PSA PEUGEOT CITROËN VEHICLES
REAL-WORLD FUEL ECONOMY

A WORLD PREMIERE GATHERING
A CAR MAKER, NGOS AND A CERTIFICATION BODY FOR
THE BENEFIT OF CUSTOMERS INFORMATION
A CONSTANT DECREASE OF THE CONSUMPTION

EXAMPLE OF PEUGEOT 308/307 DIESEL FROM 2004
ACCORDING TO CUSTOMER SURVEYS

MINUS 26% IN 8 YEARS

Peugeot 307 II Euro4 2006
Peugeot 308 II Euro6 2014
In order to continuously improve fuel economy information in the interest of customers, PSA Groupe and the NGOs, Transport & Environment and France Nature Environment have agreed to work together to measure and publicize real-world fuel consumption figures.

Protocol Audit Results Certification

Validation of test Protocol and test conditions

Measurement Program

Protocol Audit Results Certification
Vehicle data
- Mass (load, tank level..)

Tyre
- Tyre resistance

Drag

External conditions
- Temperature
- Traffic density

Driver behavior
- Gear shiftings
- Sportiness

Vehicle Use
- Urban/Road/highway%
- Trip distances, stop duration
- Plug frequency
- Auxiliary use (A/C ..)

CHALLENGE: FIND CONDITIONS LEADING TO THE AVERAGE CONSUMPTION OF THE AVERAGE DRIVER
THE CUSTOMER AT THE HEART OF THE PROTOCOL

MEASUREMENTS BASED ON CHARACTERISTICS OF PSA AVERAGE CUSTOMER

By category and energy

REPRESENTATIVE MASS
Empty vehicle
+ options
+ occupants
+ luggage

DYNAMIC CONDITIONS
Speed
Acceleration

| Distance parcourue [%] & Accélération longi moyenne calculé en distance [m/s²] | Vitesse véhicule [km/h] |
|---|---|---|
| 0 | 69 | 90 |
| 60 | 99 | 250 |

<table>
<thead>
<tr>
<th>Vitesse moyenne</th>
<th>Vitesse moyenne: 26.9 km/h</th>
<th>Vitesse moyenne: 75.0 km/h</th>
<th>Vitesse moyenne: 110.5 km/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.1</td>
<td>Distance: 12.43%</td>
<td>Distance: 9.19%</td>
<td>Distance: 6.86%</td>
</tr>
<tr>
<td>0.1 à 0.1</td>
<td>Distance: 6.50%</td>
<td>Distance: 10.47%</td>
<td>Distance: 24.32%</td>
</tr>
<tr>
<td>&gt; 0.1</td>
<td>Distance: 12.92%</td>
<td>Distance: 9.78%</td>
<td>Distance: 6.80%</td>
</tr>
</tbody>
</table>

Table showing vehicle speed and acceleration conditions.
Protocol Step 1: Vehicle Sourcing by Bureau Veritas

**Check prior to test**
- Battery health
- Oil level
- Tire pressure
- Maintenance book

**Seals**
- Engine calculator
- Wheels (valves + tires)

**Vehicle preparation**
- PEMS installation
- Recording of data (weight, km..)
PROTOCOL STEP 2: THE DRIVING

VARIED DRIVING REFLECTING THE REAL USE OF CUSTOMERS

Urban: 22.8 km
Extra urban: 39.6 km
Highway: 29.9 km
DATA PROCESSING

Test validation
Dynamic conditions

Normalization to the middle customer
Objective mass
Weather conditions correction

Consumption calculation

REAL CONSUMPTION MEASUREMENT IS PERFORMED WITHOUT COMMUNICATION BETWEEN PEMS AND VEHICLE

PEMS DATA AFTER THE TEST
GPS
Position, speed, acceleration
Weather Conditions
CO₂ emissions

CERTIFICATION OF CONSUMPTION RESULT & REMOVE SEALS
RESULTS CONSISTENT WITH THE AVERAGE CUSTOMERS CONSUMPTION

<table>
<thead>
<tr>
<th>Vehicle tested</th>
<th>PEUGEOT 308 1.6l BlueHDi 120 S&amp;S BVM6</th>
<th>CITROËN C4 GRAND PICASSO 1.6l BlueHDi 120 S&amp;S BVM6</th>
<th>DS 3 1,6l BlueHDi 120 S&amp;S BVM6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption measurement (l/100km)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T&amp;E Customer use protocol</td>
<td>5,0</td>
<td>5,6</td>
<td>4,9</td>
</tr>
<tr>
<td>Customer consumption (Customers survey / Spritmonitor)</td>
<td>5,0 / 5,1</td>
<td>5,5 / 5,7</td>
<td>5,1 / 5,3</td>
</tr>
<tr>
<td>Homologated consumption (NEDC)</td>
<td>3,2</td>
<td>4,0</td>
<td>3,6</td>
</tr>
</tbody>
</table>
NEXT STEPS

• REAL-WORLD FUEL CONSUMPTION TEST DRIVE
  • BEFORE MID-2016, PSA WILL PUBLISH THE RESULTS OF MEASUREMENTS OF REAL-WORLD FUEL CONSUMPTION FOR 30 PEUGEOT, CITROËN AND DS VEHICLES

• AUTOMOTIVE INDUSTRY AND CO₂ EMISSION REDUCTION