

Resource Efficiency – A key challenge for the Europe’s die casting Industry

In the face of increasing climate change the European Union has set itself ambitious targets for climate protection and energy savings and has seen increasing efforts to implement them in recent years. High-pressure die casting is a process which is very robust, highly productive and therefore also highly energy intensive, which is why actions decided at EU level to protect the climate are having a big impact on foundries.

Aside from the reduction of greenhouse gas emissions and the increasing use of renewables, the EU has decided to bring down primary energy usage by 20% by the year 2020. An ambitious energy savings target to cut primary energy usage in half has been formulated for the subsequent period extending to the year 2050. To meet these targets the member states of the EU have

their energy costs do not exceed the critical threshold of at least 14% of the company's GVA (Gross Value Added). EBIT margins in the foundry industry are modest, but are bound to be dented considerably more by this additional burden.

Tax refunds

Foundries can apply for tax relief for electrical power and gas which is used for operating purposes and in particular for thermal processes. Primarily such tax refunds are available under § 9a and § 10a of the German Electricity Taxation Act (StromStG) and under § 55 of the German Energy Taxation Act (EnergieStG). In order to successfully claim these refunds, companies have to give proof of their specific consumption by metering it or they need to have an Energy Management System according to DIN EN 50001 in place. Alternatively, they need to have performed an Energy Audit according to DIN EN 16247. On top of this many end users of casting products have introduced Corporate Sustainability Programmes and prescribe energy efficiency to their suppliers as part of their procurement practices. In response an increasing number of foundries are now introducing Energy Management Systems according to DIN EN 50001 and energy efficiency as such is gaining ever more ground in day-to-day production.

Targeted sets of measures

In general, the energy and resource efficiency of existing die casting operations cannot be broken down to the level of individual processes, units or production processes, which is why a comprehensive assessment is needed and improvement programmes should be implemented in a targeted manner. As a system supplier, the Frech Group offer high-pressure die casting machines as well as peripheral equipment and even turn-key foundry systems and have extensive technical expertise in all aspects of castings production. This makes Frech the ideal partner for production-focused consultation and in the implementation of projects aimed at optimising energy and resource efficiency in the long term.



developed and adopted a range of different climate policy instruments at the national level which are now entering the process of implementation.

Added costs for the diecasting industry

In view of the necessity to safeguard the international competitiveness of the German Industry, the German Renewable Energies Act, or EEG in brief, is highly controversial. The renewables reallocation charge payable under this law clearly impacts the cost of electrical energy. The resulting increase in costs has become ever more important for the German die casting industry in recent years. Even though high-pressure die casting is a highly energy-intensive process, many companies cannot apply for an exemption from or reduction of the reallocation charge payable under §41 subs. 3 EEG, as

With eFacts, Frech would like to give you the opportunity every 6 months to better inform yourself in the area of energy and resource efficiency. This will give you ideas for your own products and services, as well as implementation examples.

Would you like to tell us about your own success story, or do you have questions or ideas? In that case, we look forward to hearing from you.

Frech as project partner

The Division “Resource Management and Foundry Processes” will serve as project partner to foundries in Germany and abroad. A focal area of its work will be dedicated to developing technologies which help improve the energy efficiency of high-pressure die casting machines and peripherals up to entire die casting operations. Consultation, the installation of monitoring systems, data analysis as well as the planning and joint implementation of optimisation programmes are offered as services by the Frech Group.