



# **LabProcICE issues on DTP level**

**Zuerich, 12.-14. April 2011**



## Overview

- 1) RLD: Inertia classes**
- 2) LabProc: Testroom and soak area temperature**
- 3) ME: Method for subtraction of pollutant mass in intake air**
- 4) General: definitions**



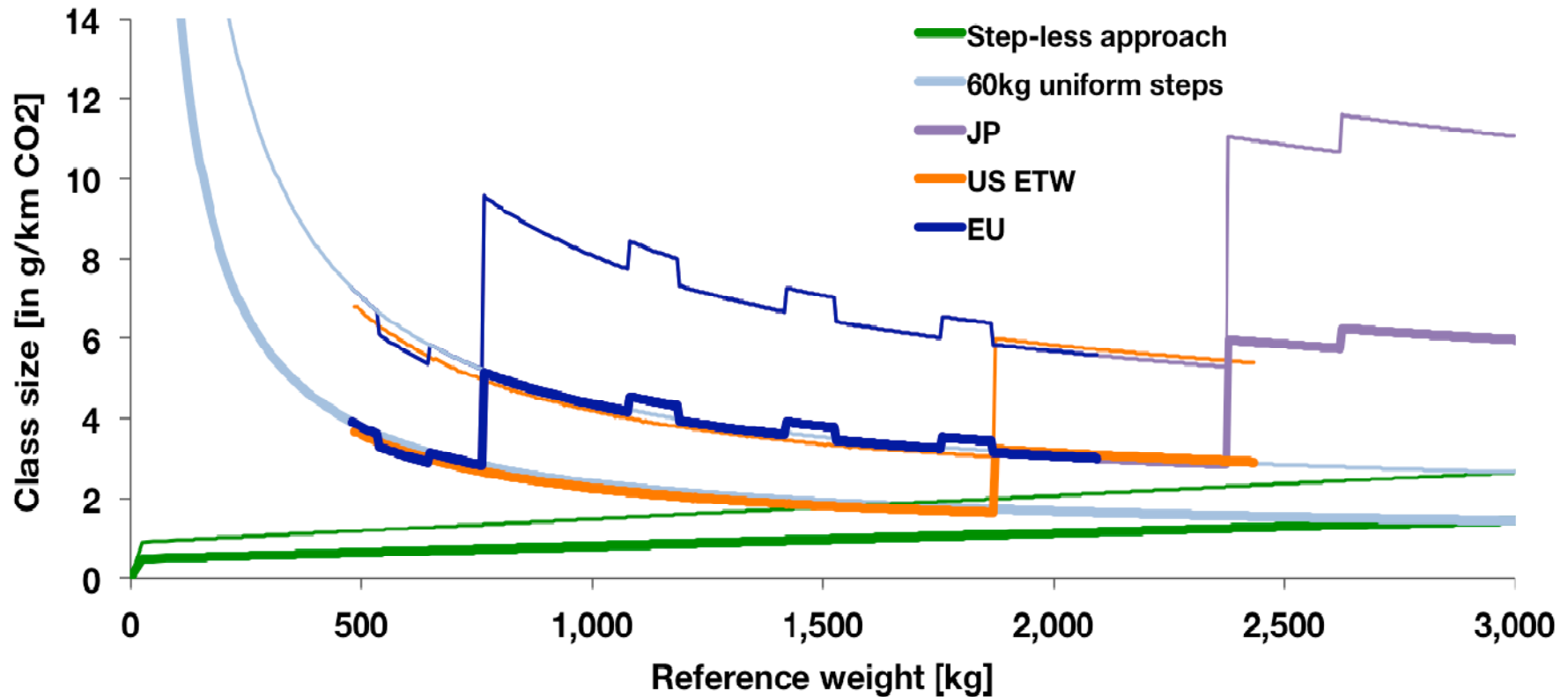
## 1) Inertia Classes

- The **LabProcICE proposal** of refined **uniform** inertia classes of **60 kg steps** was in principle accepted at DTP4. A stepless approach was rejected due to difference to US certification.
- Objective is clear information for the customer at lower CO<sub>2</sub> levels with future vehicle techniques. However certification should remain efficient (influence of small step approach on family concepts).
- COM requested information regarding the influence on CO<sub>2</sub> emissions and fuel consumption of the proposed 60 kg inertia steps.
- In the meantime **ICCT** published an **additional proposal** of a stepless or **smaller step approach**. Aim is to enable even more refined CO<sub>2</sub> values especially for lower vehicle weights.



