Automotive plastic products are produced at 1,572 plants located in 45 states. These plants directly employ 57,400 people and feature a payroll of $2.8 billion.

The value of automotive plastic products produced in the United States was $18.1 billion.

CF plastic composites can absorb up to 12 times the crush energy of steel.

Carbon fiber has the potential to reduce the weight of some vehicle components by 75 percent.

Reducing a vehicle’s weight by 10% can improve the fuel economy of the vehicle by 6-8%.

State automotive plastics shipments: Michigan (over $3.8 billion), Indiana (over $2.4 billion), Ohio (over $2.1 billion) and Tennessee (over $1 billion).

The use of advanced plastics and composites in automotive has doubled in the last 20 years.

If just one quarter of the light-duty vehicles in the U.S. used lightweight components and high-efficiency engines, we could save more than 5 billion gallons of fuel annually by 2030.

The business of chemistry is a $797 billion enterprise providing over 800,000 skilled American jobs.

The use of advanced plastics and composites in automotive has doubled in the last 20 years.

Carbon-fiber [plastic] composites could improve fuel efficiency by about 35% without compromising performance or safety.

We are working to provide manufacturers with additional ways to increase plastics in automotive, reduce vehicle weight and lower greenhouse gas emissions.

Our team efforts focus on: advocacy, pre-competitive research, communications outreach and sustainability efforts.

Today’s plastics typically make up 50% of the value of a new light vehicle but less than 10% of its weight, which helps make cars lighter and more fuel-efficient, resulting in lower greenhouse gas emissions.

The average light vehicle now contains 377 pounds of plastics and composites, or about 10% of the total weight. This is up from 286 pounds in 2000 and 194 pounds in 1990. In 1960, less than 20 pounds were used.

Lightweighting only the assist step on all 2007 Trailblazers saves the equivalent energy of 2.7 million gallons of gasoline.

There are a myriad of plastics and composite automotive applications, including: exterior body panels, trim, interior trim, cargo, instrument panel, dashboards, foam systems, window components, door, front, rear and side windows, underbody shields, trunk wells, wheel-well liners, electronic/electric parts and components, LED lighting and light pipes, knobs and buttons, wiring harnesses, steering wheels and steering column covers, radiator, dampers and shock absorbers, engine被誉为s, catalytic converters, thermal management systems, interior trim, electrical harnesses, shocks and struts, safety glass inserts, tires, and on and on and...
AUTOMOTIVE LIGHTWEIGHTING WITH PLASTICS RESULTS IN REDUCED FUEL USE AND CO₂ EMISSIONS

CHEVROLET TRAILBLAZER/GMC AUTOMOTIVE ASSIST STEP CRADLE-TO-GRAVE LCA
A cradle-to-grave, ISO compliant LCA for the bolster considered a total service life of 150,000 miles:
• 51% lighter plastic assist step for the Chevrolet Trailblazer/GMC replaced steel assist step (runner board)

Conclusions:
• Lighter plastic products performed better than the steel products for global warming potential and primary energy demand
• Even greater benefit potential exists when further mass reduction allows drivetrain reductions and adaptions, increasingly likely under new CAFE standards

ENERGY AND COMMUTER SAVINGS EQUIVALENTS
Lightweighting this one automotive component on all 148,658 GMC 2007 Trailblazers reduces the emission of greenhouse gases by the equivalent of combusting more than 2.7 million gallons of gasoline over the life of the vehicles, which is equivalent to removing 3,182 commuters from area roads for a year. Additional plastics lightweighting can bring additional savings of energy and CO₂ emissions.†

†Based on EPA Average MPG of 21.5 MPG and EPA value of 19.6 lbs. CO₂/gallon of gasoline, assuming adaptation and a 150,000 mile vehicle service life. Commuter estimate based on a 50 mile round-trip every day for 365 days.

FORD TAURUS FRONT END BOLSTER CRADLE-TO-GRAVE LCA
A cradle-to-grave, ISO compliant LCA for the bolster considered a total service life of 150,000 miles:
• A 46% lighter plastic bolster on the 2010 Ford Taurus replaced the 2008 plastic and steel bolster

Conclusions:
• Lighter plastic products performed better than the steel products for global warming potential and primary energy demand
• Even greater benefit potential exists when further mass reduction allows drivetrain reductions and adaptions, increasingly likely under new CAFE standards

ENERGY AND COMMUTER SAVINGS EQUIVALENTS
Lightweighting this one automotive component on all 70,666 Ford Taurus 2010 models reduces the emission of greenhouse gases by the equivalent of combusting over 770,000 gallons of gasoline over the life of the vehicles, which is equivalent to removing 907 commuters from area roads for a year. Additional plastics lightweighting can bring additional savings of energy and CO₂ emissions.†

†Based on EPA Average MPG of 21.5 MPG and EPA value of 19.6 lbs. CO₂/gallon of gasoline, assuming adaptation and a 150,000 mile vehicle service life. Commuter estimate based on a 50 mile round-trip every day for 365 days.
