

Development of the Japanese Energy Saving Technology during 1920–1960: The Iron and Steel Industry

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Abstract

Purpose of this paper is to reveal how and why the Japanese iron and steel industry achieved the development of energy-saving technology after WWII. Not only did it realize rapid improvement of the basic unit for fuel, but its basic unit for fuel was already better than that of any other country by the early 1950s. Regarding the development of energy-saving technologies in steel-making processes, two technologies have been pointed out; heat control and oxygen steelmaking. Of these two technologies, heat control had developed since the interwar era; the latter was a new technology that was developing after WWII. The Japanese energy-saving technology after the war was not an exact copy of the U.S. technology. It was much different from the U.S. efforts in its objectives and contents. Its rapid improvement and diffusion was contributed by the exchange of technology between firms through ISIJ and the heat-control division and OJT of every iron and steel work. However the energy conservation development of the Japanese iron and steel industry was not only a success story. The development of the energy-saving technology by the Japanese iron and steel industry does not always decrease the environmental load. At least during the 1950s, it exacerbated environmental pollution.

Keywords : the Japanese energy-saving technology, heat control, oxygen steelmaking, environmental pollution