

Work Package 4 Vehicle

Description

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Objectives/Status/Outlook



Legal Situation for hydrogen vehicles in Europe

2

Sound Level **Emissions** **Fuel tanks/rear protective device** Rear registration plate space Steering effort Door latches and hinges Audible Warning

Rear visibility

Masses and dimensions Safety glass Tyres Couplings **Frontal impact** **side impact**

Braking

Suppression (radio)

Diesel smoke

Interior fittings

Anti theft and immobiliser

Protective steering

Seat strength

Exterior projections

Speedometer and reverse gear

Plates (statutory)

Seat belt anchorages

Installation of lighting and
Light signalling device

Reflex reflectors Position lamps Direction indicators Rear registration plate lamps Head lamps Front fog lamps Towing hooks Rear fog lamps

Red marked directives cannot be fulfilled by H₂ vehicles



Orange marked directives should be also amended for H₂ vehicles

Parking lamps

Seat belts

Forward vision

Identification of controls

Defrost/demist

Wash/wipe

Heating systems

Wheel guards

Head restraints

Fuel consumption

Engine power

Diesel emissions

Reversing lamps

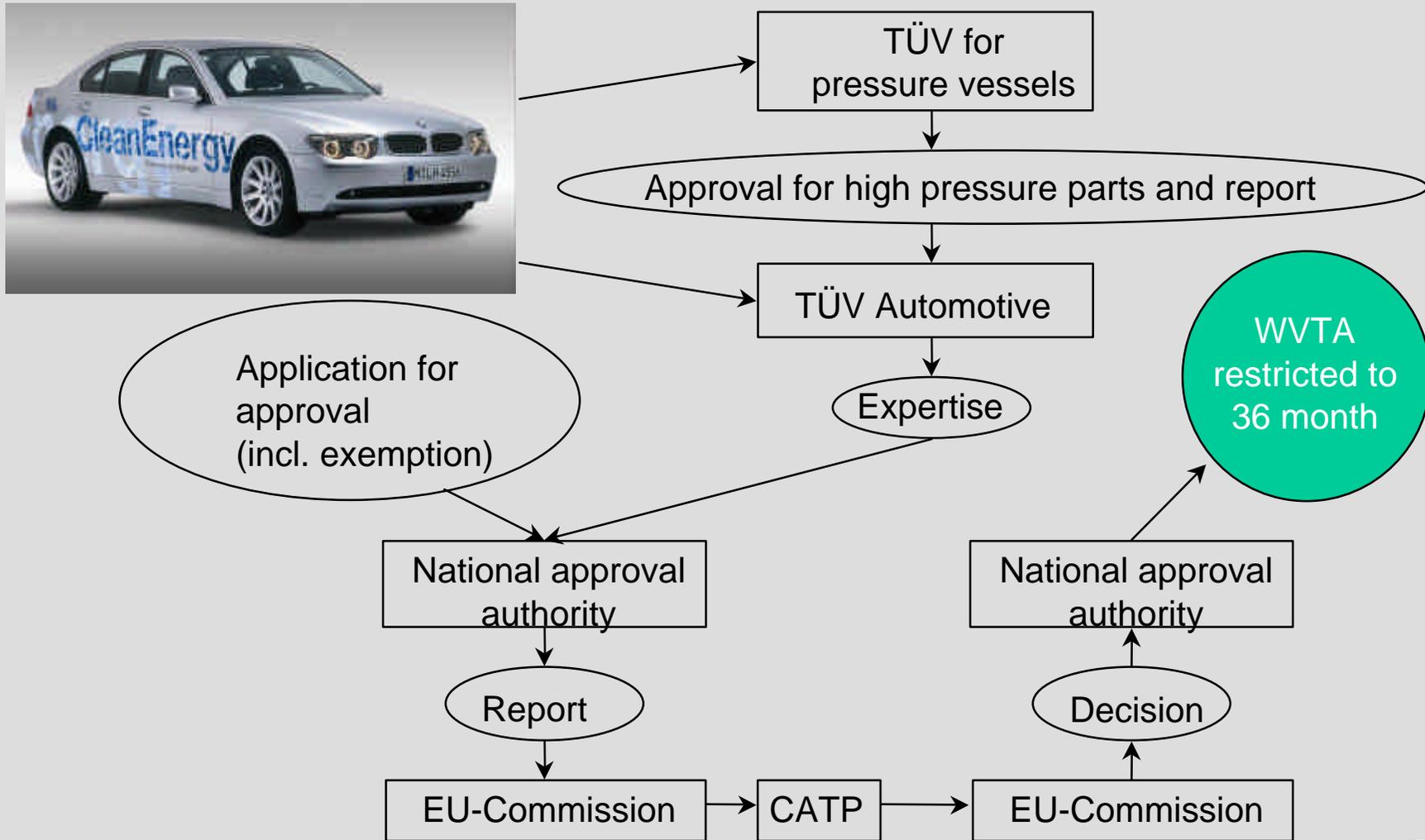


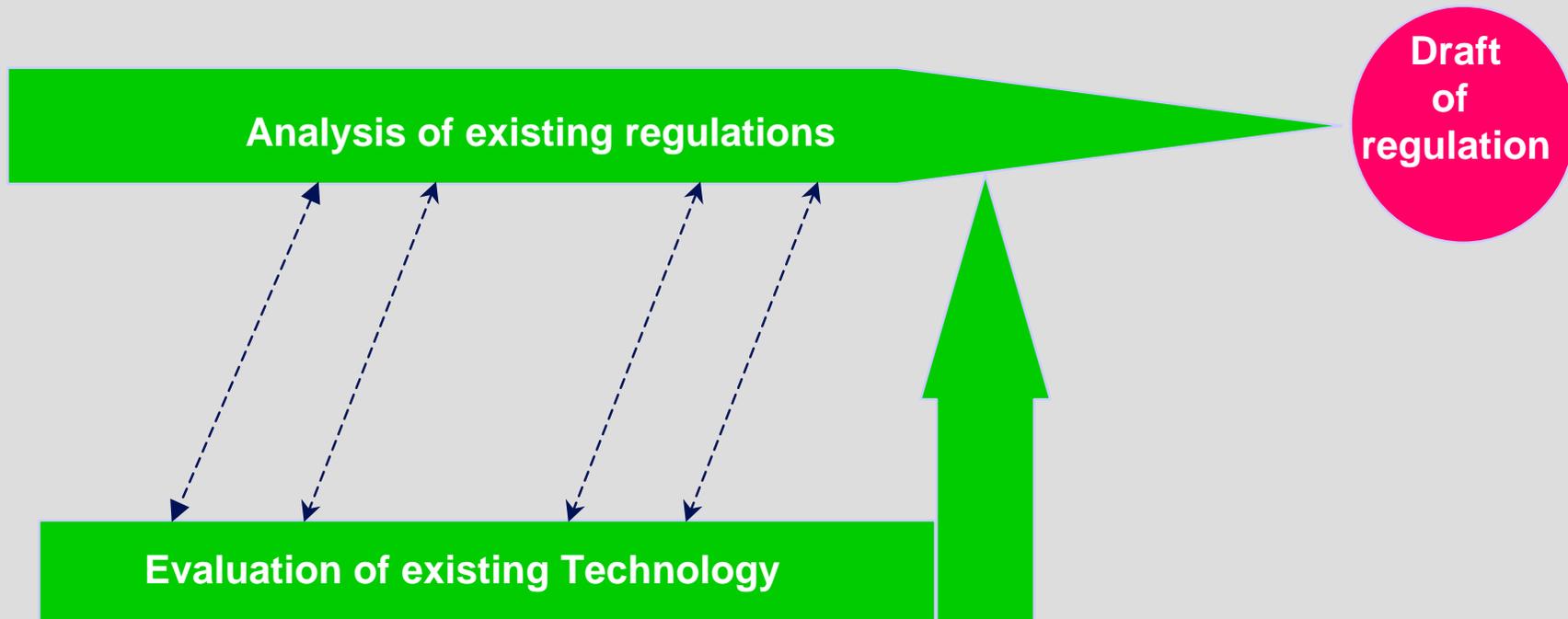
<u>Subject</u>	<u>EEC-Directive/ECE-Regulation</u>
1. Emissions	70/220/EEC incl. latest amendment & ECE R83
2. Fuel tanks/rear protective device	70/221/EEC incl. latest amendment & ECE R34/58
3. Diesel smoke	72/306/EEC incl. latest amendment & ECE R24
4. Identification of controls	78/316/EEC incl. latest amendment
5. Fuel consumption	80/1268/EEC incl. latest amendment & ECE R 101
6. Engine Power	80/1269/EEC incl. latest amendment & ECE R84
7. Diesel emissions	88/77/EEC & ECE R49
8. Side impact	96/27/EC & ECE R95
9. Frontal impact	96/79/EC & ECE R94
10. Roadworthiness tests	96/96/EC & PTI
11. CO2 labelling	99/94/EC
12. Base Directive	70/156/EEC incl. latest amendment
13. Electric Vehicles	NEW EC Directive & ECE R100
14. Defrost/Demist	78/317/EWG (already under progress)



