The move toward lightweighting is continuing to evolve, and is expected to increase over the next two decades. The Corporate Average Fuel Economy (CAFE) regulations in the United States require automakers to increase fuel efficiency, which has requested new metals that bring expanded capabilities to automotive design and manufacturing. The need for lightweighting is to reduce overall vehicle weight, which lowers the energy required to operate the vehicle, thereby increasing fuel economy.

In any case, automakers need to hit those higher MPG standards. One of the primary ways to accomplish this is to reduce overall vehicle weight, which lowers the energy required to operate the vehicle, thereby increasing fuel economy. For every 10% reduction in vehicle weight, there is an expected 7% increase in fuel efficiency. With the add-on reduction of 13.5%, there is an expected 23% increase in fuel efficiency.

**Driving Directions**

Driving Directions

Smaller Cars

Trucks

Larger Light Smaller Light

Larger Cars

**The Corporate Average Fuel Economy (CAFE) regulations in the United States require automakers to increase fuel efficiency, which has requested new metals that bring expanded capabilities to automotive design and manufacturing.**

*Image: Driving Directions*

**Percentage of light vehicle components by material, 2015 vs. 2025 estimated**

<table>
<thead>
<tr>
<th>Material</th>
<th>2015</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>11%</td>
<td>15%</td>
</tr>
<tr>
<td>Conventional Steel</td>
<td>37%</td>
<td>25%</td>
</tr>
<tr>
<td>Nonmetallics</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>AHSS</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>5%</td>
</tr>
</tbody>
</table>

*Image: Percentage of light vehicle components by material, 2015 vs. 2025 estimated*

**Corrosion and Lifecycle Data**

- Corrosion: 2015-2025 CAFE standards for each model year
  - Steel facts
    - Corrosion Due to Exposure to Atmospheric Conditions
      - North America 2015: 11.5%
      - North America 2025: 9.5%
    - Multiplier for corrosion effects of compounded effects: 1.15
  - Aluminum facts
    - Corrosion Due to Exposure to Atmospheric Conditions
      - North America 2015: 4.8%
      - North America 2025: 3.8%
  - Lifecycle data
    - Steel: 1.08 million barrels of crude oil in energy content in 2025 will be saved by steel, which makes up nearly 60% of the average North American steel vehicles, aluminum use saves 15% of that energy for every 10% reduction in vehicle weight.
    - Aluminum: North America will be made of 26.6% of all the body and closure parts in a vehicle, there is an expected 7% increase in fuel efficiency. With the add-on reduction of 13.5%, there is an expected 23% increase in fuel efficiency.

**Steel Facts**

1. Corrosion: Corrosion Due to Exposure to Atmospheric Conditions
   - North America 2015: 11.5%
   - North America 2025: 9.5%
   - Multiplier for corrosion effects of compounded effects: 1.15

**Aluminum Facts**

1. Corrosion: Corrosion Due to Exposure to Atmospheric Conditions
   - North America 2015: 4.8%
   - North America 2025: 3.8%

**Lifecycle Data**

1. Steel: North America will be made of 26.6% of all the body and closure parts in a vehicle, there is an expected 7% increase in fuel efficiency. With the add-on reduction of 13.5%, there is an expected 23% increase in fuel efficiency.
2. Aluminum: North America will be made of 26.6% of all the body and closure parts in a vehicle, there is an expected 7% increase in fuel efficiency. With the add-on reduction of 13.5%, there is an expected 23% increase in fuel efficiency.