors. www.cleantech.com



2 THE LARGEST PHOTOVOLTAIC PARK

Yesterday a NATO base, today the showcase project for energy technology in France: this is how French energy group EDF poignantly described the changes they want made until 2012 in an area just outside Metz called "Toul-Rosieres". The largest photo voltaic park in the world will be built on this 415 hectare area, at an investment of around EUR 434 million. The installed 143 MW of peak power corresponds to a city of 62,000 inhabitants. www.edf.fr



3 SOUGHT-AFTER MINERAL DEPOSITS

The competition for raw materials is getting fiercer. Due to the rising global population and increasing industrialisation, manufacturing nations are above concerned about the availability and accessibility of natural resources. Now China and India have also entered the fray in the fight for the raw materials from Africa and South America. These continents have the largest deposits of precious stones and minerals at their command. With prices for mineral deposits having risen by 285 percent between 2002 and 2008, the EU is looking at the possibility offered recycling to satisfy demand. www.euractiv.com



4 MORE MEANINGFUL SEWAGE

Researchers at the technical university of Vienna are currently scrutinizing the largest secondary source of phosphor: the city's sewage. Within the framework of the project "Urban mining", scientists are working together with the firm "Ash Dec Umwelt AG" to develop a procedure whereby heavy metals can be filtered out from sewage with the help of gas, after having first undergone conventional incineration treatment. At the end of this procedure, material rich in phosphorus is yielded, which can then be further processed, for example to make fertiliser. www.iwa.tuwien.ac.at



ENVIRONMENTAL TECHNOLOGY

Research = Business = Success

Styria: Country of Research

Styrian universities, centres of excellence and other research institutes hold a prominent position in environmental technology. The innovative research of today secures the economic advantage of tomorrow. AUTHOR: Helmut Römer

Environmental technology is an area of research with enormous economic opportunities. Five of altogether ten Austrian competence centres related to energy and environmental technology and numerous research institutions are located in Styria, and at 4.3 percent the province has the highest research quotas throughout Europe. This density was enabled by the decision of Styrian Minister of Economy, Innovation and Finance Christian Buchmann in 2006 through which the province of Styria would generate EUR 100 million in research and development in subsequent years. This is to motivate universities and companies to take part in the competence programmes. The efforts paid off: today research and development cooperate on one theme intensively over an extended period of time, with the result that basic research and practical applications go hand in hand.

Focus on University of Technology Graz

The TU Graz takes part in almost 20 of altogether 46 Austrian competence centres. The „Bioenergy 2020+ GmbH“ at the TU Graz is involved in the energetic utilisation of solid biomass, its processing and its overall consideration in economic terms. Current areas of research include energy monitoring, biofuels, micro combined heat and power systems and biomass cooling systems. Another institution is the Christian Doppler Pilot Laboratory for Nanocomposite Solar Cells located at TU Graz, that researches the morphologies at the interface between anorganic and organic semiconducting materials. These nanocomposite layers may be the basis for the highest degree of solar cell efficiency. The necessary energy turn in Europe is particularly important for research. For this reason the

European Sustainable Energy Innovation Alliance (eseia) was established under the auspices of Rector Hans Sünkel at TU Graz. 70 partners from 23 countries are on board to develop innovative programmes for sustainable technologies, create interdisciplinary panels of experts and strengthen measures for education and further training. Engineers, political scientists and representatives from business schools are involved just as much as specialists for wind power technologies.

On “green engines” and active facades

Thus the development of technologies and hybrid concepts for lowering the CO₂ and pollutant emissions of small engines is the aim of the latest competence project, “ECO Power Drive”. Furthermore, in the scope of the Multifunctional Plug & Play Facade (MPPF) competence project the Hans Höllwart Research Centre for Integral Construction (FIBAG) also researches ways to take more active advantage of facades.

“Intelligent building facades with supply and disposal technologies are to be developed”, says FIBAG management board member Mario Müller: “The possibilities range from the enhancement of the facades to include bionics and nanotechnologies to the incorporation of smart grids with a large number of decentralised energy facilities”. Buildings whose outer shells produce electricity and heat from solar and wind energy, which interactively recognise user needs and which cooperate with the environment will be a reality in the not too distant future. Through a façade module that can be replaced from inside the building can be adapted to the latest technological advance at any time. For Moore’s Law, known from the computer industry and ac-

ording to which the complexity of technology is doubled every 18 months, applies here as well. FIBAG cooperates closely with FH Joanneum Graz as well as a series of other partners. A small sample: SFL-Technologies, Saubermacher, Isovolta, Sonnenkraft, the technical universities of Graz and Vienna and other innovative companies and research institutions.

