AVOIDING #GASOLINEGATE: HOW TO PREVENT ANOTHER TESTING SCANDAL

JUNE 22TH 2016
T&E: 27 COUNTRIES
50 MEMBER & SUPPORT GROUPS
1. Why we need PN limits

2. GDI – the next dieselgate?

3. Why Phase 3 RDE doesn’t measure PN appropriately

4. What is needed for Phase 3 RDE

5. Fixing Type Approval

Adapted from http://www.clinsci.org/content/115/6/175.figures-only
ULTRAFINE PARTICLES ARE NOT DETECTED BY TRADITIONAL MASS MEASUREMENTS
PN EMISSIONS FROM GDI ARE HIGHER THAN DIESEL WITH A DPF

Source: SwRI
GPF is already proving its efficiency, is needed urgently.
GDI EMISSIONS MANAGEMENT IS BECOMING INCREASINGLY COMPLEX

High-pressure pump

MPI nozzle

LP sensor

P/n sensor

High-pressure injector

Throttle valve

VTS (Variable Tumble System)

High-pressure system

Low-pressure system

Source: Audi
23NM PN CUT-OFF INAPPROPRIATE FOR MEASURING GDI EMISSIONS

Particle Size Shift to Smaller Particles, but with Minimal Change in Number with EGR

Significant Particle Volume or Mass Reduction with EGR

23nm cut-off

Southwest Research Institute
PHASE 3 RDE: THE REMAINING ISSUES

- Cold start
- Hybrids
- Ki factors for DPF
- PN accuracy
- PN cut-off
All compliance checking sits with EU Type Approval legislation

- Obsolete test
- RDE & WLTP

- “Golden” vehicles
- Real world conformity checking

- Approval authorities
- EU oversight

- In-use testing
- On road surveillance

Type Approval Regulation
4 TRIC(K)S TO STRENGTHEN TYPE APPROVAL

Transparency

Resourced & Rigorous

Independent

Consistent
KEY MESSAGES

1. GDI complexity points to a future #gasolinegate scandal - any GDI vehicles without a GPF filter require intense scrutiny during type approval.

2. The cut-off for PN instruments must be reduced to <10nm.

3. Better tests are only part of the solution – type approval must be independent, rigorous, consistent & transparency.

GREG ARCHER
Clean Vehicles Director, Transport & Environment
greg.archer@transportenvironment.org