

Retrofit vs Conversion

- Retrofit: fitting new elements of design to an approved engine system without substantially modifying its emission strategies (e.g. fitting a particulate filter)
 - Conversion: fitting new elements of design to an approved engine system and/or substantially changing its emission or operating strategies (e.g. in view of letting it run with a different fuel)
- New regulation shall deal with conversion, not retrofit (on the contrary to REC) as far as the engine is concerned

3 use-cases

- Case 1: conversion of an approved Diesel engine into a dual-fuel engine by means of a conversion kit
- Case 2: retrofit of an approved Diesel vehicle into a dual-fuel vehicle by means of a retrofit kit
- Case 3: installation of an approved new or converted dual-fuel engine on an approved dual-fuel vehicle

Use-case 1 – engine conversion converter (definition)

➤ Converter

The person or body who is responsible to the Type Approval Authority for all aspects of the conversion authorisation process and for ensuring conformity of the conversion. It is not essential that the person or body be directly involved in all stages of the conversion of the engine system which is the subject of the approval process.

Use-case 1 – engine conversion scope and principles

➤ Scope

- EURO III and before : separate negotiation with TAA
- EURO VI : conversion shall lead to an engine belonging to an already type-approved dual-fuel engine type / family. Full demonstration shall be made on a new engine.

➤ Principles

- The converter becomes the new engine manufacturer and takes the full responsibility of the engine in-service conformity
- The converter has the full responsibility of the actual conversion of the engine systems, even in the case this conversion is operated by a third party
- In the case when the converter ceases to exist, the original engine manufacturer shall not be considered as responsible in any manner of the non-compliance of a converted engine system.

Use-case 2 – vehicle retrofit scope and principles

➤ Scope

- Any HD vehicle the installation on which of a type-approved Diesel engine has been type-approved, or
- Any HD Diesel vehicle that has been type-approved as regards its emissions according to UNECE R49

➤ Principle

- The retrofitted vehicle shall comply with R110 / R67
- The retrofitter has the full responsibility of the actual retrofit, even in the case this retrofit is operated by a third party
- In the case when the retrofitter ceases to exist, the original engine manufacturer shall not be considered as responsible in any manner of the non-compliance of a retrofitted vehicle.