How to get an exemption for H₂ vehicle type approval

4



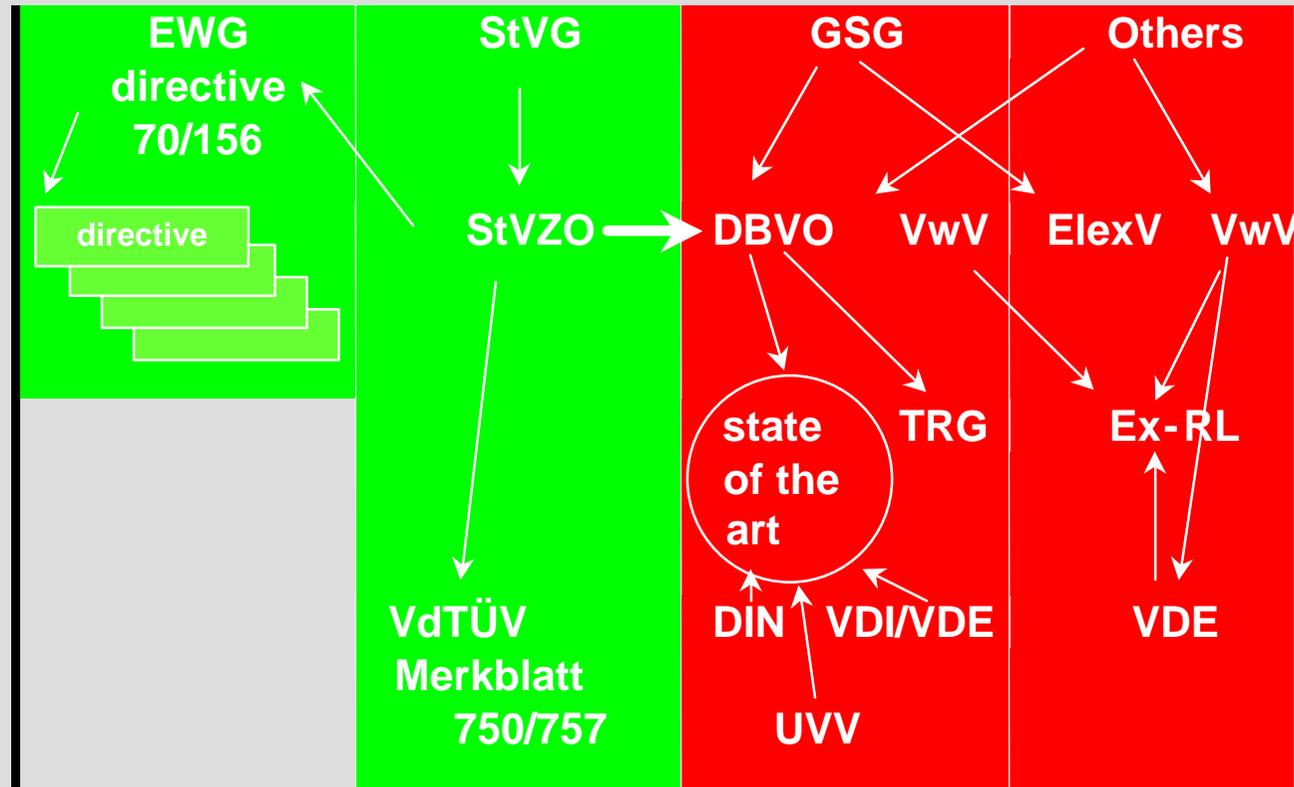


