

Updated Vehicle Life Cycle Assessment Model Released for Public Use

New Version includes most recent steel and aluminium LCA datasets

Brussels, 2 Aug., 2010 – WorldAutoSteel announced today the release of an updated model for vehicle life cycle assessment (LCA), the **University of California at Santa Barbara (UCSB) GHG Material Comparison Model-June 2010**. The newly updated Excel-based model now includes steel emissions data from the 2010 World Steel Association's (worldsteel) global steel [Life Cycle Inventory \(LCI\)](#) and the most recent (2005) dataset provided by the International Aluminium Institute (IAI).

These new data sets represent significant reduction in emissions, reflecting the progress the metals industries have made in addressing production-related emissions. Therefore, the 2010 update provides for greater accuracy as the model is used to evaluate key vehicle parameters and their impact on total life cycle emissions.

The new model can be downloaded freely at <http://www.worldautosteel.org/Projects/LCA-Study/2010-UCSB-model.aspx>.

These changes are subsequent to a version released one year ago which added new materials (magnesium and several composites), additional vehicle powertrains, and bio fuels and various agricultural sources to the modeling capability. At that time, life cycle energies were also incorporated into the model. The 2010 update applies the same powertrains as the previous model: ICE-gas, ICE-diesel, standard hybrid (HEV), and fuel cell (FCEV) powertrains.

WorldAutoSteel plans to release an enhanced version of the Model in early 2011 to include Battery Electric Vehicle (BEV) and Plug-in Hybrid (PHEV) powertrains. This coincides with the completion of the FutureSteelVehicle Phase 2 results, which uses the model to project total vehicle life cycle emissions from the Advanced High-Strength Steel (AHSS) component design and body structure solutions.

The LCA approach assists automakers in evaluating and reducing the total energy consumed and the lifetime GHG emissions of their products. Regulations that consider only the vehicle use phase, or tailpipe emissions, can encourage use of low-density, GHG-intensive materials that may, in some applications, provide somewhat lighter weight components. However, this may have the unexpected result of increasing GHG emissions during the vehicle's total life cycle. The same is

true in the consideration of alternative powertrains and fuels, thus it is important for a holistic approach to vehicle emissions performance.

The *(UCSB) GHG Material Comparison Model* continues to be enhanced under the leadership of Dr. Roland Geyer of UCSB's Bren School for Environmental Science and Management. Dr. Geyer is the author of a study entitled, "The Impact of Material Choice in Vehicle Design on Life Cycle Greenhouse Gas emissions - The Case of HSS and AHSS versus Aluminium for BIW Applications (2007)", which included development of the initial GHG Material Comparison Model. The study's methodology was evaluated and approved by a peer review committee consisting of OEM scientists, university academicians, and a member of the IAI.

Notes to the Editor:

About WorldAutoSteel

WorldAutoSteel, the automotive group of the World Steel Association, is comprised of 17 major global steel producers from around the world.

WorldAutoSteel's mission is to advance and communicate steel's unique ability to meet the automotive industry's needs and challenges in a sustainable and environmentally responsible way. WorldAutoSteel is committed to a low carbon future, the principles of which are embedded in our continuous research, manufacturing processes, and ultimately, in advanced automotive steel products, for the benefit of society and future generations.

To learn more about WorldAutoSteel and its projects, visit www.worldautosteel.org

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- Anshan Iron and Steel Group Corporation – China
- Arcelor Mittal - Luxembourg
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