Alliance for American Manufacturing
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For Your Information

Environmental Regulation of the Chinese Steel Industry

Key Findings

This report presents the first comprehensive assessment of environmental regulation of the steel industry in China, and compares the Chinese regime with the system of environmental regulation that applies to the steel industry in the U.S. The report shows that China has significantly lower pollution control standards for the steel industry than the U.S., and that enforcement in China is also significantly weaker. The report also reviews the recent growth and structure of the Chinese steel industry, and assesses the steps now under consideration by the Chinese government to revise and expand its regulation of the steel industry.

Major findings include the following:

China is a dominant and fast-growing steelmaker.

Over the past decade, China has become by far the largest producer of steel in the world. China produced nearly 500 million tons of steel in 2007, more than four times the level it produced at the beginning of the decade. The U.S. produced 94 million tons in 2007. At current levels, China accounts for one-third of global steel production. Exports of steel by China to its trading partners have increased by 450% since 2000.

China's steel industry pollution: unhealthy for China and the world.

750,000 premature deaths in China are caused each year by air pollution, and air pollution damages reduce the overall gross domestic product in China by 3.8% per year. China is the largest source of both sulfur dioxide (SO2) and carbon dioxide (CO2) in the world. China's pollution is so severe that it can affect communities thousands of miles away. As one example, on smoggy days as much as 25% of the PM in the air over Los Angeles can be traced back to China.

The pollution footprint of China's steel far exceeds American steel.

Chinese steel producers emit significantly more pollution than their counterparts in the U.S. Chinese companies emit more than five times as much SO2 per ton of steel produced, almost 3 times as much nitrogen oxides (NOx), and almost 20 times as much particulate matter (PM) than the U.S. steel industry.

The carbon footprint of China's steel is cause for alarm.

China's steel industry now accounts for as much CO2 emissions as the rest of the global steel industry combined. The Chinese steel industry produces at least twice as much greenhouse gases per ton of steel as the U.S. domestic industry, but is probably more than 3 times as much.

China has exceptionally weak air and water pollution standards.
In the U.S., standards for particulate matter pollution in ironmaking and water pollution suspended solids are more than 6 times as stringent as in China. Even newly proposed, more stringent standards are still only about one fourth as strong as those faced by U.S. companies.

China's pollution permit system is often ineffective.
China relies on a discharge fee system to control air pollution from steel facilities, but the fees are too low to induce widespread compliance – it is much cheaper for facility operators to continue polluting at high levels, and simply pay the fee. The U.S., by contrast, relies on a permit system to enforce its pollution control standards. Under the U.S. permit system, levels of emissions, hours of operations, and uses of technology are spelled out in detail, and rigorously enforced. The U.S. also requires steel facilities to install continuous or periodic monitoring systems, which notify operators promptly whenever a problem arises. Many Chinese facilities do not use these technologies – even when they are installed, they are often turned off.

Environmental enforcement is weak and a low priority.
The enforcement arm of the Chinese Ministry of the Environment has just 45 officials and a budget of $600,000; in the U.S., EPA's enforcement bureau has a budget of $700 million. The number of inspectors at the provincial and local level is inadequate – there are just 50 employees available in Shanghai, for example, to inspect more than 20,000 factories. Provincial officers are also subjected to conflicting pressures by local governments that often favor economic growth over environmental enforcement. By contrast, total spending by state governments in the U.S. exceeded $12.5 billion in 2008, and enforcement efforts are vigorous. Violators of pollution standards in China are subject to a total maximum fine of 100,000 Yuan, or about $14,000 at current exchange rates; in the U.S., violators are subject to fines of up to $32,000 for each day that the violation continues.

American steelmakers per ton pollution control spending doubles China's.
Chinese steelmakers spend an average of $4.85 per ton of steel produced on operating and maintaining their air and water pollution control systems (2006 figures, the most recent available). In the U.S., steelmakers spent $8.83 per ton on these operations, plus $3.46 per ton on solid waste disposal and an additional $.70 per ton on Superfund compliance (2005 data).

Low compliance rates.
The worst offenders are the smaller mills which are least likely to be inspected. China has been making a largely unsuccessful effort to close many of these facilities. By November 2007 only 40 percent of its 2007 target for phasing out small mills had been met. Overall enforcement of the law applicable to new facilities is uneven, with as many as 80 percent of companies in one location having never been assessed. The Chinese government itself admits it only collects 30 percent of the discharge fees owed, and some Chinese experts have estimated that the rate of compliance with even the low standards is less than 50 percent.

Download the full report at www.americanmanufacturing.org.