



CASE PIDRE: PERFORMANCE UPGRADE IMPROVES POWER PLANT EFFICIENCY



“We needed to improve the energy efficiency and environmental performance of the plant. Wärtsilä was able to deliver what we needed.”

Manuel Martins,
Power Plant Manager, MoreTextile Group.



The power plant owned by MoreTextile Group needed their existing heavy fuel oil engine replaced with a gas engine. Wärtsilä was able to meet the customer’s needs by relocating a used gas engine and then upgrading the engine according to the needed requirements – all within the limits of the customer’s budget.

MoreTextile Group is the holding company of an entrepreneurial project created in 2011. This was a result of a private equity fund involving three of the most representative companies in home textiles, with almost a century of experience, in Portugal – Coelima, JMA and António Almeida & Filhos.

In 2013 the group presented a consolidated turnover of around 90 million Euros, of which more than 85 per cent came from export.

– MoreTextile is today one of the most important European industrial projects in

the home textiles sector. The company has approximately 1,300 employees and has a strong international presence in the markets of spinning, home textiles (that include bed linen and terry) and co-generation power, explains Manuel Martins.

The power plant, Pidre Energia – Produção e Gestão de Energia, produces power and thermal energy, i.e. steam and hot water for the textile factories. The plant was originally equipped with an HFO Sulzer ZA40 engine. Increasing fuel prices and more stringent environmental regulations, however, forced Pidre Energia to look for more energy efficient alternatives that would also produce fewer emissions.

– We did not have any problems with the diesel power plant. The main reasons for engine renewal were merely economic and environmental, says Manuel Martins.

ENGINE RELOCATION AND PERFORMANCE UPGRADE

Manuel Martin says that they have had a good relationship with Wärtsilä for several years, which made it easy to contact Wärtsilä in this matter. By a convenient coincidence, the facilities owned by a Wärtsilä customer in Portugal, which included a Wärtsilä12V34SG gas engine, had closed. Wärtsilä suggested that MoreTextile Group should purchase this power plant and have the engine performance upgraded to meet the output of the required 4 MW.



“The engine efficiency, electrical and thermal, improved by up to 20 per cent.”

— We made the decision based on the fact that Wärtsilä has a broad range of experience in projects of this type. The engine and the suitable equipment were subsequently relocated and installed at Pidre.

The 34SG gas engine upgrade had a direct effect on the overall plant operation efficiency and brought the customer several considerable benefits such as: reduced operational costs, improved operational flexibility, and less derating. Moreover, the engine efficiency (electrical and thermal) improved by up to 20 per cent.

During the performance upgrade of the engine, new types of pre-chambers and new camshafts with a Miller timing profile were installed, and the existing turbocharger was modified to the latest design.

— Wärtsilä’s solution was delivered according to our needs, technically as well as schedule wise. The project was a success and the Wärtsilä people performed their work with great expertise, bringing mutual benefits to our companies, says Manuel.

A PROJECT THAT SATISFIED ALL PARTIES

According to Manuel Martins, the project itself was a true challenge. There were obviously problems to be solved during the different phases of the project, but thanks to a successful co-operation between the two companies they always managed to find solutions.

— We are very satisfied with the solution that Wärtsilä delivered and installed, says Manuel and continues, In my opinion, the most important benefit that we have gained is the improved energy efficiency of the power plant. Energy efficiency is one of the most



Challenges	Solution	Benefits
<ul style="list-style-type: none"> – Replacing the customer’s existing Sulzer ZA40 engine (HFO) with a gas engine within a limited budget – Finding a reconditioned engine with a suitable power output 	<ul style="list-style-type: none"> – Offering the customer the opportunity to buy a used Wärtsilä 12V34SG gas engine – Upgrading the engine performance to fulfil the needed output (4 MW) – Relocating the engine and installing it in Pidre 	<ul style="list-style-type: none"> – Improved energy efficiency of the power plant and engine efficiency by almost 20 per cent – Reduced operational costs – Improved operational flexibility – Less derating

important challenges that our group faces today and this project is a step forward to overcoming this.

Manuel Martins hopes that European legislation, and Portuguese legislation in particular, will change in the near future in order to increase the number of similar co-generation projects. He believes that energy efficiency is the future for European industries, and that co-generation is one of the most important tools to use.

Manuel says that Wärtsilä has provided valuable post-project support. By applying a

complete performance upgrade, the power output of a 34SG engine can be increased by up to 10 per cent.

— Would I recommend an upgrade to other plant owners with similar needs and engines? Yes, of course, concludes Manuel Martins at MoreTextile Group.