Environmental Science & Technology

ADDITION/CORRECTION

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Life Cycle Environmental Assessment of Lithium-Ion and Nickel Metal Hydride Batteries for Plug-In Hybrid and Battery Electric Vehicles [*Environmental Science & Technology* **2011**, *45*, 4548−4554. DOI: 10.1021/es103607c]. Guillaume Majeau-Bettez* Troy R. Hawkins and Anders Hammer Strømman

An error was found in the calculation of the final shipping of the batteries by transoceanic transport. This led to a slight underestimation of the life cycle environmental impacts of the batteries. The error, however, has no influence on the conclusions of this article.

The error has no bearing on the cradle-to-gate portion of our results, reported in Figure 3 of our article. The life cycle environmental impacts reported in Figure 2 were, however, underestimated by typically less than 1%. Only *photochemical oxidant formation potentials* (POFP) erred by 2−4%. Due to rounding, the corrections affect some figures when presented with two significant digits. The corrected values are presented in the updated Figure 2, below.

As the three battery types were almost equally affected by the error, their relative comparison is not affected in any significant manner. The corrected graphical comparison of the different battery types in Figure 2 (right-hand side) is visually indistinguishable from the original. Thus, the relative ranking of the different battery types is not changed in any significant manner.

The Supporting Information was modified to reflect the corrections, which occurred in Table S2 and had consequences on Tables S27, S28, S29). Additionally, Tables S3 and S15 were corrected for minor typographical errors, which came during the redaction and had no impact on our results.

The authors wish to express their deepest gratitude to Dr. Ronald J. Wroczynski for quickly identifying this error.

■ ASSOCIATED CONTENT

Supporting Information. This material is available free of charge via the Internet at http://pubs.acs.org.

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FU: charge-discharge 50 MJ		NiMH	NCM	LFP
GWP_{100}	*kg CO_2-eq*	3.6	1.9	1.5
FDP	*kg oil-eq*	1.0	0.46	0.37
$FETP_{inf}$	*kg 1,4-DCB-eq*	0.13	$5.1x10^{-2}$	$3.4x10^{-2}$
FEP	*kg P-eq*	$4.6x10^{-3}$	$2.7x10^{-3}$	$2.0x10^{-3}$
HTP_{inf}	*kg 1,4-DCB-eq*	5.6	4.1	2.7
$METP_{inf}$	*kg 1,4-DCB-eq*	0.13	$5.6x10^{-2}$	$3.7x10^{-2}$
MEP	*kg N-eq*	$4.1x10^{-3}$	$2.5x10^{-3}$	$1.9x10^{-3}$
MDP	*kg Fe-eq*	1.1	0.85	0.30
ODP_{inf}	*kg CFC-11-eq*	$1.0x10^{-5}$	$1.1x10^{-5}$	$7.5x10^{-6}$
PMFP	*kg PM10-eq*	$2.4x10^{-2}$	$3.7x10^{-3}$	$2.2x10^{-3}$
POFP	*kg NMVOC*	$1.7x10^{-2}$	$4.7x10^{-3}$	$3.2x10^{-3}$
TAP_{100}	*kg SO_2-eq*	$9.9x10^{-2}$	$1.2x10^{-2}$	$6.6x10^{-3}$
$TETP_{inf}$	*kg 1,4-DCB-eq*	$1.2x10^{-3}$	$3.1x10^{-4}$	$1.8x10^{-4}$

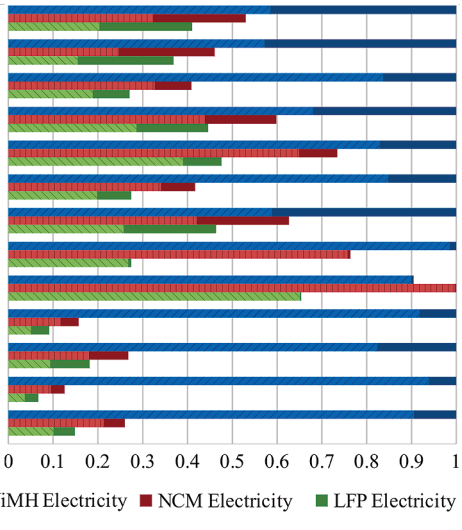

Figure 2. Life cycle environmental impacts of storing 50 MJ of electrical energy in NiMH, NCM, and LFP traction batteries and delivering it to a PHEV or BEV powertrain. Total impacts are expressed quantitatively (left), and also normalized against the worst performance (graphically, right), with impacts broken down between the production of the battery and the electricity consumption during the use phase. *Impact Categories:* global warming (GWP), fossil depletion (FDP), freshwater ecotoxicity (FETP), freshwater eutrophication (FEP), human toxicity (HTP), marine ecotoxicity (METP), marine eutrophication (MEP), metal depletion (MDP), ozone depletion (ODP), particulate matter formation (PMFP), photochemical oxidant formation (POFP), terrestrial acidification (TAP), terrestrial ecotoxicity (TETP) potentials, with the suffixes "eq", "inf" and "100" referring to "equivalent", infinity and 100 years, respectively. *Abbreviations:* 1,4-DCB refers to 1,4-dichlorobenzene, CFC-11 to trichlorofluoromethane, PM10 to "particulate matter less than 10 μm in diameter", NMVOC to "nonmethane volatile organic carbon".