One of them is the Polymer Competence Center Leoben (PCCL) at the University of Leoben. Polymer plastics are complex chemical compounds composed of several molecules. Their chains and branches are the focus of research here. In the area of environmental technology, for example, low-temperature solar cells are developed out of plastic which are especially powerful, robust and affordable in mass production.

Companies that develop innovations

But there are internal company competence centres as well: Komptech, the specialist for waste treatment systems, set up the KOMPTeCH Research Center directly at its customer’s premises in St. Michael by Leoben to initiate groundbreaking innovations, freed from day-to-day work. Furthermore, KVB Biomasseheizungen operates the largest private biomass research centre in Europe at the St. Margarethen an der Raab location. In close cooperation with universities 35 scientists are working here on innovative combustion technologies and new opportunities for the application of biomass.

The latest project is now being set up under the auspices of the University of Leoben. “The “Impulse Centre for Raw Materials” will develop new channels for sustainable raw materials.



STYRIAN CENTRES OF EXCELLENCE AND RESEARCH INITIATIVES; A SELECTION

Graz University of Technology: BioEnergy 2020+ Biomass combustion, Christian Doppler Pilot Laboratory for Nanocomposite Solar Cells, ECO Power Drive: environmental approach to small engine applications, eseia – european sustainable energy innovation alliance
Joanneum Research: hydrotechnologies, renewable energies
University of Leoben: recycling technologies, Polymer Competence Center (PCCI)
FIBAG: Multifunctional Plug & Play Façade (MPPF), intelligent energy façade
AEE Institute for Sustainable Energies: solar thermal energy and water utilisation

EXAMPLES OF COMPANIES WITH RESEARCH INSTITUTES

Andritz (hydropower, environmental technology), **AVL List** (energy-efficient engines, electric engines), **BDI BioDiesel International** (biodiesel from sustainable sources), **BIOS Bioenergiesysteme** (power and heat from biomass), **Komptech Umwelttechnik** (treatment of solid waste), **KWB Biomasseheizungen** (power and heat from biomass), **Magna Steyr** (electromobility), **Siemens AG** (energy systems), **VTU Holding** (process technology for water, energy)

ENERGY TECHNOLOGY



HIGH-SPEED CONNECTION

The company nahwaerme.at hits two birds with one stone by integrating fibre optic networks for data transmission into the local heating network. Customers in the region thus benefit from turbo internet access: "cyber-to-home" is available so to say as an added feature to heating from renewable energy sources. Installation pays off at 150 connections or more. A pilot project has already been realised in the southern Styrian town of Gamlitz. www.nahwaerme.at

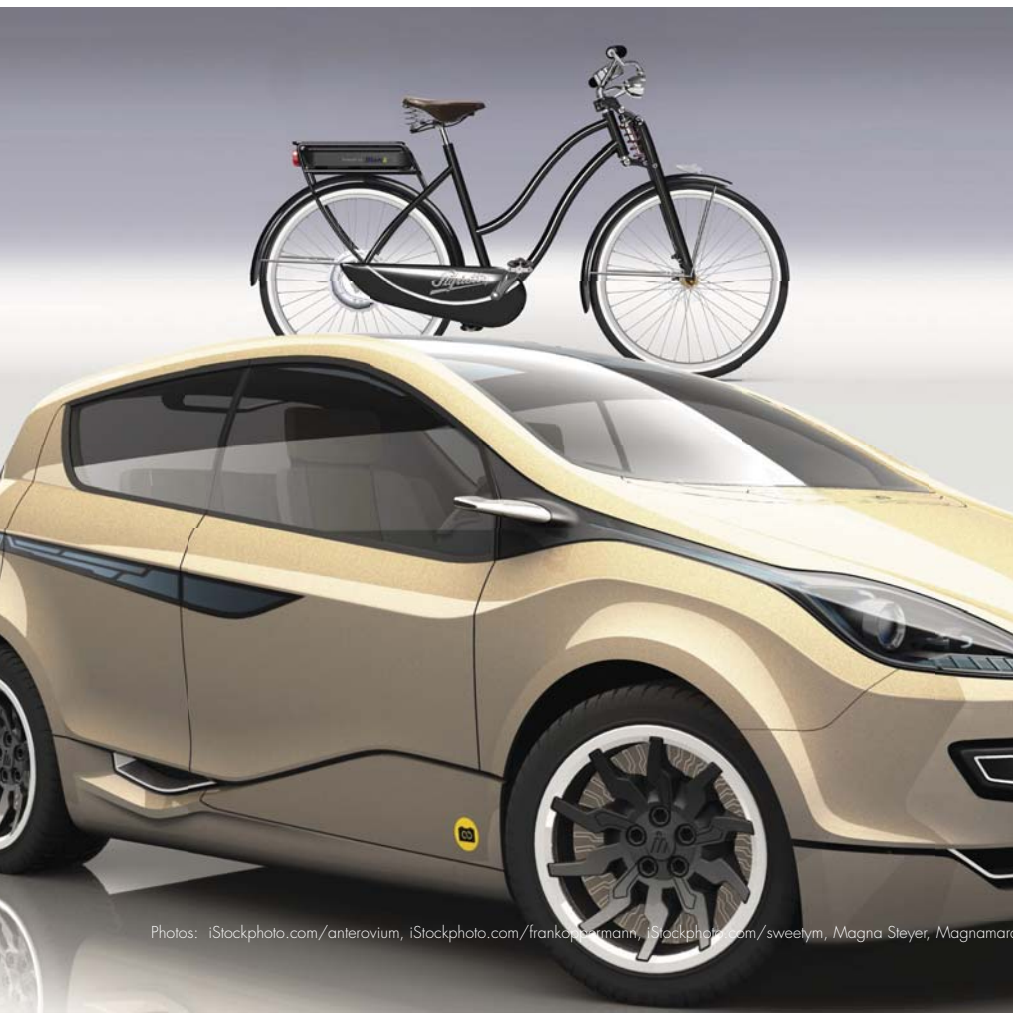
Simply Styrian.

