



# CHP

## C-Energy, Czech Republic



Who: C-Energy  
What: 4 x B35:40V20  
When: 2015  
Where: Tabór/Sezimovo Ústí  
Czech Republic

### Grid support power plant powered by Rolls-Royce engines

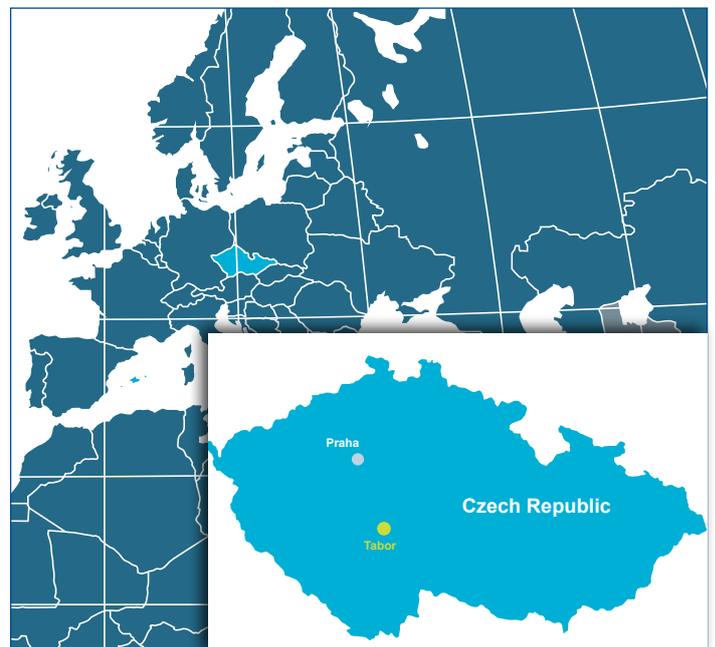
The first natural gas CHP plant in the region of Tabór/Sezimovo Ústí in Czech Republic is based on four powerful medium-speed gas engines of Rolls-Royce. They deliver almost 37 MW of electricity and heat for local companies and homes. Designed and manufactured in the historical Bergen Engines facility in Norway the engines make an important contribution to a step forward towards a green future for the region and country.

What do the cities Chittagong in Bangladesh, Ressano Garcia in Mozambique and Tabor/Sezimovo Ústí in the Czech Republic have in common? They all have power generation plants which rely on Rolls-Royce 20-cylinder B35:40 natural gas engines. The today's B-gas engine generation is based on a long and successful technology development within Bergen Engines. The tradition of the company dates back to 1855 when the company was founded as Bergen Mekaniske Verksted (BMV). In 1946 they started to build diesel engines and in 1984 the company began to focus also on gas engine technology. Until today the company sold more than 6,600 diesel and gas engines worldwide of which more than 4,000 are still in operation. Nowadays Bergen Engines is part of Rolls-Royce Power Systems within the Land & Sea division of Rolls-Royce, supplying medium-speed gas and liquid fuel engines for a broad range of power generation and marine applications.

#### A green step forward

The CHP in Tabór/Sezimovo Ústí, roughly 100 kilometers southeast of the capital Prague, officially went into operation at the beginning of January 2015.

“This is the first natural gas power plant based on medium-speed gas engines in the region to go into operation supplying heat and power to the local grid. This project is an additional step forward towards a green future for our region and country,” said Libor Doležal, CEO at plant operator C-Energy. Until now, electricity and heat in the region were predominantly generated by coal-fired plants. The new plant was designed and built by the Czech prime contractor PSG International.





## The Rolls-Royce gensets in close-up

After the signing of the contract in August 2013 the production time of the B35:40 generator sets took just five and a half months to the dispatch of the engines in January 2014. On 29 January a cargo ship moored directly at the docking facility of Bergen Engines – then the generator sets were shipped towards the plant in Czech Republic. The four generator sets with 20-cylinder B35:40 gas engines each weights 137 tonnes. They are 13,2 meter long and 4,7 meter high and consists of around 3,500 parts. “CHP plants with Rolls-Royce natural gas engines are a reliable alternative to coal-based plants and are significantly more environmentally friendly. Our medium-speed engines enable C-Energy to operate the plant efficiently, both in terms of cost and time,” explained Dr. Michael Haidinger, CSO at Rolls-Royce Power Systems. Each engine delivers 9,174 kW and can ramp up to full power within five minutes which gives the plant access to the amount of power and heat needed within just a short space of time.

## Applicable engines for flexible demands

The gensets based on medium-speed engines for the power plant are flexibly designed for different operating modes. They can be used to generate base-load or peak power or can operate in combined cycle. The heat from the engines can be used to generate steam in the heat recovery steam generators. The steam is supplied to industrial customers for their technological needs. The power plant can also be used for district heating by utilizing hot water from the engines.



B35:40V20 ready for shipment to the site



In early 2014 the four gensets were installed at the construction site in Tabor/Sezimovo Ústí

## Rolls-Royce – part of the process

During the whole development phase Rolls-Royce was part of the process. “After the engines arrived at site in February 2014 we did the commissioning of the plant. Our engines had to pass a whole series of certification tests to enable the customer to export the power to the grid. And they did it successfully”, says Steve Edmanson, Project Manager of Bergen Engines. Since January 2015 the plant with the Rolls-Royce gas engines met the requirements of the contract C-Energy signed with the grid operator. A service agreement between C-Energy and Bergen Engines was concluded as well. It covers scheduled maintenance, spare parts and technical support.

Bergen Engines is a subsidiary of Rolls-Royce Power Systems, supplying medium-speed gas and liquid fuel engines for a broad range of power generation applications. Bergen Engines supports your business with reliable power solutions from 1,400 kW to 9,600 kW per engine, and complete power systems that can deliver an output of beyond 200 MWe.

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