vgbe Congress 2022: Opening address

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Abstract

Aktuelle Herausforderungen für den Energiesektor

Die Probleme und Herausforderungen für den Energiesektor sind in diesem Jahr nicht kleiner geworden, sondern haben sich dramatisch verändert. Zum Abschluss meiner letztjährigen Eröffnungsrede habe ich betont, dass wir die Herausforderungen des zukünftigen Energiesystems meistern können – wir, die Industrie mit geeigneten technischen Lösungen für erneuerbare, flexible und disponible Erzeugung sowie verschiedene Technologien zur Speicherung, aber auch mit dem Appell an die Politik für einen angemessenen regulatorischen Rahmen insbesondere für den Ausbau der erneuerbaren Energien.

Der Einmarsch Russlands in die Ukraine hat den Schwerpunkt der Energieerzeugung und Energieversorgung verändert.

Wir sind uns heute bewusst, dass eine sichere, bezahlbare und nachhaltige Energieversorgung eine der tragenden Säulen für unsere Wirtschaft und für unsere Gesellschaft – letztlich für die Menschen – ist.

Issues and challenges for the Energy Sector

The issues and challenges for the energy sector have not declined this year but they have dramatically changed. When I finished last year´s opening, I emphasised that we can meet the challenges of the future energy system – we, the industry with appropriate technical solutions for renewable, flexible and dispatchable generation as well as various technologies for storage, but also with the appeal to politics for an appropriate regulatory framework especially for the expansion of renewables.

Russia's invasion into Ukraine has changed the main focus of energy generation and energy supply.

Today, we are aware, that a secure, affordable and sustainable energy supply is one of the core pillars of our economy and for our society – finally, for the people.

In recent years, the aspect of sustainability and climate protection had become the dominant factor in energy policy for good reasons.

Economic affordability seemed within reach and security of supply was postulated as a given. Sometimes it seemed to us, that we have forgotten the early 1970s as well as the early 1980s, when also politics and war resulted in the first and second oil supply and prices crises.

In many countries all over Europe natural gas was the fuel of choice for power generation to balance the fluctuating renewables and to pave the way to a green hydrogen economy. The increasing energy dependency on Russia for Europe was accepted because the availability of cheap natural gas from Russia and reliability of its supply was not challenged. Latest in February of this year we had all to learn the hard way that we made some wrong assumptions.

Today, we want to discuss this topic under the headline "Can we achieve security of supply and decarbonization with the existing regulation?" with high-ranking guests.

Developments on the energy markets

Ladies and gentlemen, if you had a look at the wholesale energy prices at the end of August, you could hardly believe it: The electricity price for delivery in 2023 was about 1,000 EUR/MWh. The gas price was over 300 Euro/MWh. These are record prices!

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On the occasion of the vgbe Congress 2022, 14 to 15 September 2022, Antwerp, Belgium, owing to circumstances the text of the Opening Speech was presented by Hubertus Altmann, Vice-Chairman of the vgbe Board of Directors.

The price correction happened very quickly: In the following week, the market price for electricity fell to around 500 EUR/MWh. One reason for cooling off of the energy markets was the level of gas storage facilities, which in Germany is well above plan at over 84 %. This is because the market price of electricity apparently follows the price decline on the gas market.

Calming words were badly needed: many industry associations are urgently warning of energy prices threatening their existence. Residential customers have legitimate concerns about how they are likely to pay their electricity and gas bills. And don't forget the numerous energy companies: Price jumps such as those at the end of August, mean that the liquidity requirements for energy companies could increase by billions of euros in a short period of time!

As a result of the electricity price development,

- the BDI is demanding that electricity generation be diversified as far as possible this winter. For the time being, more coal and nuclear power must be used in order to dampen prices by increasing electricity supply.
- the government wants to relief residential customers due to high energy prices, e.g. by introducing a social heating cost subsidy or a cap on electricity prices.
- there are discussions in politics and society about how to deal with so-called "war winners", e.g. by cutting off excess profits on the energy markets through a revenue cap.
- there should also be a change in the market design. The merit order model for determining the market price is to be revised. There have been calls to remove gas-fired power plants entirely from the merit order list. Other European countries have already introduced price caps in the energy markets.

Energy: Affordability, security of supply and sustainability

Ladies and gentlemen, the affordability of energy is a very recent example of numerous challenges in the energy industry, but also in our society.

During the corona pandemic we realized how important a functioning healthcare system, a stable internet and secure energy supply is.

