Greeting
Dr. Heinrich Bottermann
20. April 2016

On the occasion of the Workshop:
"Superconducting Generators: A Fresh Breeze in Renewables"

Ladies and gentlemen,
Honored experts from science, industry and private research facilities:

A warm welcome to all of you, welcome to Osnabruceck and the Center for Environmental Communication of the DBU. We wish you all a pleasant stay in Osnabruceck and a very informative meeting.

Today we will talk about the application of superconductors. I consider this one of the most promising topics in the fields of material sciences and energy technology. Superconductors are widely seen as one of the key technologies for the 21st century. Few other technologies have a comparable potential in saving energy and materials.

The fact that we are dealing today with the use of superconductors in wind and hydropower is a result of the revolutionary work of Bednartz and Müller in the IBM laboratory in the Switzerland village of Rüschlikon, 30 years ago.

High temperature superconductors are a very interesting example of the manner in which innovations come about. When analysing the activities of the IBM research institute in Rüschlikon, the research liberalism in particular is very obvious. The frequent changes in the staff within the project teams, as well as the thematic variety, are characteristic. At the same time, however, a strict goal orientation is recognizable. The company steers its research activities towards marketable products and procedures to gain competitive advantages. We think that this interplay between freedom in the research and consistent orientation towards marketable products and procedures is the recipe for success for many pioneering inventions and innovations. We support comparable processes, in which marketable innovation originates through cooperation between research and economy.

I would like to emphasize that this workshop should not be a one-sided promotion effort for superconductors.

On the one hand the workshop should inform experts from the renewables industry about the current state of the related research and development. On the other hand, we hope for a critically constructive discussion about the conditions under which the use of superconductors appears economically viable in the field of renewable energy.

As Albert Einstein said:
"An evening on which all those present are in complete agreement is a lost evening."
We therefore want to advance the discourse of the experts in the early phase of the commercialization of this technology.

Even in the area of the energy technology, we face big challenges with the question of climate protection and the continually growing competition for limited resources. Only innovation which thoroughly takes into account all of these requirements will help us progress further in attaining our goals.
Allow me to say a few words about the Deutsche Bundesstiftung Umwelt (DBU) – the German Federal Environmental Foundation.

The DBU was created in 1990 by the federal government as a foundation under private law. Since 1991, we have promoted outstanding and innovative projects in environmental technology, environmental research, nature conservation, environmental communication, and cultural heritage protection.

With an endowment capital sum of two billion euros, we are one of the largest environmental foundations in Europe.

Since 1993, we have presented the German Environment Award, endowed with five hundred thousand euros, every year. Two people usually share this award, which is presented by the German President.

In 2009 superconductor technology moved into the focus of public attention. In that year Petra Bültmann-Steffin and Carsten Bührer were honoured with the Environmental Award of the DBU for their joint development of low energy induction heaters now being used in metalworking industry. For the first time, superconductors had been used in an industrial manufacturing facility and were able to demonstrate their potential.

Therefore I am really pleased that Carsten Bührer will accompany today’s workshop and tell us about his current studies.

The example of the induction heater shows in a special way the importance of creative scientists such as Bednartz and Müller getting together with bold and visionary entrepreneurs at an early stage. This is the only way innovation can be put into practice quickly.

Toward this end, we want to make a contribution with our communications centre ZUK. As a DBU subsidiary, the ZUK is in charge of:

- communicating and spreading the results of our projects,
- promoting the transfer of environmental knowledge,
- organizing conferences, meetings, seminars and exhibitions and
- coordinating all PR work of the DBU.

The work of the DBU is chaired by a Board of Trustees. It consists of 16 members, who are appointed by the Federal Government every five years. The board consists of representatives from business, politics, research and other important social groups.

On the basis of the foundation’s goals and mission statement, the DBU supports and nurtures innovative, exemplary and solution-oriented model projects for the protection of the environment. In keeping with the concept of Planetary Boundaries and the Sustainable Development Goals adopted by the United Nations in 2015, the DBU pursues these goals in their ecological, economic, social and cultural aspects, with special consideration of the small- and medium-sized business sphere. In this sense, environmental protection can also be understood as health protection.

The DBU’s support offerings are thus oriented towards interdisciplinary funding topics, which are constantly being adapted to the changing requirements of environmental protection. This also opens up the possibility, by supporting a wide range of research areas, of taking up the innovative ideas of project partners, and encouraging innovative environmental protection initiatives with special significance, which deal with areas outside the narrowly-defined support subjects.
The DBU wants to promote new approaches to solving current environmental problems, and we are convinced that these complex problems can only be brought under control through approaches which integrate interdisciplinary and systemic action with a practical social basis. DBU support programs are intended to set accents, and thus consistently integrate in their spectrum of support areas the statutory fields of endeavor. The DBU sees the crucial challenges above all in the areas of climate change, biodiversity loss, unsustainable consumption of resources, and harmful emissions. We are convinced that, in the interest of an environment that continues to be liveable for future generations within Planetary Boundaries, it is important to address these challenges and formulate goals which are pursued independently of current economic or political amplitudes (for example, intensifying the energy transition in spite of cheap oil or cheaper coal). That is our responsibility.

With this responsibility in mind, we have promoted over 9,000 projects since 1991. More than 1.6 billion euros of our funds have been invested. We finance projects only proportionately. That means, our partners must finance half of the project costs themselves. Altogether, we have supported environmental protection to the tune of more than three billion euros.

Prerequisites for project support in all of these areas are:

- that proposals involve innovative projects that clearly improve on the current state of the technology,
- that the project results are transferable, that they are not only solutions for individual cases but have model character for a whole industry and
- that the projects contribute to environmental protection beyond the current state of the technology.

Beyond our project support and the award of the Environmental Prize, our scholarship program might be of interest for you. Each year, we promote the work of 60 young scientists within Germany and internationally, including young people from Poland, the Baltic States and Bulgaria.

Further information about the DBU, its projects and activities can be found on our website.

Above all, I would like to thank:

- the Bundesverband Windenergie,
- the Fördergesellschaft Windenergie,
- the Industrieverband Supraleitung and Conectus
- for their support with the preparation of the conference, and
- Jürgen Kellers from the company Eco5 and my colleague Dirk Schötz, who is the head of the division "Climate Protection and Energy", for the idea of holding this conference and for its preparation.

I want you to feel comfortable in our conference center and to have the opportunity to create new and fruitful contacts.

Thank you for your attention.
Dr. Heinrich Bottermann worked from 1985 to 1990 as a tenured vet in the Borken. From 1990 to 1993 he was Head of Unit of the Senator of Health in Bremen before he was from 1993 to 1995 Head of Unit in the Federal Ministry of Health. He then worked as Head of Unit for animal welfare and veterinary medicines in the Department of Environment and Conservation, Agriculture and Consumer Protection of North Rhine-Westphalia (MUNLV, 1995-2007), director of the State Office of Food Economics and hunting NRW (2003 to 2006) and Deputy Head of Department of Agriculture in MUNLV.

From 1 August 2007 to 30 September 2013 Bottermann was President of the State Agency for Nature, Environment and Consumer Protection of North Rhine-Westphalia, an agency with approximately 1,400 employees. Since October 2013 he is responsible Secretary General of the German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt DBU). His tasks are to represent the Board in its current business as well as the management of the office.