

## Annex 8 -Appendix 5

### Utility factor (UF) for OVC-HEVs

1. Utility Factors (UFs) are ratios based on driving statistics and the ranges achieved in charge-depleting mode and charge-sustaining modes for OVC-HEVs and are used for weighting emissions, CO2 emissions and fuel consumptions.

2. Each Contracting Party may develop its own UFs.

3. The following UFs are available as of 2016 (← DC may modify to more appropriate description)

$$UF = 1 - \exp\{-[C1*(x/norm\_dist) + C2*(x/norm\_dist)^2 + \dots + C10*(x/norm\_dist)^{10}]\}$$

|           | EC      | JAPAN  | US (fleet) | US (individual) |
|-----------|---------|--------|------------|-----------------|
| Norm_dist | 800 km  | 400 km | 399.9 mile | 400 mile        |
| C1        | 26.25   | 11.8   | 10.52      | 13.1            |
| C2        | -38.94  | -32.5  | -7.282     | -18.7           |
| C3        | -631.05 | 89.5   | -26.37     | 5.22            |
| C4        | 5964.83 | -134   | 79.08      | 8.15            |
| C5        | -25095  | 98.9   | -77.36     | 3.53            |
| C6        | 60380.2 | -29.1  | 26.07      | -1.34           |
| C7        | -87517  | NA     | NA         | -4.01           |
| C8        | 75513.8 | NA     | NA         | -3.9            |
| C9        | -35749  | NA     | NA         | -1.15           |
| C10       | 7154.94 | NA     | NA         | 3.88            |