Russia's war against Ukraine represents a turning point for the energy supply. The fatal dependence on Russian fossil fuels led us into this deep energy crisis. Until recently, more than 55 % of the natural gas required in Germany came from Russia. These quantities now have to be replaced in the short term. Because the industry is significantly affected when gas supplies are restricted.

The EU gas emergency plan initially provides that every EU country voluntarily saves gas in the coming winter. EU-wide it should be 15 %, in Germany 20 %. In the current energy crisis, it is crucial to make both industry and consumers understand the importance of energy savings. We did well in Germany in the first half of the year, because the demand for gas fell compared to the previous year, even adjusted for temperature.

As if dealing with the shortage of natural gas wasn't challenging enough, a shortage of electricity is also looming. The problems of the nuclear power plants in France, the lack of melt water for the operation of run-of-river power plants and coal transport problems due to limited inland shipping due to the drought.

In view of skyrocketing energy prices, financial reliefs for households and a fair "Gasumlage", practically nobody is talking about climate protection anymore. But you should.

The Rhine has so little water that coal ships can only carry a small load. In the current situation, where more coal-fired power plants are being used, we have to deal with logistical challenges. This drought is definitely a wake-up call for more climate protection.

Ladies and gentlemen, where do we currently stand in terms of climate protection and the expansion of renewable energies?

Based on the Paris climate protection agreement, Germany has set itself the goal of achieving greenhouse gas neutrality by 2045. The energy sector will make a significant contribution to this. On the one hand,

Economics Minister Robert Habeck also announced that in the short term we will need more coal-fired power plants to save on gas. Nevertheless, Germany will phase out coal by 2038 at the latest. On the other hand, there is the massive expansion of renewable energies. According to the government, at least 80 % of gross electricity consumption in Germany should be covered by renewable energies by 2030. We are currently at around 42 %, i.e. we have to step up enormously from now on!

Despite numerous new laws, there are still problems in the federal states when it comes to accelerating the expansion of renewables. The biggest problem is the lack of staff in authorities and courts. We have a problem of implementation!

Ladies and gentlemen, affordability, security of supply and sustainability. Does that sound familiar to you? Of course, these are the well-known goals in the energy industry. We are expected to do our best to align these goals ... and there are encouraging positive signs!

In Germany, we are well on the way to significantly reducing our dependency on Russian fossil fuels: the import share of crude oil from Russia was reduced from 35 % to around 12 %. The share of Russian coal has fallen from around 50 % to 0 %. The share of Russian gas deliveries has been reduced from 55 % at the beginning of the year to around 9 %. Instead, natural gas from Norway and the Netherlands and LNG imports are to be significantly increased in the short term. This ensures more diversification of our natural gas volumes.

The floating LNG terminals in Wilhelmshaven and Brunsbüttel will provide gas this year. In the medium term, up to 33 billion cubic meters per year should be able to be landed via the four planned LNG terminals. To put this into context: in the past, Russia had supplied 55 billion out of 90 billion cubic meters required per year. So there is still a gap. From 2026, fixed LNG terminals will

follow, each with a capacity of up to 8 billion cubic meters.

In addition, the European gas storage facilities will be filled faster than expected as a precaution for the coming winter. The European storage operators report a storage level of 80 %. This means that the target set for November 1st has been reached ahead of schedule. Germany is at 84 %. Despite the good news, it is essential that our efforts to save energy continue to avoid winter gas shortages.

According to electricity, we will reactivate coal-fired power plants from the reserve in order to replace electricity from gas-fired power units. The results of the second "Stresstest" suggest that at least two of the three remaining nuclear power plants in Germany should continue operation. It would take some pressure off electricity prices on the wholesale market. This in turn means a relief for households and industry.

Expansion of renewable energies

Ladies and gentlemen, every new kilowatt hour from renewable energies makes us a little less dependent on imports of fossil fuels. So let's take a look at what we achieved so far: In Germany, the installed capacity for onshore wind is currently around 56 GW. There are signs of increased annual growth. Around 1,700 MW were added in 2021. The capacity of offshore wind turbines is currently around 7.5 GW. After years of standstill, there should be a next auction next year. Photovoltaics remains the driving force behind renewable energies. In 2021, almost 6 GW increased to a total of 60 GW.

In order to accelerate the expansion of renewable energies, the government decided on the so-called "Easter package" in July. The expansion targets for renewables are very ambitious. Photovoltaics should become the dominant renewable technology in Germany in 2030 with 215 GW. This will only happen if we triple our annual growth from today. We will have to more than quadruple the expansion of onshore wind turbines each year. And that immediately. With offshore wind, we are talking about a tripling of the output in 2030 compared to today.

