

Inside Information

CEZ backs innovations and modern technologies

CEZ informed today about its intention to start new investments in new technologies enabling production, distribution and consumption of electric power in more effective and economic way.

“Several generations of great engineers, starting with Krizik up to Temelín constructors, gave us an excellent power structure due to which CEZ has been thriving nowadays. It is our duty to meet challenges and use the opportunities offered to us through new technologies so that future generations could remember us in the best sense too“, said Martin Roman, the CEO and the Chairman of the Board of Directors of CEZ. After that he introduced “FutureMotion – the Power of tomorrow“, the strategic initiative of which objective is to secure a long-term stability and perspective to CEZ and Czech power industry, to contribute to a comfortable and safe life of people, to burden environment as least as possible and to concurrently support orientation of the Czech Republic towards knowledge economics and herewith towards competitive advantage of the republic within international competition.

CEZ is going to addict to four main intentions: support of science, research and implementation of new technologies into practice, support of smaller power sources which will complement the traditional large power stations, implementation of intelligent solutions that will extend the possibilities of people to decide on their way of power consumption and support to electric-powered vehicles.

Support of science, research and implementation of new technologies

The CEZ Group prepares for utilisation of new technologies which are in an advanced development stage but have not reached the stage of commercial use yet. Technologies for electric power storage can be an example. One of them is air injection underground and its compression in geological basement. Other possibility of electric power storage are batteries nowadays serving only as a marginal reserve power source. If their capacity is increased significantly, they can become an important stabilisation element of the power system and serve a similar role like present pump storage power stations.

The CEZ Group considers implementation of modern technologies also for the existing production sources. The objective is to make the production process as effective as possible considering environment. Therefore in the area of nuclear sources CEZ has been carefully observing the research of generation IV reactors as well as the nuclear fusion and in the area of coal sources it has been interested in perspective technologies for collection and storage of CO₂.

New local sources of electric power

The CEZ Group will gradually build other power pillar – production of power in the place of its consumption increasing safety and reducing costs. It will concern completion of the existing (traditional) power industry with production of power in sources outside the main central grid of interconnected large sources. The aim is to increase efficiency, safety of supplies and to reduce power purchase costs. The role of cogeneration (simultaneous generation of electric power and heat) and trigeneration (simultaneous generation of electric power, heat and cold) will strengthen significantly, including production in sources with a small capacity (small cogeneration).

Using these opportunities CEZ would like to focus more on businesses and industrial sphere. It is prepared to closely cooperate with the businesses and to offer them complex solutions of power economics in various business models. One of the cooperation methods can be for example an offer to a business having own heating power station and still purchasing electric power from the grid for reconstruction of the heat source (expiring boiler) to heat and electric power cogeneration, possibly also cold. The business can supply excess of electric power to grid.

The CEZ Group has been developing a plan for increase of the share of production from innovative renewable sources using for example the geothermal power or modern photovoltaic technologies. In a pilot project CEZ has already been testing the use of geothermal power in Liberec. Biomass will probably play a significant role too. It has been already coped with in terms of technology (combustion part, possibly processing) but it is necessary to focus on its specific growing. These are innovative procedures in the area of agriculture next to the traditional food production and gaining experience with new types of power crops (herbs and fast-growing species).

Smart grid

Computer controlled consumption has already been providing a significantly higher comfort to customers (citizens) and it reduces their costs. Large appliances, such as for example a washing machine, switch on at the moment of available night current or cheaper electric power. Such impulses to build Smart Grid will increase. The grid will be flexible, smart, better accessible to new methods of control etc.

Other advanced technologies that have already been implemented around the world, can be a part of the Smart Grid. One of them is Smart Metering in the AMM system. It is a bidirectional communication system between the centre and measuring points, which can bring wider spectrum of tariffs the customer can use effectively. It also enables integration of other media consumption gauges, i.e. water, gas and heat.

Support of electromobility

One of the features of future change to power industry will be “electrification” of an automobile transport. The electromobility concept offers a complex solution of support to development of electric-powered vehicles, including the necessary infrastructure. Manufacturers of batteries, manufacturers of electric-powered vehicles, users, cities and the state (providing advantages for development of electric-powered vehicles) and electric power distributors are key players in the concept.

“New technologies are an opportunity as well as a challenge. Their implementation will be complicated and long-term. It is an area where results can be seen not in months but in years. However, our chances to succeed are not small. We are active in a country with an excellent industrial and power tradition, we have experienced professionals and enthusiastic employees. We are a strong company with the possibilities to invest in our growth. If we use all this correctly, we shall vindicate the position of a leader also in the area of innovations and we shall affect the future of power industry in favour of better life of people and competitiveness of the Czech Republic“, Martin Roman added.