Sustainable Campus Fleet
Bio Fuels

Chris Facente, Automotive and Motor Fleet Supervisor
UNC Charlotte Fleet Overview

Approximately 530 vehicles

- 355 trucks
- 60 UTV gas or diesel powered
- 115 electric LSV vehicles
- 210 Ethanol flex fuel vehicles
- 75 Bio Diesel vehicles

700 pieces of other equipment (lawn maintenance, construction)
# Average Travel (Internal Combustion Engines)

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Drive time hours / month</th>
<th>Idle time Hours / Month</th>
<th>% Idle Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light / Med. Duty Truck (average of 4 vehicles)</td>
<td>53.9</td>
<td>17.6</td>
<td>33%</td>
</tr>
<tr>
<td>Caravan/Flex Fuel</td>
<td>19.6</td>
<td>5.9</td>
<td>30%</td>
</tr>
<tr>
<td>Transit Connect non flex fuel</td>
<td>58.0</td>
<td>25.7</td>
<td>44%</td>
</tr>
</tbody>
</table>

High idle time impacts costs and carbon emissions
Ethanol Challenges

- Came into the position 4 ½ years ago from the outside
- Not a good experience with Flex Fuel
- Tested the fuel and serviced the tank and system
- Filled all service vehicles with Ethanol for Automotive
- After three months, let technicians know we were going to use ethanol exclusively
Bio Diesel Challenges

• Several employees were scared that the bio diesel would smell up the cabs
• Some didn’t understand, thought we were going to put in pure vegetable oil in the engine.
• Like E-85 I changed and didn’t tell anyone
• Full disclosure, we did have one bad batch and the vendor did make it right within 48 hours.
Final Thoughts

• Make sure plenty of filters are on hand for a changeover
• Keep fuel additives in stock
• Prepare to go back for certain equipment if it doesn’t work
• Keep check on water content in E-85
• Keep spill buckets in check due to pipe corrosion on E-85