## Inertia classes proposal overview

(based on WLTP-DTP-LabProcICE-054 by ICCT)





## 2) Test Room and Soak area temperature

Current legislation: JP, ECE, US: 20-30 °C  
GTR 2 & 4: 25 ± 5 °C

→ **LabProcICE: setpoint (25 ± 5) °C**

Pro: harmonization with GTR 2 & 4  
improved reproducibility by set point

Contra: not representative for real world  
→ Alternative proposal (by EC): lower temperature, e.g. 22°C

EC / JRC and India will provide measurement data to evaluate the influence on CO<sub>2</sub> at different temperatures

☞ Needs decision before start of validation 2 testing



### 3) Method for subtraction of pollutant mass in intake air (WLTP-DTP-LabProcICE-020)

CVS as well as Bag-Mini-Diluter don't consider the pollutant level that is contained in the combustion or intake air of the vehicle.

Exhaust emissions and limit values approaching the concentration levels present in ambient air (e.g. for highly electrified-operating vehicles  
→ intake air has increasing influence on the emission result

Aim of proposed method:

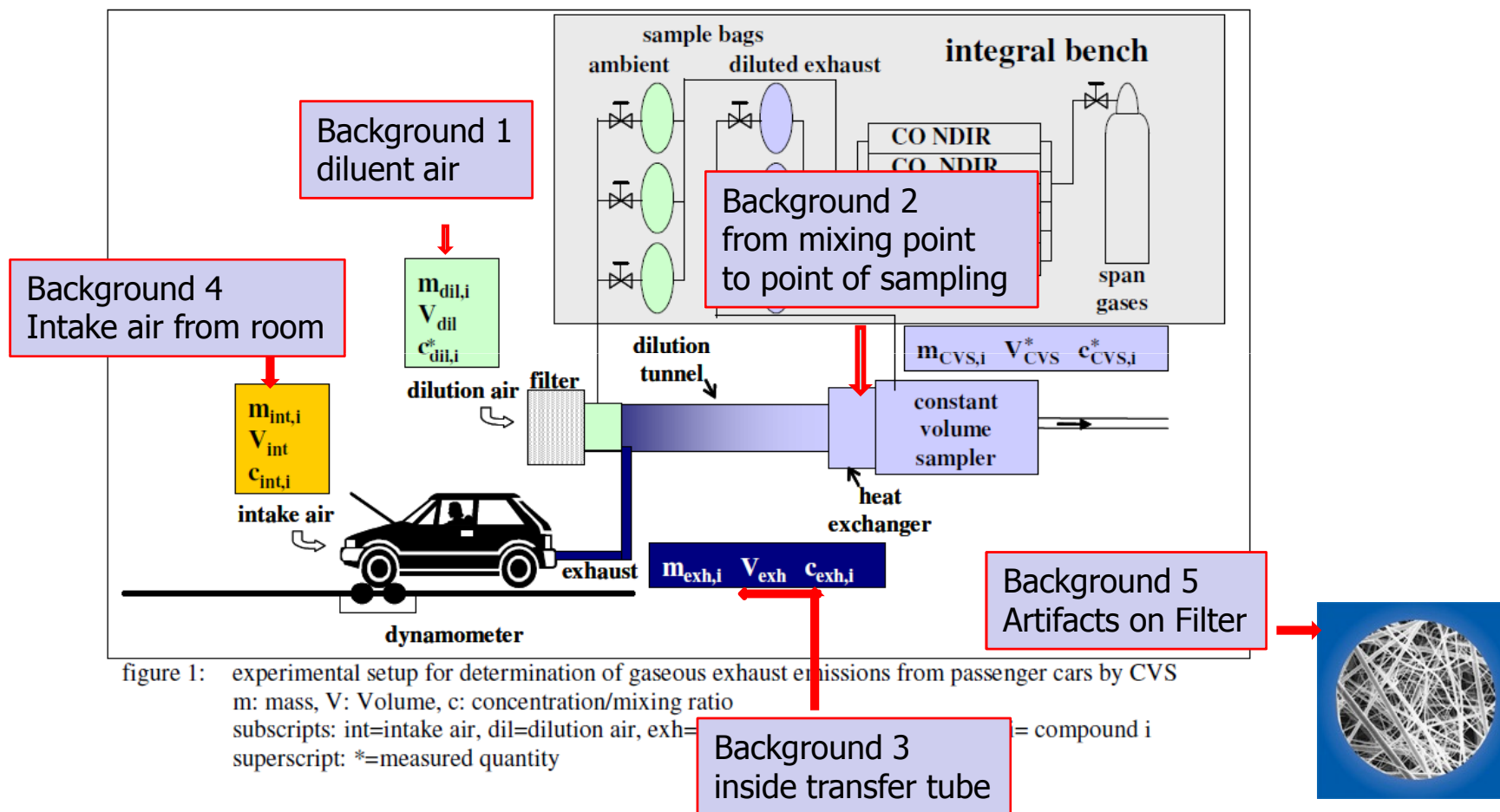
**measure low pollutant mass with higher accuracy**