AUTHOR: Andrea Kreuzer



EUROSUN

EuroSun is Europe's largest solar energy conference and takes place biannually at varying locations. This year the conference will be at Congress Graz from 28 September to 1 October. AEE Intec, IEA and ISES will organise the programme. The focal point this year will be on solar-powered heating and -cooling as well as building integration. www.eurosun2010.org



E-MOBILITY CENTRE

On the move in Styria: an eternal classic resurrected. The Styriette from the 1930s is being recreated as an e-bike in the Styrian town of Weiz. The modern variant combines design and the best engine technologies for climate-neutral fun – as long as it is charged with green electricity.

Magna Steyr, Energie Steiermark and Graz AG are building a centre of excellence and carrying out fleet tests. A second-generation e-car will be developed based on the test results. It should be more powerful, more comfortable as well as overtaking the pack in terms of price. Styrian technology

companies are also significantly involved in "Austrian Mobile Power", which is investing EUR 50 million in electromobility in the next few years. More details: www.graz.at, www.styriette.at

ENVIRONMENTAL TECHNOLOGY

CRYSTAL CLEAR

VTU's new coolox® water treatment process takes advantage of so-called AOPs ("advanced oxidation processes"), simply put, to convert organic material into H₂O or CO₂ and make it harmless. The process is of particular interest in its applications for waste from medication: the active agent in birth control pills feminises male trout in flowing waters. Information and details can be found www.vtu.com



DEPOTECH

Austria's largest waste management fair will take place at the University of Leoben from 3 to 5 November. For the tenth time representatives from science and business will meet to discuss waste management issues. The event's focus is on the areas of waste and disposal technology, contaminated sites, and waste management. Company excursions are also offered. www.depotech.at

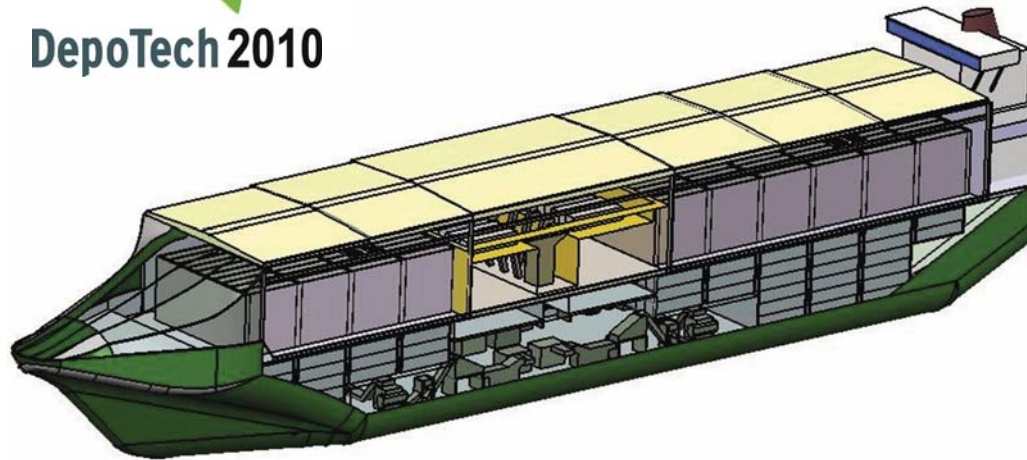


DepoTech 2010

**Intelligently
Made.**

(WASTE) SHIP AHOY!

