

Status report after the 3rd VPSD meeting

Geneva – 7th January 2014

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1. State of play and documentation

- Status report to 66th GRPE – inf.doc GRPE-66-29
- Draft VPSD document
VPSD-02-03 (with track changes and comments)
VPSD-02-04 (additional comments & proposals from EC)
- WLTP – draft GTR – ECE/TRANS/WP.29/2014/27
- HDH – draft amendment to GTR 4 – GRPE-68-12
- EVE – Reference Guide – EVE-08-03
- QRTV – GTRQRTV-05-06e.pdf draft GTR

2. Open issues, discussion items

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B. 1 Powertrain

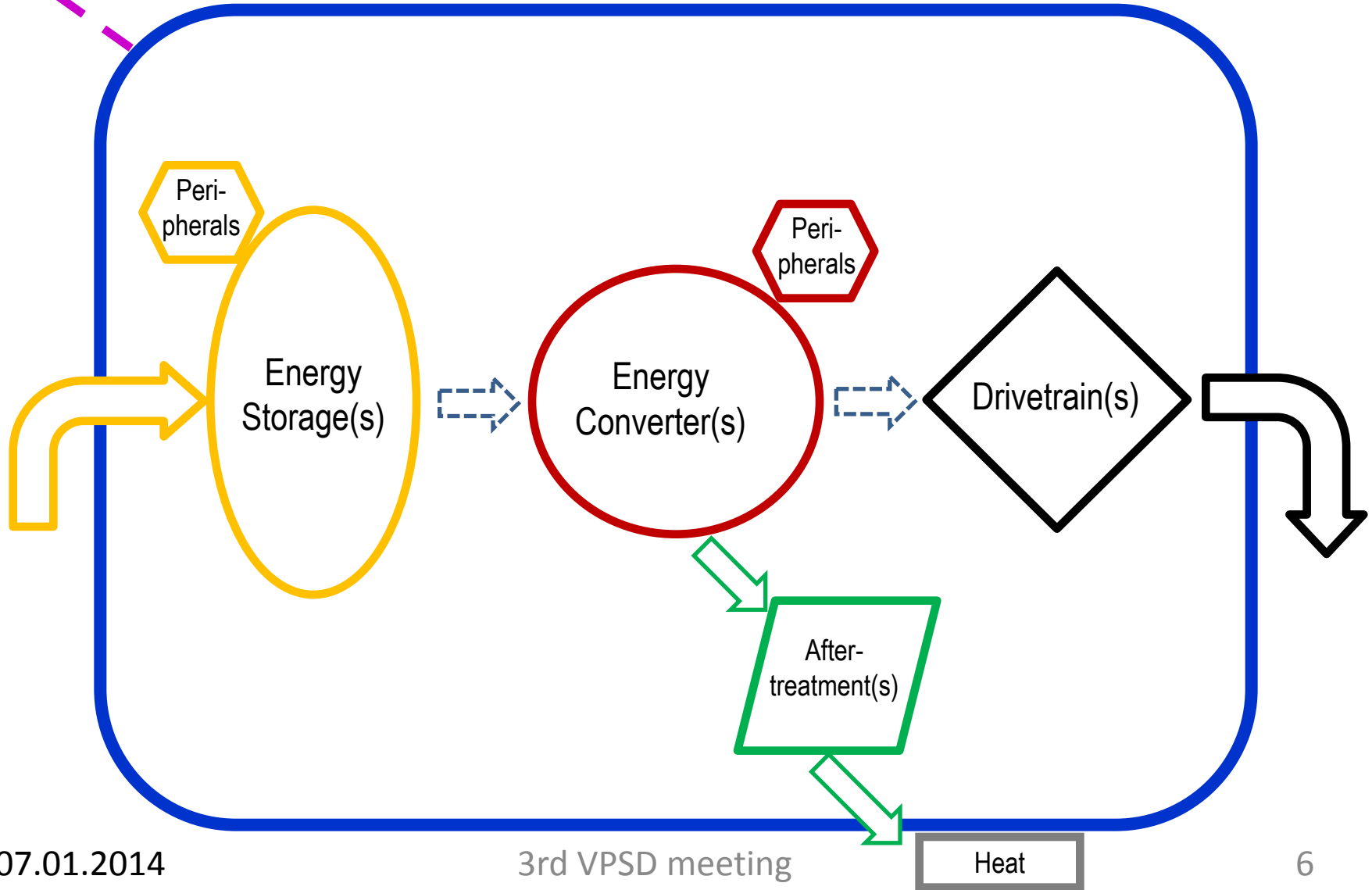
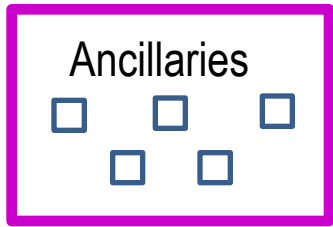
Approach is still under discussion. Agreed in principle:

