

*Energy*

- 83. BAT is to collect, clean and buffer BOF gas for subsequent use as a fuel.**

**Applicability**

In some cases, it may not be economically feasible or, with regard to appropriate energy management, not feasible to recover the BOF gas by suppressed combustion. In these cases, the BOF gas may be combusted with the generation of steam. The kind of combustion (full or suppressed combustion) depends on local energy management.

- 84. BAT is to reduce energy consumption by using ladle-lid systems.**

**Applicability**

The lids can be very heavy as they are made out of refractory bricks and therefore the capacity of the cranes and the design of the whole building may constrain the applicability in existing plants. There are different technical designs for implementing the system into the particular conditions of a steel plant.

- 85. BAT is to optimise the process and reduce energy consumption by using a direct tapping process after blowing.**

**Description**

Direct tapping normally requires expensive facilities like sub-lance or DROP IN sensor-systems to tap without waiting for a chemical analysis of the samples taken (direct tapping). Alternatively, a new technique has been developed to achieve direct tapping without such facilities. This technique requires a lot of experience and developmental work. In practice, the carbon is directly blown down to 0.04 % and simultaneously the bath temperature decreases to a reasonably low target. Before tapping, both the temperature and oxygen activity are measured for further actions.

**Applicability**

A suitable hot metal analyser and slag stopping facilities are required and the availability of a ladle furnace facilitates implementation of the technique.

- 86. BAT is to reduce energy consumption by using continuous near net shape strip casting, if the quality and the product mix of the produced steel grades justify it.**

**Description**

Near net shape strip casting means the continuous casting of steel to strips with thicknesses of less than 15 mm. The casting process is combined with the direct hot rolling, cooling and coiling of the strips without an intermediate reheating furnace used for conventional casting techniques, e.g. continuous casting of slabs or thin slabs. Therefore, strip casting represents a technique for producing flat steel strips of different widths and thicknesses of less than 2 mm.

**Applicability**

The applicability depends on the produced steel grades (e.g. heavy plates cannot be produced with this process) and on the product portfolio (product mix) of the individual steel plant. In existing plants, the applicability may be constrained by the layout and the available space as e.g. retrofitting with a strip caster requires approximately 100 m in length.