The redesigned "Island Hopper" is equipped with technology that combines various recycling processes to break waste down into its oil and gas components. Simply put, crushed waste material is pressurised in an oxygen-free environment, leading to the breakdown of polymers. This process was developed by the working group "Viribus Unitis". The ship could help get waste on islands under control. www.viribusunitis-ag.eu



ALWAYS ONLINE

Knittelfeld-based company Murtac's online analysers use the so-called wet chemical methods to determine substances. Reagents are added to a sample in order to trigger a desired reaction. The resulting products then serve as parameters used to determine the concentration of the substance being measured. The Upper Styrian company Murtac is one of the global leaders with this method. www.murtac.at



And the Winner is ...

ECO WORLD STYRIA

Above-average growth, high government investment in research and the outstanding achievements of its member companies have catapulted ECO WORLD STYRIA to 1st place among global environmental technology clusters. AUTHOR: Helmut Römer



Driving force:
Andritz AG is one of the
ECO member companies
and is one of the top
sources of know-how
in turbine technology
worldwide.

"The potential, particularly in the area of environmental and energy technology, is gigantic", says Shawn Lesser, "the challenge is to bring these technologies out into the world and to distribute them at a profit". The US-American is an expert on evaluating cleantech companies, and analysed the work of a total of 30 environmental technology clusters on behalf of the Atlanta-based investor network Cleantech Group. Cleantech supports companies and investors in the development and venture financing of "clean technolo-

gies". Based on the rankings of regions and universities, environmental technology clusters were evaluated for the first time, and ECO WORLD STYRIA emerged as the global winner.

Impressive figures

ECO WORLD STYRIA's figures are impressive indeed: 150 companies generate EUR 2.7 billion in environmental technology revenues, which is equivalent to eight percent of the region's gross domestic pro-

duct. At 22 percent, average growth over the last few years has been significantly higher than global market growth and a series of ECO companies are global technology leaders in their industry. More than 2,000 jobs were created in 2008. As Styrian Minister of Economy, Innovation and Finance, Christian Buchmann is proud of the distinction. "We believe in the work done in clusters and networks", he says. "The companies cooperate with one another and work closely with a variety of research institutions.

ENVIRONMENTAL TECHNOLOGY

Economic success and innovative research go hand in hand here."

According to Shawn Lesser, integrating companies, research institutes and the public sector (the province of Styria, the Styrian Business Promotion Agency and the city of Graz) is also the network's recipe for success: "There are many clusters in the area of "clean technologies" where only companies cooperate, for example in Israel or the USA.

In contrast to this, ECO is an independent organisation that supports and connects such companies". According to Lesser, a variety of factors have resulted in success: on the one hand, policy makers have created advantageous conditions by funding education and locations, and on the other hand universities are cooperating closely with companies and providing extremely well-trained employees. Environmental technology companies have thus found a great location for successful business in Styria.

Genuinely world class

The ECO WORLD STYRIA companies are world class in numerous areas, be they the innovative technical offices like those of Leo Riebenbauer and Bernhard Hammer, pioneers and trend-setters like KWB or enbasy, or global companies such as Siemens Austria AG, Andritz AG and Sattler AG.

It is the particular mix which makes ECO WORLD STYRIA a success: the mix between technology leaders and innovative start-ups, support from the province of Styria and the close partnership with universities and university institutions.

Shawn Lesser prepared the ranking on behalf of the Atlanta-based Cleantech Group. As president of "Sustainable World Capital", he is a specialist for investment companies focusing on environmental technology.



Interview Shawn Lesser "Enormous opportunities for the pioneering region"

What opportunities does the future hold for the environmental technology industry?

Anyone with environmental technology know-how has opportunities on the global market. The USA, for example, is not as technologically developed as Austria, but provides a big market like China or India. The calculation is simple: raw materials and fossil energy sources are declining and becoming more expensive, the opportunities for renewable energies, material flow management and environmental technologies are growing.

The calculation is simple: raw materials and fossil energy sources are declining and becoming more expensive, the opportunities for renewable energies, material flow management and environmental technologies are growing.

What factors were taken into account in the rankings?

The wage level, the growth rate, the reputation of a region and the companies' international position were considered. Styria has the highest density of clean-tech companies in terms of number, revenues, contribution to gross domestic product and annual growth. There are approximately 30 similar clusters worldwide.

What special characteristics does ECO WORLD STYRIA have?

ECO WORLD STYRIA has an invaluable systematic approach, for example strong organisation and reference companies which are global leaders and serve as a role model to the other ECO members. Tangible and intangible values are ideally linked to one another. Additional success factors are the strength in innovation and good cooperation with universities. In particular in the three core fields of biomass, solar energy and material flow management, Styria is a pioneering region with enormous opportunities for the future.

