

UNDERSTANDING THE GREEN CHALLENGE SCORING SYSTEM

As it continues to strengthen its leadership position in Green Racing, the American Le Mans Series presented by Tequila Patrón has implemented a simplified Green Challenge™ scoring system for 2011. Although streamlined, its goal remains the same: to objectively and fairly measure the energy and environmental impacts of the Le Mans Prototype (LMP) and Grand Touring (GT) categories. The new simplified system will be used for both the DOE/EPA/SAE International's Green Challenge™ (which awards the *auto manufacturers* in a season-long championship) and the MICHELIN® GREEN X® Challenge (which awards the best *teams* in each race and for the season). These awards continue to achieve the goals set in 2006 of moving motorsports toward sustainability.

The formula for calculating the Green Challenge score matches the new tag line for 2011:

Clean, Fast and Efficient.

It is simply: **Clean** factor + **Fast** factor + **Efficient** factor = Green Challenge score.

The **Clean** factor measures greenhouse gas emissions and the amount of oil used during the race for each car. This factor is calculated on the total life cycle basis, commonly called “well-to-wheel,” to ensure a complete and accurate life cycle assessment of their impacts.

The **Speed** factor is taken from the car's average race speed.

The **Efficient** factor takes the amount of energy consumed by each car, divided by its mass. Note that this factor differs from a fuel economy miles per gallon approach because it takes the weight of the vehicle into account. It measures how well the energy consumed was used to do work.

The score is calculated for each lap of the race... for each car in the LMP and GT classes. It is designed so the smallest score wins because the Series is trying to provide the best racing in the world with the smallest environmental impact.

The key feature of this scoring system is that each car's factors are “normalized” (or balanced) to match the speed and distance of the category (LMP or GT) leader. By normalizing scores in this way, each car is compared to the others on a fair, level playing field.

By simply looking at the Green Challenge score, fans gain insight into the race strategies of each car, the cars that are fastest or most efficient overall, and which cars have the best blend of speed and efficiency – all key factors that affect race results. The scores also show which cars leave the lightest environmental footprint under the same conditions as the leader.

The Green Challenge adds another dimension to American Le Mans Series racing – one that is both interesting and important not only to the future of racing but also to the energy, security and economic prosperity of our nation.

