SEPTEMBER 2018

eq JOURNAL

NEWS FROM ENERGIEQUELLE

NATURE CONSERVATION
AT ENERGIEQUELLE

EQ MEETS FRIENDS
INDUSTRY GET-TOGETHER
WITH VOLLEYBALL

ENERGIEQUELLE ON
AN INTERNATIONAL COURSE

VISIT US AT THE

WindEnergy Hamburg
The global on & offshore expo

Hall A1, Booth 232

Dear Readers and Friends of Energiequelle,

You're holding it hot off the press: the first issue of our customer magazine!

We look forward to giving you a little insight into our daily work: Keeping in touch with you is important to us. That is why we would like to update you on a regular basis about company news.

What is the first eqJOURNAL about?
Of course, we too are concerned about the big issue of acceptance. More and more people are protesting against new wind farms in their area.

We show what we are doing as a company in the field of nature conservation and talk to specialist Alexander Gerdes about ways of limiting night-time blinking.

In this issue, we also introduce our new Energiequelle Foundation, which promotes the interests of our project regions and ensures added value to the projects themselves. Furthermore, we report on the extended operation of old plants after 20 years of service and on our energy self-sufficient village Feldheim. Last but not least, we take the opportunity to blow our own trumpet: did you know that we sell our power directly to end users? eqSTROM power is economical and produced using renewable energy sources.

We hope you enjoy reading the magazine!

Joachim Uecker & Michael Raschemann
Managing Directors, Energiequelle

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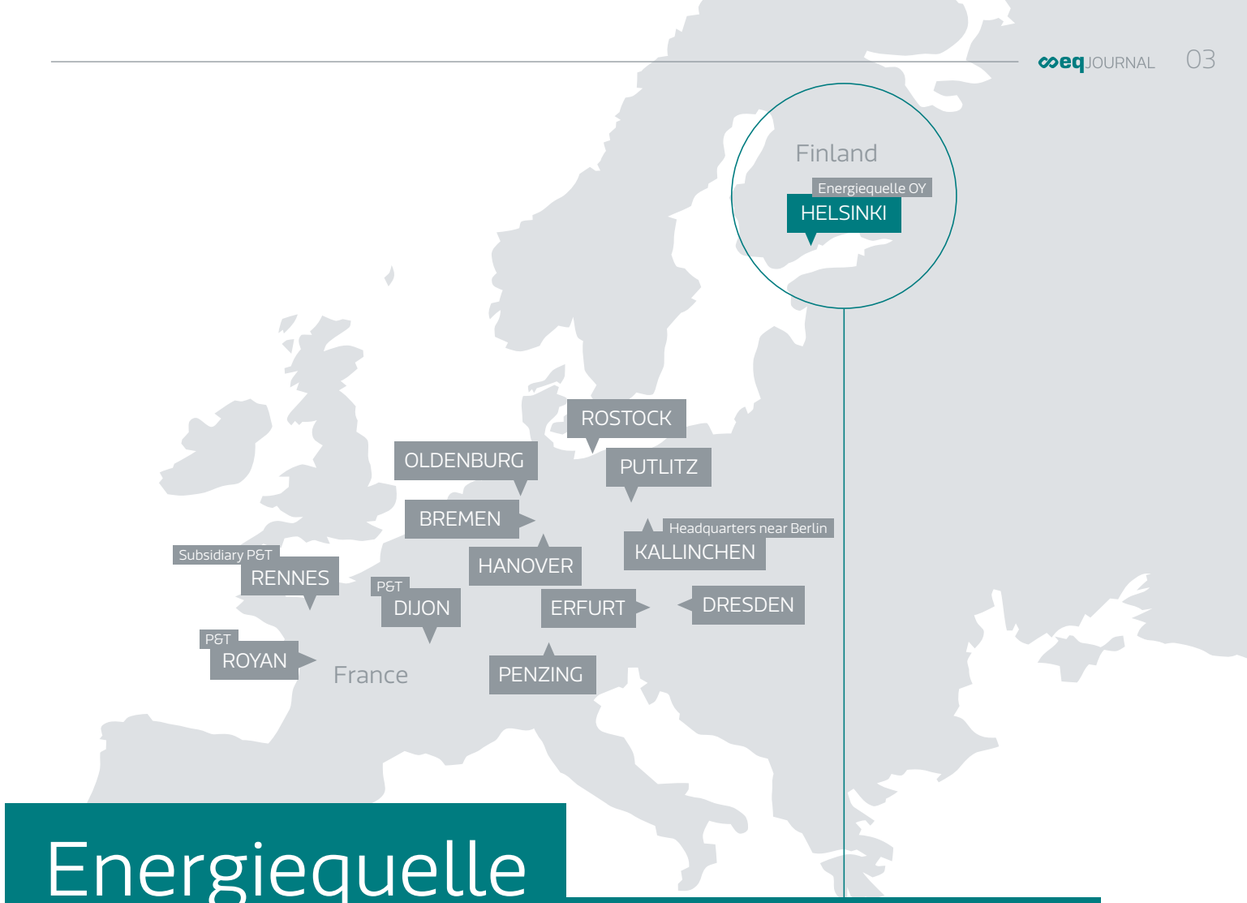