TOP-10-CLUSTER OF ENVIRONMENTAL TECHNOLOGY

1. ECO WORLD STYRIA, Graz (Austria)
2. Finnish Cleantech Cluster, Lahti (Finland)
3. The New England Clean Energy Council, Massachusetts (USA)
4. MaRS, Toronto (Canada)
5. Copenhagen Cleantech Cluster, Copenhagen (Denmark)
6. The Clean Tech Center, New York (USA)
7. Clean TECH San Diego, California (USA)
8. Environmental Business Cluster, California (USA)
9. Stockholms Miljöteknikcenter, Stockholm (Sweden)
10. Ontario Clean Water Initiative, Toronto (Canada)

www.cleantech.com/news

ENVIRONMENTAL TECHNOLOGY

World's Green Tech-Valley Strategy 2.0

ECO WORLD STYRIA by 2015: twice as many technology leaders, more employees, increased research and even more intensive cooperation among companies.

AUTHOR: Helmut Römer

The companies in the ECO network have demonstrated phenomenal performance. Slight growth is even expected for the crisis year of 2009. With an export share of just under 80 percent, the companies are increasingly expanding into remote regions. So what are the goals for the future?

"The industry is still a new market and offers innovative companies enormous opportunities for development", says ECO Managing Director Bernhard Puttinger. "It is essential to take advantage of the technological competence and high research investment corresponding to 4.3 percent of Styrian GDP, and to make massive efforts to enter new areas. Since 2005 the areas of hydro(power), biomass, material flow and solar technologies have been strengthened in particular. In the photovoltaic sector – as in electromobility – there are individual large-scale entrepreneurial projects currently in preparation.



The vision. Building on the pulsating landscape of research, the "Green Tech-Valley" in Styria is increasingly becoming the centre of innovation for energy and environmental technology. It is characterised by the world's highest density of market-oriented technology leaders, top research rankings and a supportive public sector.

The target. ECO-20-20-20 to 2015: In the next five years the number of global technology leaders at the location is to double to 20, the number of green tech jobs is to be increased to 20 thousand (+7,000) and ECO is to prepare 20 international activities.

The strategy. These targets can be effectively reached with five strategic levers, such as additional profile-building for research, exemplary technological projects, guiding technology companies into the sector of cleantech as well as synergy and cooperative projects. From this excellent starting point, it will be possible to establish Styria as a pulsating centre of innovation for environmental technology, creating a green tech-valley firmly in the mould of Silicon Valley.

The Boom Region Tianjin Binhai

ECO is consultant for ecological development of the region near Beijing, the world's fifth largest port.

AUTOR: Helmut Römer

Tianjin Binhai New Area is one of the biggest industrial zones in the North of China. Between 1993 and 2006 the economic output in the region rose twenty-fold. The export volume in 2006 was USD 23 billion, and more than 150 of the world's top 500 companies operate there. The region of 2,200 sqm and 1.4 million people is undergoing enormous structural transformation. Where before it was the automotive industry, today it is environmental technology which is booming. The Chinese government has ordered every city to reduce CO₂ output by 20 percent. The Tianjin Binhai New Area is to become China's first eco-city: the flagship city. ECO is the first European consulting firm to support the Chinese government-run economic development organisation. "The Chinese know that the environmental problem is a threat to their lifestyle", says Kurt Kliner. "If no money is invested into wastewater treatment facilities, there will no longer be any potable water." For ten years Kliner has been active in China on behalf of the Wildon-based automation firm Hereschwerke and is continually confronted with projects which extend beyond Hereschwerke's core competency. "Other Austrian firms will get their turn as well. ECO WORLD STYRIA was the first port of call for me", he says. 1,000 environmental technology projects are planned in the Tianjin Binhai New Area, about 400 of them are to be realised. Kliner: "As a consultancy firm, we look for companies that meet our requirements profile via ECO".

CHINA'S FIRST ECO CITY

China invests EUR 33 billion in transport infrastructure, energy and water supply, and environmental protection in the "Tianjin Binhai New Area" between 2009 and 2011.

The region is an hour away from Beijing by high-speed train and offers international companies exciting opportunities in the environmental sector.

ENVIRONMENTAL TECHNOLOGY

The Cycle of Life



INFORMATION

Professional advice:

The city of Graz's department of economic and tourism development offers to help interested businesses regarding any "Cradle to Cradle" matters. Information and details can be found at www.wirtschaft.graz.at



"Cradle to cradle" (C2C) is the philosophy encouraged by the city of Graz's department of economic and tourism development. Products should no longer find their way to waste disposal sites; instead their materials should be used to provide the basis for new ones.

What do Nike trainers, children's furniture from the Graz based firm Perludi & the US carpeting manufacturer Shaw have in common with the city of Graz? Quite simple: they are linked by the "cradle to cradle" concept – a concept whereby all products are designed so that the environment is not damaged by recycling them, but actually benefits. Waste becomes the basis for manufacturing new products, true to the premise that "waste is food". A product's life cycle does not simply stretch from "cradle to grave", but instead from "cradle to cradle".

