



Press release, 9 August 2018

## Flexible Thermal Power Plants as Back-bone for the Energy Transition

*Open Discussion Forum - Prague, 25 September 2018*

**The share of renewable energy sources (RES) has constantly grown over the past years and is still increasing rapidly to achieve the global targets of CO<sub>2</sub> reduction. However, due to the intermittent nature of RES, flexible backup power is needed to ensure the stability of the grid. This shifts the role of existing fossil power plants from providing base-load power to generating fluctuating back-up power, implying new requirements for flexibility of existing plants which need to be retrofitted to make the load changes possible.**

The European funded and manufacturer-led research projects FLEXTURBINE and TURBO-REFLEX have investigated cost-efficient and promising methods to make existing power plants meet this demand. On 25 September 2018, the project partners will present their results primarily to the public in Prague.

### **The critical supporting role of thermal power plants for the energy transition**

To meet the needs arising from the intermittent nature of renewable energies, either large energy storage capacity of renewable energy or back-up energy capacity to fill the gap using more flexible conventional power plants is necessary. As large-scale energy storage technologies are not expected to be available within the next 15 years at least, the only option currently available in the next two decades are conventional power plants to provide flexible back-up energy capacity.

The European Commission funded FLEXTURBINE and TURBO-REFLEX projects are developing innovative and cost-effective solutions that will make future and existing thermal power plants significantly more flexible. Their innovations strongly advance state-of-the-art thermal power plant technology to allow flexible rapid load changes, which are required enable higher share of sustainable renewable energy in the European power grid. The projects focus on individual technology component improvements as well as new sensor and monitoring technologies that allow condition-based maintenance and repair as well as optimised operation.



The FLEX Concept: Enhanced power plant analytics & monitoring and component retrofits for more flexible and efficient operation.

“Existing fossil fuel power plants will have to operate across the entire load range and should ideally be able to even operate in start-stop mode with full turndown and very fast re-start. Therefore, the most critical components of the system need to be made significantly more robust and allow for the retrofitting of these redesigned components into existing plants”, says FLEXTURBINE Project Coordinator Dr Luboš Prchlík (Doosan Škoda Power). “Over the past three years we were concentrating on enhanced power plant analytics & monitoring and component retrofits for more flexible and efficient operation of the plants. The results are highly promising, and I am looking forward to present and discuss them in Prague.”

### **Expected economic benefit of the FLEX innovations**

Through the solutions developed within the two projects, 10% of the installed fossil capacity could be retrofitted by 2030. With regards to economic benefits, the solutions developed within FLEXTURBINE and TURBO-REFLEX projects have the potential for an annual cost reduction of 100 million EUR at the European level by reducing variable operation and maintenance costs, reducing minimum load, decreasing start-up time and ramp rate, and reducing fuel costs as the plants run for a shorter period before they actually produce energy.

The Open Discussion Forum taking place in Prague will give an overview about the FLEXTURBINE and TURBO-REFLEX projects and their initial results. There will be a panel discussion with experts and top managers in the field on advanced turbine technologies and how they can contribute to the transition process towards a future low carbon energy. TURBO-REFLEX coordinator Dr Christian Aalborg (General Electrics) about the event: “We see this conference as a great chance to not only discuss the future role of thermal power plants but to also look at related challenges and opportunities as well as potential political, economic and scientific implications which will arise from that.”

The FLEXTURBINE and TURBO-REFLEX projects have been supported by the European Union with a funding of 14,5 million Euros.

### **Open Discussion Forum and Panel Discussion**

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Tuesday, 25 September, 10:00 a.m. – 1:30 p.m.

Tower Park Prague

Mahlerovy sady 1

Prague, Czech Republic

*Confirmed participants:*

- **Ján Štuller** (Czech Government Special Envoy for Nuclear Energy)
- **Jiří Šmondrk** (CEO Doosan Škoda Power)
- **Michael Ladwig** (President EU Turbines)
- **Oliver Then** (Executive Managing Director VGB PowerTech)
- **Ivan Dudurych** (Chartered Consultant Engineer at EIRGRID)
- **Alexander Wiedermann** (Senior Manager MAN Diesel & Turbo)

### **Conference Organisation:**

FLEXTURBINE Project Office / ARTTIC

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**More information available at [www.flex-energy.eu](http://www.flex-energy.eu)**