

Byproduct of steel shows potential in CO₂ sequestration

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With steelworks around the world emitting huge amounts of carbon dioxide, scientists are reporting that a byproduct of steel production could be used to absorb that greenhouse gas to help control global warming. The study is scheduled for the October 15 issue of ACS' *Industrial & Engineering Chemistry Research*.

Professor Mourad Kharoune and colleagues point out that production of one ton of steel releases up to one ton of CO₂. With global steel production standing at 1.34 billion tons in 2007, that adds up to a substantial contribution of carbon dioxide.

Kharoune suggests a new method to sequester, or capture, carbon dioxide so that it does not contribute to global warming – using steel slags, which are complex mixtures of compounds produced during the separation of the molten steel from impurities.

In the study, Kharoune suggests that electric arc furnace (EAF) and ladle furnace (LF) slag suspensions could be used for greenhouse-gas sequestration. According to the report, the ladle furnace slag suspension's capacity to sequester emissions was 14 times higher than that of the EAF suspension, possibly due to the LF's higher content of a rare mineral called portlandite.

Article: "CO₂ Sequestration Potential of Steel Slags at Ambient Pressure and Temperature"; [dx.doi.org/10.1021/ie701721j](https://doi.org/10.1021/ie701721j)

Source: ACS

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