The department of economic and tourism development has focussed on this concept since October 2010. The aim is to make the philosophy easily accessible to a wide audience so that it is not just interesting to local

firms, but is fully implemented in daily operations. In December, the department of economic and tourism development joined an international consortium with members from 10 countries supporting the C2C idea.

The concept itself was developed by the architect William McDonough and the chemist Michael Braungart, the latter saying that nothing is less appreciated than Mother Nature: "It produces no rubbish and therefore need not avoid it", said Braungart whilst explaining his vision at the ECO future workshop in 2005.

The question remains however how the firms mentioned above will start handling this issue. As an answer, Nike has already created a 100 percent C2C compliant shoe, and

Perludi has always incorporated sustainable and bio-degradable materials into its children's furniture. The carpet manufacturer's portfolio includes carpets that can be loaned out instead of bought, and which are then recycled to make new carpeting upon being returned.

But why look so far afield when there is so much close at hand? The efforts by the city of Graz's department of economic and tourism development will ensure that the C2C concept will encourage researchers to develop products that turn a cold shoulder to landfills.





FURNITURE MADE FROM WASTE

A table made from road signs, a sofa made from a bathtub: Evi Muchar and Iris Radhke know how to make something out of anything. Regardless of whether the object is on its way to the rubbish tip or already lying there, they can create funky designer pieces from rubbish. The furniture can also

be rented out to serve as decoration for cool events!

www.conkurs.at.tf



ENERGY EXPERIENCE

Full of energy in the truest sense of the words is the best way to describe the Futura campus in Bleiburg. On the one hand it is the first energy self-sufficient youth hostel worldwide, on the other hand the hostel is seeking to raise awareness of this issue by means of various training sessions and "energy games". The house is run by the Styrian youth and family guest houses. www.campusfutura.at

All-Green Lifestyle

AUTHOR: Andrea Kreuzer

ONGOING TOURS

Christian Hlade does not have much time for those tourists who do not want to forego their schnitzel even when in Tibet. As a travel organiser for "world wide hiking", Christian has spent 10 years trying to awaken the interest of travellers and hikers for local specialities. To this end, he works together with around 500 guides worldwide. He has done this with great success: at the ITB travel fair in Berlin, he was the first organiser to be given the CSR award (Corporate Social Responsibility). He is thus now also officially recognised as being a step ahead of his colleagues in terms of sustainable tourism.

www.weltweitwandern.at



NATURAL CHEWING FUN

"Chicza" is the name of the first chewing gum that is 100 percent biologically degradable.

It is made from the Mexican Chicozapote tree without any artificial polymers, allowing it to degrade completely.

www.chicza.com

ENERGY TECHNOLOGY



Kötschach-Mauthen: a community that wants to be energy self-sufficient by 2020. The region is supported by Joanneum Research.

Energy Self-Sufficient and CO₂ Neutral

Many regions have planned to become greenhouse gas-neutral and energy self-sufficient in a few years. Joanneum Research has developed a tool for this: the “carbon footprint”.

Strong arguments: First: we all need and use energy. At the same time, many regions are striving to become energy self-sufficient, which means they rely on regional energy resources and dispense with imports. Second: CO₂ neutral living is the order of the day in view of impending climate change. Third: renewable energy sources and companies that rely on them are first-rate sources of economic inspiration.

How can the three areas be effectively linked and how is the actual greenhouse gas output of a region calculated? Joanneum Research has developed the carbon footprint for this purpose. As one of Austria’s biggest research institutions, the institute also offers demand-oriented technical and economic consulting services in addition to applied research for companies. The carbon footprint determines the entire

amount of greenhouse gas emissions calculated based on a life cycle analysis for a variety of energy uses.

Carbon Footprint

The life cycle includes all the greenhouse gas emissions of an energy facility from construction, operation to disposal. Emissions which accumulate outside the region – for example through the refinement of petroleum into fuels – are also measured. Conversely, energy from renewable energy sources used outside the region reduces the regional carbon footprint. Using the Global Emission Model for Integrated Systems (GEMIS) computer system, emissions of carbon dioxide, methane and nitrous oxide are measured taking into account the CO₂ equivalence factor and stated in tonnes of greenhouse gas emissions per year.

Multifunctional Energy Centre

The town of Kötschach-Mauthen has developed a guideline for renewable energy with the help of Joanneum Research in order to be energy self-sufficient by 2020. “An ambitious, but possible goal”, says project director Kurt Könighofer of Joanneum Research, “as long as we make use of all available measures for saving energy, efficient energy use and the potential for energy production.” Within the scope of the project “Kötschach-Mauthen Multifunctional Energy Centre – a Model System for Achieving Energy Self-Sufficiency”, Joanneum Research and regional partners produced a performance analysis, identified potential, evaluated innovative energy technologies from an economic and ecological perspective and developed an eco-energy concept for tourism.