Energiequelle on an international course

Finland

After founding our Finnish Energiequelle subsidiary "Energiequelle OY" in January 2016 and moving to our Helsinki office, we didn't simply retire to our summer holiday house and let the midsummer sun spoil us. On the contrary: we expanded our team and pursued the negotiations on the acquisition of new projects as well as the entry into various cooperative ventures with Finnish developers. This hard work produced results: By mid-2016, we had taken over a project company and secured approval for our first 5-turbine wind power project.

Further rights to five wind farms totalling 33 turbines were added in the following years. We currently have a potential of over 180 megawatts and thus a solid outlook for the future. In Finland, this will be dominated by tenders and long-term electricity supply contracts (PPAs).

Energiequelle is well prepared and looks forward to all upcoming tasks in the European North.

OPERATIONAL MANAGEMENT

Extended operation after 20 years

LARS SCHILLER

As technical and commercial managers, we look after almost 700 wind turbines from various manufacturers and years of construction on behalf of our customers. The oldest among these, which had been commissioned in 1996, were reinforced about two years ago after 20 years in operation.

What must be done to operate wind turbines for longer than the planned service life of 20 years? Here, we have to take both the approval and the economic viewpoint into account, especially when repowering isn't an option.

Many installations dating back to the years 1996 to 2002 were built and operated very close to residential buildings. In accordance with the current minimum distances between modern facilities and residential buildings, no new and more powerful facilities can be approved at these locations. However, with good operational management and regular maintenance, these older plants are also capable of producing green electricity for more than 20 years.

The following requirements must be met for continued operation after 20 years:

- ✔ A stability proof must be provided for each individual system, as the type test and thus the generally valid structural design of the system loses its validity after 20 years.
- ✔ The original permit at the time must be checked to see whether there are any indications for temporary operation or whether reference is made to the specifications of the type test.
- ✔ Lease agreements must allow for a service life of more than 20 years.

During stability testing, the individual turbine is tested both analytically and physically on site by a competent expert, in order to ensure that the components relevant to the integrity of the installation (e.g. foundation, tower, blade adapter) still have sufficient wear reserves to ensure reliable and hence safe operation of the plant beyond the load cycles specified in the type test at the time.

In particular, installations that were commissioned before the first Renewable Energy Sources Act (EEG) in 2000 can also achieve guaranteed remuneration until the EEG feed-in-guarantee expires on 31.12.2020. As of 01.01.2021, there will then be no guaranteed feed-in payments and the plants must either sell their electricity on the energy exchange or market it to electricity suppliers or industrial customers via other electricity marketing contracts.

The revenues that can be generated will therefore be significantly lower than under the EEG feed-in-guarantee. Nevertheless, taking into account the running costs (e.g. maintenance), it will often make sense to keep these systems running.

We are currently preparing more than 20 further plants which had been commissioned in 1998 and 1999 for extended operation. As the operational managers, we coordinate all necessary steps as usual and prepare recommendations for our operators.

Demand-driven **night marking**

The low-emission operation of wind turbines is a declared goal of the wind energy industry. Wind farm operators thus aim, among other things, at good neighbourliness with residents in the catchment area of wind farms. Against this background, concepts of need-based night marking (BNK) are increasingly being implemented.

We spoke to Alexander Gerdes, Managing Director of Quantec Sensors GmbH. The company is regarded as a pioneer in this segment, which has placed them at the leading edge of the market.

ALEXANDER GERDES

eqJOURNAL: Mr. Gerdes, you say: "BNK allows us to fill the final gap toward our target of reducing the emissions from wind turbines."

