



## CASE STUDY 01: CUTTING COSTS AND CO<sub>2</sub> AT A RUSSIAN STEEL GIANT

The giant steel plants that loom over Cherepovets in the north west of Russia have been privatised and partly modernised in recent years, but their glowing furnaces remain the city's lifblood, directly and indirectly employing over a third of its 300,000 people.

Owned by Severstal, one of the four companies that dominate Russia's steel sector, the mills churn out vast quantities of metal for the country's booming transport and construction sectors. However, they have a colossal appetite for energy, consuming six million megawatt-hours (MWh) of electricity annually, which is more than Moldova uses in a year. Aware that investment in energy efficiency measures could bring substantial savings, experts at the EBRD – who have been involved in four joint-venture modernisation projects with Severstal since 1996 – worked with Severstal's specialists to identify ways to cut energy consumption and reduce greenhouse gas emissions while saving money and improving power supply reliability.

“Severstal had always dealt with energy efficiency projects from a maintenance perspective, for example if a boiler broke down, but not with the specific intention of saving energy,” says the EBRD's Peter Hobson. “We showed them that an investment would have a payback of as little as one year for some of the projects and that this would be very attractive in the context of rising energy prices.”

In December 2007, after 18 months of preparations, a loan of €300 million was signed. This was a syndicated loan with €150 million from the EBRD and €150 million from other lenders. The syndication was increased by a further €300 million in early 2008, providing €600 million in loans – one of the biggest energy efficiency schemes ever funded by a development bank – for 11 different projects at Cherepovets over the next few years. These include the construction of a new high-efficiency combined cycle gas turbine; a system for collecting waste gases for use in power generation; and the modernisation of boilers and sub-stations. In addition, the company plans to implement an Energy Management System (EMS) to measure precisely how much energy is used throughout the plant and to set ongoing targets for cutting consumption.

The cumulative effect of these projects is expected to give a 10 per cent reduction in the amount of electricity used at Cherepovets and a 3.5 per cent cut in the amount of natural gas consumed. Furthermore, the plant will generate 75 per cent of its own electricity, up from the current level of 50 per cent, improving the reliability of the power supply. Carbon dioxide emissions, meanwhile, are expected to fall by around one million tonnes a year. It is predicted that by 2012 this will be equivalent to the annual domestic CO<sub>2</sub> emissions of a city the size of Manchester.