More details: www.joanneum.at/ief or www.joanneum.at/rtg

WINenergy!

As a result of the exemplary WINenergy!-initiative Styrian companies are five times more active than other Austrian companies in the area of energy efficiency.

Saving energy means saving money. The Sustainable Business Initiative (WIN) offers Styrian companies subsidised WINenergy! consultations in order to raise companies' awareness about possible potentials for increasing efficiency. A couple of examples: the building system manufacturer Knauf saves EUR 24,000 in energy costs as the result of a one-off investment of EUR 3,500. The waste heat from the water treatment facility in Weiz lowers energy costs for the city of Weiz, Harb dealership and Pichler plant by half. The Kutscherwirt inn has reduced its lighting costs by up to 75 percent and BMW Unger spares the environment 155,000 kg CO₂ per year through the use of a biomass heating system. By the end of 2010 about 1,000 companies will have been informed about specific improvement and saving measures at events.

In the first quarter of 2010, 370 energy consultation checks were applied for throughout Austria, 154 of them come from Styria; this corresponds to a share of 42 percent. This means five times more efficiency-related activities per 1000 companies than in Austria. "The applications for energy consultations tripled in 2009 alone", says

Wilhelm Himmel, the sustainability coordinator for Styria. "In 2010, energy-saving measures are to be implemented in cooperation with Raiffeisenlandesbank in 200 small and medium-sized enterprises and ten large-scale operations." The WINenergy! network encompasses more than 100 energy experts who identify energy saving and efficiency measures for companies, support them in implementing these measures, and even provide information concerning possible investment funding.

There are enormous savings potentials across the company landscape – from the sole proprietor to the large industrial enterprise. They only have to be recognised and addressed. Investments in the areas of lighting, heating and compressed air systems often pay off within one to two years. Provincial government minister for sustainability Johann Seifinger says, "We want to take a significant step forward in the area of climate protection. The shift to renewable energy sources and energy-saving measures must thus go hand in hand".

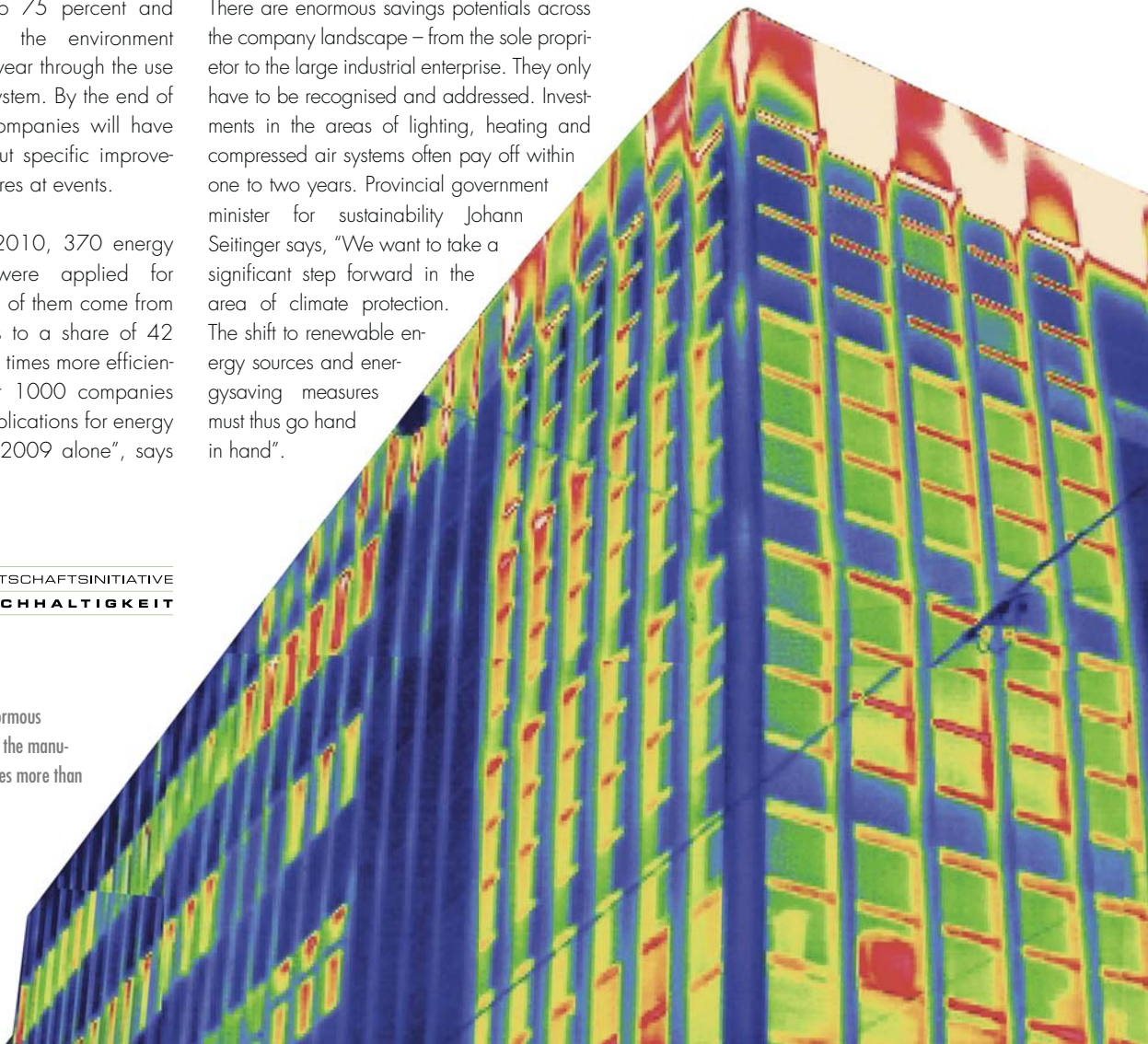
WINenergy!