Political discussion of the definition of exhaust emission necessary

Typical contributions of the intake air pollutant level to emission result are illustrated in table 1 of the proposal



## Different meanings of the word „background“ as a contribution to mass





## Different meanings of the word „background“ as a contribution to mass

Background 1  
Diluent air

All constituents are important including CH<sub>4</sub>, N<sub>2</sub>O for the near future

Background 2  
from mixing point  
to point of  
sampling

at point of sampling means there are some left overs, contaminations of THC, PM, PN inside the surface of tubes an pipes

Background 3  
inside transfer  
tube

Left overs, contamination of PM, PN, H<sub>2</sub>O and THC are important, with the option - Cap end of tube

Background 4  
Intake air from  
room

All constituents are important including CH<sub>4</sub>, N<sub>2</sub>O for the near future

Background 5  
Artifacts on Filter

Filter material gains weight from something unknown called artifacts, just in air or other gases





Feedback at (and after) DTP-4 meeting:

- COM, UK in principle supportive, but scrutiny regarding expected effect on emission results
- US & Japan had (scrutiny) reservations:
  - what happens to intake air pollutants (e.g. NO<sub>x</sub>, N<sub>2</sub>O or CO<sub>2</sub>) during the combustion process and post combustion catalytic treatment?
  - correction for pollutants in the intake air would presumably force US to lower current US emissions standards/limits to maintain current levels of stringency (US EPA definition of exhaust emissions refers to absolute emissions -> in contradiction to relative approach)



## 4) Definitions

LabProcICE proposes the following **Terms of Reference** for drafting the definitions in the future WLTP gtr:

- No references to other parts or documents should be included (stand alone)
- Repetition of other parts of the regulation to be avoided
- As short as possible but with sufficient detail to be clear and precise. For example, avoiding repetition of descriptions of test conditions (see above)



- Technically neutral definitions wherever possible
- All definitions should be located in one section of the gtr
- Definitions should be listed in alphabetical order with English spelling

All results of the working groups should be frequently delivered to the Drafting Coordinator (DC) who is expected to manage drafting of the definitions, esp. with regard to common definitions used by several subgroups. DC will consolidate them into the gtr text and report to the GRPE Informal Group.

LabProcICE will focus on definitions necessary for validation testing and sees its primary responsibility only for specific definitions, e.g. RLD related.