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STEEL INDUSTRY PUSHES LIFE-CYCLE APPROACH TO CARBON EMISSION CUTS

The steel industry is pushing a so-called life-cycle assessment (LCA) to measuring carbon emissions in advance of anticipated sector-based mandates to reduce greenhouse gases (GHGs), arguing that the use of lighter alternative automobile materials, such as aluminum, may result in higher overall emissions.

The steel industry is making the push in part over fears that GHG rules will encourage automakers to switch to aluminum, plastics and other lighter materials if the standards are focused only on tailpipe emissions.

"Regulations that consider only the vehicle use phase can encourage use of low-density, GHG-intensive materials that provide somewhat lighter weight components. However, this may have the unexpected result of increasing GHG emissions during the vehicle's total life," according to a recent presentation by the international organization World Auto Steel.

The group had asked Roland Geyer, a noted University of California-Santa Barbara industrial ecologist, to design a life-cycle GHG model for the automotive sector. Geyer found that aluminum and other alternative materials can produce 5 to 20 times more GHGs than steel when both the manufacture, use and end-of-life recycling of materials is considered.

"It seems logical enough then that auto companies would embrace an LCA approach. However, many existing or proposed government-driven regulations address the use phase only [which can] lead auto manufacturers to select GHG-intensive materials that may improve the use phase but increase the total lifecycle greenhouse gases," the presentation says.

Based on the life-cycle assessment, the group also is pushing for a "credit back" for steel recycling in any carbon trading scheme.

"Primary production of materials, vehicle manufacturing and vehicle use phases all generate GHGs. However, the recycling of the vehicle at end-of-life results in scrap that can be re-used to displace the need for primary metal in a future product," a World Auto Steel source says. The source notes that while there are different methods for determining how much and who to award credit back, "As a general principal, a complete [life-cycle analysis] includes some method for accounting for the allocation of this end-of-life credit."

The steel industry first rolled out its pitch for a full carbon review during international climate talks in December in Bali, Indonesia, and plans to continue to pitch the plan to "quite a long list of policymakers and influencers," the source says. World Auto Steel is also working with the American Iron & Steel Institute to present the idea to U.S. policymakers.

A life-cycle approach to measuring GHGs is also being endorsed by California in plans to implement the state's broad climate bill, AB 32. The California Climate Action Registry announced it would develop a protocol to allot GHG reduction credits for recycling activities. On the other hand, EPA recently decided that its computer models cannot accurately assign credit to GHG recyclers.

California's new effort could bolster the steel industry's bid for credits to be awarded back to manufacturers after steel is recycled, though California's recycling credits would likely go to the recycler. California said it was important to include recycling credit because the practice reduces energy consumption and harmful emissions compared to manufacturing that relies on virgin materials.

The World Auto Steel source says incorporating LCA into sector-based GHG rules is crucial. "If you are worried about GHGs, as opposed to GHGs from tailpipes, then we are missing the boat. . . . As technology goes, material choices become even more crucial."

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