The "Energy Efficiency in Styrian companies campaign" of the Sustainable Business Initiative (WIN) is supported by the province of Styria, the Styrian Chamber of Commerce and the Styrian Business Promotion Agency. It offers consultations on corporate environmental and climate protection as well as sustainable management. www.win.steiermark.at



WIRTSCHAFTSINITIATIVE
NACHHALTIGKEIT

Effective energy-saving is an enormous competitive advantage, after all, the manufacturing sector in Styria consumes more than 40 percent of the total energy.



Did You Know?

A CAR TURNS UP

"Hitchhike the Wind" was the theme of five Austrians who made their way to the Aral Sea in Kazakhstan in a modified scrap car, not least to draw attention to the ecological problems there. An unconventional journey that can also be seen now as a film.

www.hitchhikethewind.at



PAPER IN THE TANK

What will power cars in the future? Recycled paper! An ethanol-petrol mix presented by US biotech firm Novozymes at the Washington Auto Show makes it possible. The ethanol mentioned is produced from waste paper using a special enzyme.

www.novozymes.com

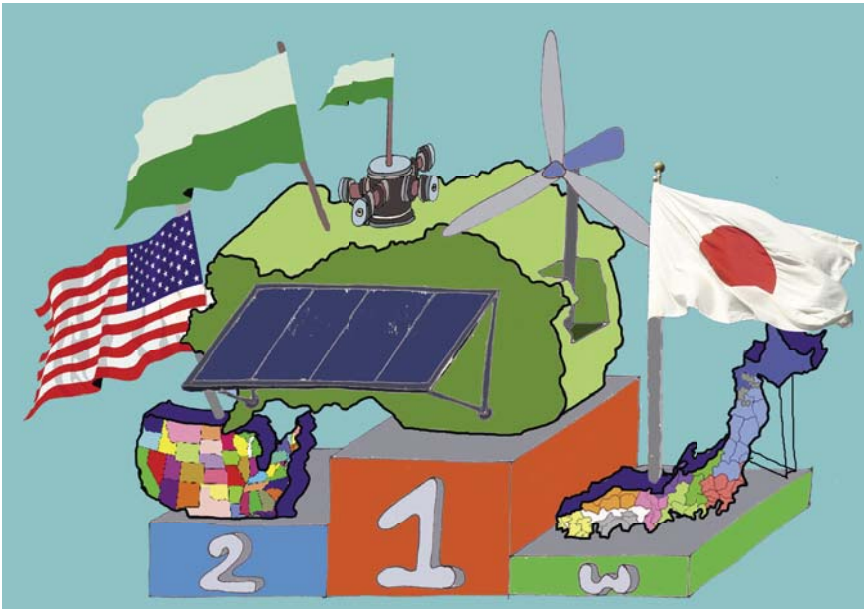


WHALE IN THE DANUBE

It's not a joke: there is a whale in the Danube! Except that it's not the mammal, but a new version of the "aqualibre" power buoy without the dorsal fins. The floating power plant supplies more than 100.000 kWha per year. The buoy will be ready for production in summer. www.aqualibre.at



JILEK'S CARTOON



WIND LIGHTS

The creative minds at the American TAK Studios had an idea regarding an energy source for street lamps: their concept simply uses the air stream from cars to supply the street lighting with electricity by means of small wind turbines. These types of "wind lights" are particularly suitable to locations where the sun shines too seldom for solar-powered lights.

www.greenergadgets.com