1. One single powertrain system
2. Including: multiple possible devices (energy storage, energy converter and drivetrain systems, with peripherals) and combinations.
3. Excluding: ancillary devices.
4. Specific definitions to be further developed.

The following diagram was outlined as a general scheme based on current conventional vehicle architecture and need to be further reviewed.

POWERTRAIN

Example: conventional vehicle



B. 2 Rechargeable Energy Storage System

(no acronym)

REESS - Rechargeable Electric Energy Storage System

(already used in WLTP draft GTR)

RMESS - Rechargeable Mechanical Energy Storage System

RHESS - Rechargeable Hydraulic Energy Storage System

RPESS - Rechargeable Pneumatic Energy Storage System

→ Needs to be amended in HDH documents

B. 3.1. Combustion Engine (CE)

- **Internal Combustion Engine (ICE) /**
- **External Combustion Engine (ECE)**

Option 1: To start with ICE (CE and ECE concept can be added later, if needed, in regulations).

Option 2: Directly introduce CE
(sub-divided in ICE and ECE).

→ Option 1 was agreed upon.

Definition still needs to be finalised.

B.4. Drivetrain

Under discussion: Definition and terminology

„Drivetrain“ or „Power transmission system“ ?

The terminology „drivetrain“ could be used to define all devices downstream of last energy converter.

It has however still to be understood how to consider powertrain transmission devices used in between several energy converters of the powertrains.

B. 7.1.-7.4. Mono-, Bi-, Flex-, Dual-Fuel Vehicle

Existing UN-Regulations (49, 83, 101) already includes definitions, which are very fuel- and design- specific (gaseous, LPG/Diesel, 15 liter petrol tank, etc.). It would be beneficial to introduce under VPSD more general definitions on the different kinds of fuel operations of powertrains, while regulations could use more specified terminology (but based upon the general definitions) and define related tests or exemptions.

→ VPSD upcoming proposal to be discussed by GFV IWG

B. 9.2. Hybrid Electric Vehicle (HEV)

Currently different definitions exist worldwide (e.g. HEV is novc/not-externally chargeable and PHEV is ovc/externally chargeable)

Option 1: HEV covers all HV applications with a powertrain containing at least one electric machine as energy converter (VPSD proposal, used by HDH).

Option 2: HEV means a vehicle using at least one fuel consuming machine and one electric machine for the purpose of vehicle propulsion (current WLTP draft GTR).

→ WLTP to provide feedback on HEV definition

B. 10. Characteristics of vehicle powertrains

Currently about 20 terms and definitions are under discussion. This can be further developed at a later stage. This chapter isn't considered as a first priority.

However, the use of harmonized terminology in different regulations might be beneficial.

3. Next steps

- Consolidated VPSD proposal document will be prepared by secretary (Daniela Leveratto) and chairman (Christoph Albus), reviewing VPSD-02-04 and taking into account the outcome of the 3rd VPSD and the 68th GRPE session.
- It will be further elaborated by email and teleconference by VPSD-experts (*).
- A further session of the IWG is not yet scheduled.

(*). Experts willing to contribute shall request the Secretary to be added to the distribution list

4. Way forward

Introduction of an annex into R.E.3 / S.R.1, as a first step and basis, with a view to continue the work in a second step (with or without VPSD IWG), adapting it to technical progress and keeping legislation harmonized.

Request WP.29 to extend the mandate of VPSD IWG (June 2015).