Gerdes: There is no "wind pollution" as such. However, describing continuous night-time flashing from obstacle lighting as light pollution makes sense. It's actually one of the last sources of emissions from wind turbine operation to be called into question. The first federal state parliaments are therefore already enshrining an obligation for demand-driven night marking in their building codes.

eqJOURNAL: In quantitative terms, what does BNK change for close neighbours of wind farms?

Gerdes: Statistics show that BNK reduces the active phases of obstruction lights to less than ten percent. We are clearly meeting the interests of the population with this approach.

eqJOURNAL: What is special about your BNK solution?

Gerdes: Our intelligent sensor system continuously scans the sky for flying objects approaching the sensing zone. When a flying object approaches a wind turbine, our system gives the signal to switch on the beacons.

In addition, our technology offers enormous reserves in performance. This allows several neighbouring wind farms to use a common sensor system – providing a virtual collocation. This is not least also an economic aspect. By the way, our solution is currently the only DFS-approved system that enables large-area access with BNK signals using only one sensor, DFS being the German air traffic control agency.

eqJOURNAL: Are there any immissions due to the radar?

Gerdes: The detection system we use contains a modern radar from our Danish partner company Terma A/S. More than 100 identical systems are in use in Germany on many ships, on waterways and on airport runways. The emissions are significantly below those of comparable transmitters such as mobile phone masts and are harmless to humans and the environment. However, the authorities inspect each individual site and regularly confirm that it is harmless.

eqJOURNAL: Thank you, Mr. Gerdes, for your insight into the core aspects of BNK solutions.

NATURE CONSERVATION AT ENERGIEQUELLE

INTERVIEW WITH
DR. RENÉ KRAWCZYNSKI
responsible for nature conservation at Energiequelle

WHY IS NATURE CONSERVATION SO IMPORTANT TO YOU?

I grew up in a small village in Lower Saxony and was out in the forest or on the moor every day. As a child, I saw ditches being contaminated by sewage and the last meadow birds disappearing, as did our orchids. I became involved early on in protecting our orchid meadow. For this, I also received an environmental award from a national newspaper.

HOW DO NATURE CONSERVATION AND WIND TURBINE PLANNING FIT TOGETHER?

Due to climate change, the species composition of our environment has already changed. Insects and arachnids are spreading and benefiting from the changed climate. Unfortunately, these include poisonous spiders such as the yellow sac spider, or new tick species, which in turn cause new diseases. We have to stop climate change and that can only be done with green energy.

WHAT BROUGHT YOU TO ENERGIEQUELLE?

Already during my studies, but above all afterwards, I did research on various topics in the fields of nature conservation and ecology. In the process, I discovered easily implementable solutions for urgent problems, such as the insect poverty in our cultural landscape or the collisions of birds of prey with wind turbines. Energiequelle noticed this and hired me.

WHAT IS YOUR TASK IN THE COMPANY'S PROJECT WORK?

I accompany the work of external experts and I am also often on the road myself, for example to follow up information about raptors or to identify protected plants in our project areas. I also advise all our project teams on species conservation issues and develop new solutions such as diversion feeding for birds of prey. Moreover, I maintain contact with nature conservation authorities on behalf of Energiequelle and ensure open and trusting cooperation. As part of my duties, I also teach nature conservation and ecology at Brandenburg University of Technology at Cottbus-Senftenberg.

WHAT IS ENERGIEQUELLE CURRENTLY DOING TO PREVENT BIRD IMPACT WITH WIND TURBINES?

We are working on a way to keep birds of prey out of the wind farms and thus out of the potential danger area. We use the fact that all our raptors are scavengers to a certain degree – above all sea eagles and the red and black kites. That's why we offer wildlife carcasses to distract birds from the wind farms. This diversion feeding is carried out in close cooperation with the national forestry enterprise and the veterinary offices.

WHAT MAKES ENERGIEQUELLE SO SPECIAL FOR YOU?

I have come to appreciate Energiequelle as a very unconventional, innovative employer. The well-being of the workforce is a priority for Energiequelle, which leads to an extremely high motivation of the employees.

DR. RENÉ KRAWCZYNSKI

Age: 46 years

Academic qualifications:
Diploma in ecology, state teaching examination

Research & publications:
Food webs, consequences of climate change, ecosystem research, soil ecology

Current activities:
Cooperation with nature conservation authorities, state forest enterprises and associations; supervision of external experts; lectures on nature conservation topics throughout Europe; lecturer in the field of ecology at the University of Technology at Cottbus-Senftenberg.