Valid law

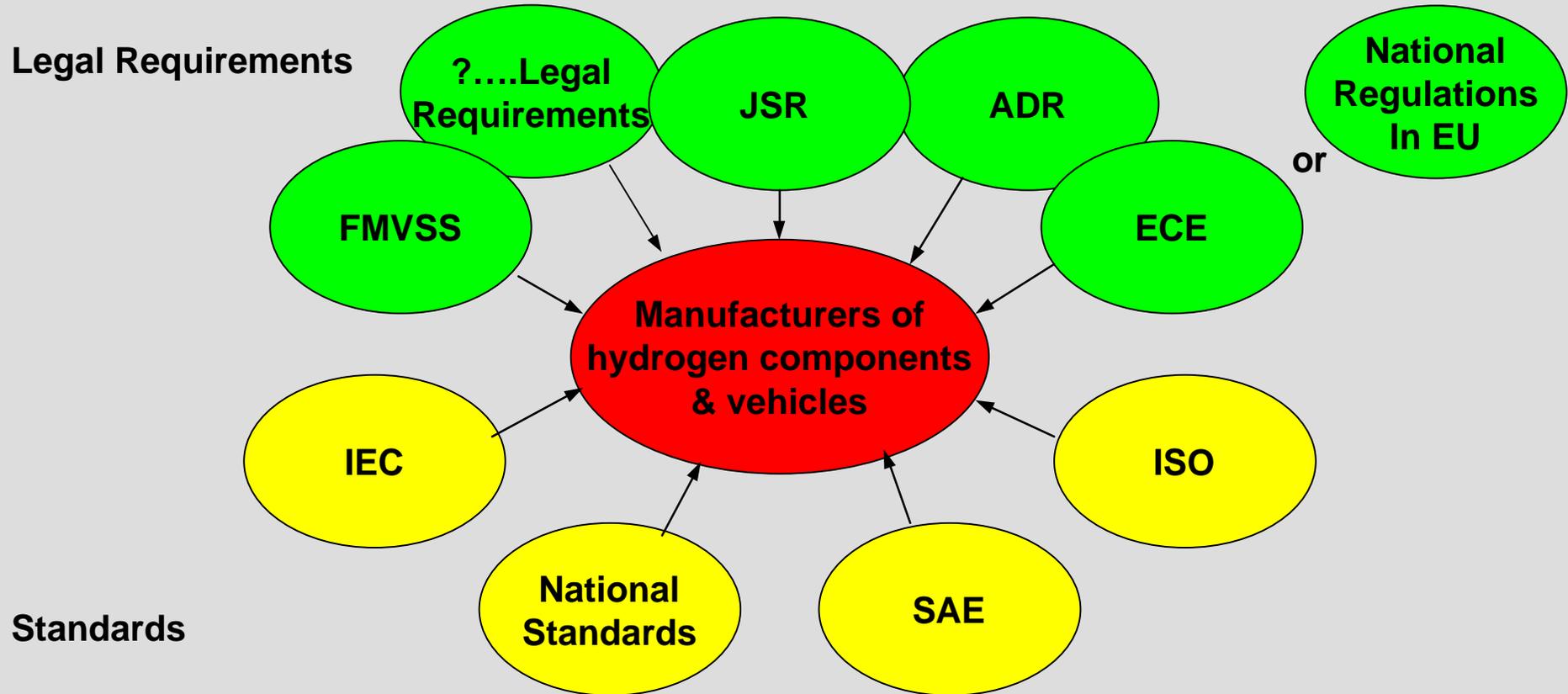
bylaws

Codes of practise

Standards etc.