A central message in the "Easter package" is the general classification of renewable energies as "outstanding public interest". The setting of binding area targets for onshore wind energy for the federal states is also of importance: At least 2 % of the state area will be required for this.

The duration of planning and approval procedures should be halved. Because it cannot be that we need up to 6 years for the approval of an onshore wind farm.

This package contains many more important aspects for an accelerated expansion of renewables. The regulations presented bring us a big step forward. It is now important that the guidelines are implemented consistently.

Ladies and gentlemen, the war in Ukraine makes it clear that we have to make ourselves independent of fossil energy imports faster than we thought. We should take this opportunity to do more climate protection, even if we need more gas in the short term. For this, we need responsibility and lean procedures at all government levels for an ambitious expansion of renewables.

Technology as a key, this is vgbe!

As you can see there is as many challenges facing our industry.

Finally, all challenges and solutions of future energy supply end up with the topic of "technology" and its implementation.

Technology, this is vgbe!

Allow me at this point to present what the vgbe energy has achieved for its members, virtually in the course of the first year of its new name, with 103 years of tradition but always up to date with today´s developments.

Oliver Then will then present in detail in his later contribution how we are setting up vgbe energy for the future with experience and qualified expertise in order to further develop the successful model of vgbe energy for our members.

We have greatly expanded our activities around the topic of digitalisation in the individual technologies. In addition to events on specific digitalisation projects and IT security, we have developed digitalisation barometers for wind and hydro power and successfully launched a new database for the performance analysis of wind turbines. The vgbe Power Plant Statistics Performance Indicators database called "KISSY" is the well-known tool with more than 50 years of experience to deal efficiently with strategic questions of plant availability and unavailability, also in the markets.

In our research projects, we have devoted attention to the topic of "digital twins" in the thermal sector and in wind power, for example.

The EU Taxonomy Regulation, adopted last year and supplemented this year to include natural gas and nuclear power, is intended to provide a framework to facilitate sustainable investments. For the hydropower sector, the criteria are not clear and specific enough to be applied and implemented immediately. vgbe has therefore initiated an in-depth discussion across the industry and published a vgbe Interpretation Note that proposes definitions and delimitations for numerous terms and provides guidance on how to interpret the taxonomy criteria.

For the area of gas-fired plants, we have recently finished a detailed definition of terms across associations on the topic of "H2-readiness", i.e. preparing for the future use of hydrogen. The vgbe Position Paper "H2-readiness" is available for download on vgbe´s website. We are not only giving hydrogen more and more space in numerous different committees; in addition, the creation of an internal working group "H2@vgbe" at the vgbe office is under was to provide the framework, ensure the necessary interdisciplinary exchange of information and take the lead in developing projects to accelerate the market ramp-up of hydrogen.

With new technology, we make the facilities of today and tomorrow more effective, more reliable and safer. With new technology or its further development, we also gain new members of vgbe. Here we have been able to transfer a large body of established, proven know-how, some of which has been developed at vgbe over decades, to the new technologies.

This includes, for example, our two designation systems KKS – Power Plant Designation System, and RDSPP® – Reference Designation System for Power Plants. We have continued the use of RDS-PP in wind energy and published the update of the 2014-edition of the wind standard. After all, a meaningful digitalisation of energy systems, be it in closed loop and open loop control technology, asset management or even digital twinning, is not even possible without prior systematic plant documentation, as with KKS and RDS-PP. I also like to mention, that other industries are interested in our systematic and reliable approach. On the basis of our taxonomy guidelines an ecologic on-shore fish farm project in Iceland and a strategic fuel storage project in Switzerland have been designated with RDS-PP.

In addition, there is attention to a broad range of special technical issues in all fields of technology as well as activities in our focal areas: the well-known topic of plant flexibilisation, which we continued to pursue last year despite the corona-virus within the framework of the German energy partnerships in India, Turkey and South Africa, and the new topic of the reuse of (coal-fired) power plant sites, which we not only approached within the framework of our large pan-European research project RECPP, but also pursued with other diverse activities.

Information on this and much more can be found in the "vgbe Highlights 2021" – the printed edition as well as the electronic format in the web. This publication is the successor oh the annual report. The square format shows visually the start into a new era and the contents focus on topics of the future and with benefits for the vgbe members.

With this in mind: be energized, be inspired, be connected, be informed