Many of René's publications can be found at
www.researchgate.net/profile/Rene_Krawczynski

eqSTROM

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- ✓ Germany-wide electricity supply for households
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- ✓ Electricity for heat pumps (heating current) and charging poles
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- ✓ Energy consulting in general
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- ✓ Wide range of photovoltaic solutions for residential customers

ECOelectricity from eqSTROM

This is the claim of our subsidiary eq strom GmbH und Co KG, which supplies green electricity throughout Germany from renewable sources. We offer individual and regional rates, comprehensive consulting services, and solutions for electric mobility and photovoltaics. Our customers benefit from our competence and our fair and personal approach.

Our colleagues Georg Seemann and Ines Blum are always available to help you.

Free hotline:
0800 0005803

info@eq-strom.de
www.eq-strom.de

GEORG SEEMANN

INES BLUM

energiequelle foundation
RENEWABLES FOR GOOD.

We make good things happen

We know that it is important for residents of concerned municipalities to enjoy added value from our projects. And this should be a tangible benefit that doesn't always have to be associated solely with a clean energy supply. For many years, we have therefore been committed to local communities in our project regions throughout Germany, where we primarily support educational measures as well as social and cultural institutions. The new Energiequelle Foundation gives this commitment an entirely different form and quality.

In the summer of this year, the Energiequelle Foundation received its second round of applications. We are currently supporting various social and cultural projects in the State of Brandenburg with funds totalling 48.000 euro. Funding targets include the organisation of a sports festival, extending of a playground, building a kitchen in a kindergarten, funding an excursion of the People's Solidarity social service, and renovating of the façade of a local history museum.

DOREEN RASCHEMANN
Board

www.energiequelle.de/en/foundation

Our **energy self-sufficient village** Feldheim

One of the most spectacular integrated concepts for supplying businesses, private households and local government with renewable energy on a decentralised, regenerative basis was implemented in Feldheim, which is part of Treuenbrietzen, a town in Brandenburg. The residents are 100% self-sufficient. This is of great interest in many other parts of the world, so that we have many international guests in our New Energies Forum in Feldheim who wish to learn more about our energy concept.

We are proud of this!

If you are interested in Feldheim, we will be pleased to welcome you there!

General information can be found at **www.nef-feldheim.de**.

Our guests in 2018 (excerpt)

10 January	Japanese Embassy
25 January	German WindEnergy Association on the Future of the Lignite Region
9 February	Governors of the Argentinian province of Entre Ríos
1 March	ZDF TV shooting for Planet Erde
16 April	Conference attendees of the Berlin Energy Transition Dialogue (BETD)
25 April	ZDF tivi TV shooting for KiKA
30 April	Foreign Office
13 June	40 mayors from Poland
15 June	Open Day for Global Wind Day / TV shooting by ZDF
3 July	Austrian Consulate General
4 July	Shooting by RTV Holland

INDUSTRY GET-TOGETHER WITH VOLLEYBALL

EQ meets **friends**

On 22 June, Energiequelle hosted its annual beach volleyball tournament. At the firm's main location of Kallinchen, right on the beautiful Motzen Lake, customers, partners and suppliers of our company once again came together for a round of exciting matches. For the second consecutive year, GE Wind Energy's team managed to beat our Energiequelle team "EQ Beach". The day was seen out with a wonderful grill party, during which views were exchanged on all possible topics, above and beyond our everyday business.

Thank you to all participants for taking part and for the pleasant afternoon and evening company!

Our finalist team "EQ Beach":
André Pasemann, Nancy Schulz, Lars Schiller and Andreas Wendrock (from left)

WindEnergy Hamburg
The global on & offshore expo

ENERGIE QUELLE CUP

25 TO 28 SEPTEMBER 2018

You too can win at the **WindEnergy Hamburg**

This year we are again represented at the WindEnergy in Hamburg.
We will be pleased to welcome you in **Hall A1, Booth 232**!

Just like last time, we invite you to compete in the great Energiequelle Cup.
At the **"Hot Wire"**, you can win electricity for a whole year (max. 3,000 kWh).

We look forward to your visit!

If you would like an entrance ticket for the trade fair, please contact Susanne Tauke at:
kundenmagazin@energiequelle.de

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ENERGIEQUELLE

We are your energy.
With a future.

LEGAL

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