

## EVE-26-06e – Development of draft consensus views on battery durability

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*The aim of this document is begin working towards consensus views from the current durability matrix (EVE-25-rev3e), by simplifying views and looking at the pros and cons of each situation.*

WLTP view – all durability requirements should come from contracting parties, and there should be a clear reason as to why a particular xEV durability requirement is needed

## HEV - Air Pollutant: Consolidated views and Pros and Cons

Simplified view	Pros	Cons
Example: Sticking with current standards	Example of Pro (*not actual view): consistent because x.	Example of con (*not actual view): standard is too low and results in x.
Example 2: Opting for higher standard		

### Consensus views if any?

EU view (March 2018) – 160,000 for air pollutants for HEVs and PHEVs (i.e. same as conventional vehicles)  
 EU view (March 2018) – 100,000 km check via in-service conformity protocol (in-service conformity protocol still under development)

Tested after 80,000 km running at type approval in Japan (same as conventional ICE vehicles)

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### HEV – CO<sub>2</sub>/Energy Consumption: Consolidated views and Pros and Cons

Simplified view	Pros	Cons
No set limit CO <sub>2</sub> or energy consumption value for vehicles, so it does not make sense to require a manufacturer to be responsible for a certain target		
Even though there is no set limit CO <sub>2</sub> or energy consumption value for vehicles, this can be checked by type approval authority during in-service conformity, so some type of requirement should be in place		

### Consensus views if any?

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**PHEV – Air Pollutant: Consolidated views and Pros and Cons**

Simplified view	Pros	Cons

**Consensus views if any?**

EU view (March 2018) – 160,000 for air pollutants for HEVs and PHEVs (i.e. same as conventional vehicles)
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EU view (March 2018) – 100,000 km check via in-service conformity protocol (in-service conformity protocol still under development)

Tested after 80,000 km running at type approval in Japan (same as conventional ICE vehicles)

### PHEV – CO<sub>2</sub>/Energy Consumption: Consolidated views and Pros and Cons

Simplified view	Pros	Cons

### Consensus views if any?

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### PHEV – Range: Consolidated views and Pros and Cons

Simplified view	Pros	Cons
Range of PHEV shown to have correlation with how frequently vehicle is plugged in	Minimum all-electric range increased likelihood vehicle will be plugged in	Manufacturers can't control how frequently consumers choose to plug in
Customers make PHEV purchase decisions at least partly on all-electric range, and this is a good case where customer-manufacturer relationship/warranty can manage this concern	Manufacturers currently need to make sure they meet customer expectations, and need is not clear	
Consider splitting requirements for blended PHEV vs range extended PHEV	Vehicles are used differently and buyers normally have different consideration when buying	This makes the topic of EV durability even more complicated, and we're already far from consensus on this
How to correlate degree of hybridization and consider that the way a PHEV is used is likely to change over the life of the vehicle	Longer durability requirements likely to increase use of EV range and reduce ICE operation	EV vs ICE operation will be difficult to measure and is not something manufacturer can control

**Consensus views if any?**

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**PEV – CO2/Energy Consumption: Consolidated views and Pros and Cons**

<b>Simplified view</b>	<b>Pros</b>	<b>Cons</b>
More energy consumed by vehicle means greater upstream emissions, so some kind of standard should be set	Helps to limit environmental impact of upstream emissions	Upstream emissions are out of the control of manufacturers, and therefore not appropriate to be considered as part of a durability requirement

**Consensus views if any?**

No specific EU view yet
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## Consensus views if any?

EU view (March 2018) – should be a minimum durability requirement (i.e. minimum range maintenance). No firm view on what threshold of minimum range should be. Purpose is to protect consumer expectations and also protect market from flood of low-quality products.

Japan – no firm view yet, interested in research