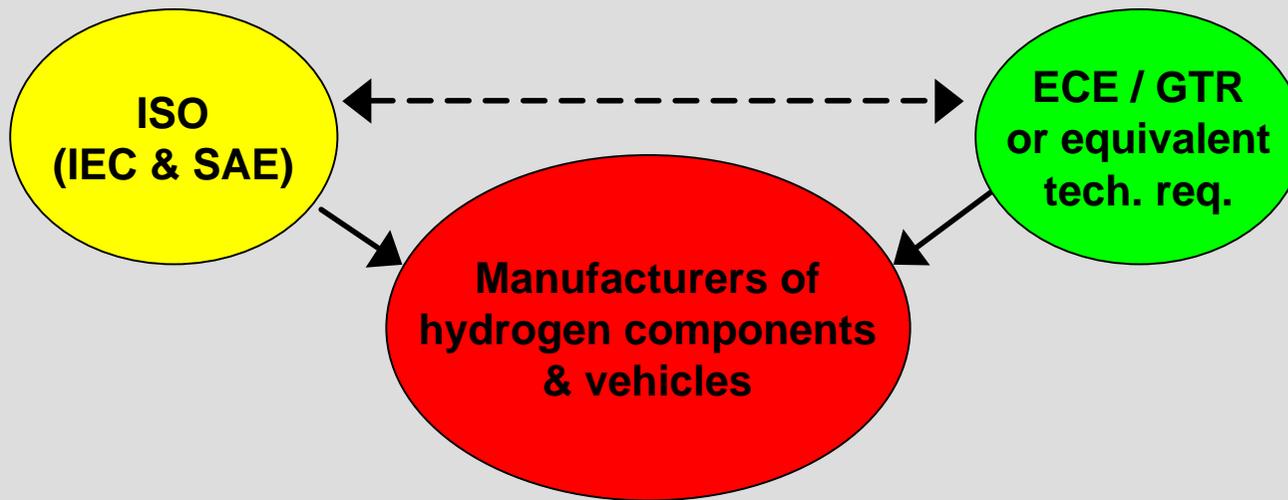






Standards

Legal Requirements



1. List of deficits in rules and regulations including proposals for modification

Status and outlook:

- Rules and regulations are identified
- Workload is distributed to partner
- Drafts for modifications are under development
- Agreed modifications will be forwarded to relevant committees



2. Accepted ECE Regulation

Status and outlook:

- **2 draft regulations are elaborated**
- **Draft regulations are forwarded to ECE in Geneva**
- **GRPE ad hoc working group was formed**
- **Technical discussion with ISO in order to harmonize technical requirements**



LH₂ vehicles

CGH₂ vehicles

Proposal for a new draft regulation

Proposal for a new draft regulation

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF:

- I. SPECIFIC COMPONENTS OF MOTOR VEHICLES USING LIQUID HYDROGEN
- II. VEHICLES WITH REGARD TO THE INSTALLATION OF SPECIFIC COMPONENTS FOR THE USE OF LIQUID HYDROGEN

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF:

- I. SPECIFIC COMPONENTS OF MOTOR VEHICLES USING COMPRESSED GASEOUS HYDROGEN
- II. VEHICLES WITH REGARD TO THE INSTALLATION OF SPECIFIC COMPONENTS FOR THE USE OF COMPRESSED GASEOUS HYDROGEN



3. Global Technical Regulation for Hydrogen fuelled vehicles in the global Registry

Status and outlook:

- Issue was discussed in GRPE
- Decision to prepare an ECE Regulation first



4. Draft for an amending directive to 96/96/EC

Status and outlook:

- Existing rules for periodic inspection where investigated
- First draft for an amending directive (LH2) exists
- Draft is currently checked by different partner and organisations outside EIHP



- **Approval for components and vehicles or an evaluation of necessary major modifications in existing components or vehicles**

Status and outlook:

- **New components and vehicles are under development**
- **Requirements from EIHP drafts are the basis for the development of new vehicles and components**
- **Comments and proposals for modification are gathered from the design departments of vehicle manufacturers and suppliers**
- **Draft regulations are improved continuously**



6. Standard for calculation of safety valves for vehicle application

Status and outlook:

- **Activities of this task have been redefined to issue a recommendation about what regulation to follow when sizing a safety valve for an on board application, as regulation exists and it is not useful to try to rewrite what is already existing**





- **A legal framework must lead to planning reliability for car and component manufacturers as soon as possible**
- **Legal requirements and Standards should be on a global basis i.e. GTR's and ISO**

