

# Prof. Dr. Jens Borken-Kleefeld - Curriculum vitae

## Persönliche Angaben

Dr. Jens Borken-Kleefeld  
Professor für Verkehrsökologie  
Fakultät Verkehrswissenschaften  
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## Wissenschaftliche Tätigkeiten

Seit 9/2022

### **Fakultät Verkehrswissenschaften, Technische Universität Dresden**

Professor für Verkehrsökologie mit Forschungsschwerpunkten

- Elemente einer Klimafreundlichen Mobilität
  - Sauberer Verkehr und big data Analyse von Remote Sensing Emissionsdaten.
- Forschung und Beratung für deutsche und europäische Auftraggeber.

Leitung von Lehrstuhl und MitarbeiterInnen, Lehre zu Verkehr und Umwelt, Betreuung von DoktorandInnen, Diplom-/Master-Studierenden.

Seit 4/2008

### **IIASA – International Institute for Applied Systems Analysis, Department for Air Quality and Greenhouse Gases (AIR), Laxenburg/AT**

Senior Scientist. Arbeiten zu

- Kosten-Wirksamkeitsanalysen von möglichen Minderungsmaßnahmen beim Verkehr in Europa, China, Indien, weltweit
- Emissionsszenarien für Verkehr in Europa, Indien, China, Südasiens, weltweit;
- Remote sensing der Realemissionen von KFZ.

Forschung und Beratung für die EU Kommission, UNFCCC, IEA, Weltbank, ...  
Betreuung von Doktoranden und Diplom-/Master-Studierenden

4/2002 – 3/2008

### **DLR – Deutsches Zentrum für Luft- und Raumfahrt, Institut für Verkehrsforschung, Berlin**

Wissenschaftlicher Mitarbeiter (TVOeD E14) und Projektleiter

- Multi-kriterielle Bewertung für Nachhaltige Mobilität.
- Langfristszenarien der Klimawirkungen von Verkehr weltweit;
- Verkehrsentwicklung in Indien und China;

Leitung von EU-Forschungsprojekten; Feldstudien in Indien und China.  
Betreuung von Promovierenden und Diplom-/Master-Studierenden

4/2004 – 11/2004

### **INRETS - French National Transportation Research Institute, Bron/FR (jetzt IFFSTAR) Gastwissenschaftler am Laboratoire Transport et Environnement**

- Multi-kriterielle Bewertungsmethoden;
- Indikatoren für umweltfreundlichen Verkehr.

10/1996 – 3/2002

### **IFEU - Institut für Energie- und Umweltforschung Heidelberg gGmbH, Fachbereich Verkehr & Umwelt**

Wissenschaftlicher Mitarbeiter

Angewandte Umweltforschung und Politikberatung

- Indikatoren für umweltfreundlichen Verkehr;
- Umweltbewertung von Verkehr und Verkehrsträgern;
- Emissionsmodellierung für europäische Länder.

Projekte für Bund und Länder, Industrie und Verbände.

## Universitätsabschlüsse

- 8/2003 - 7/2005      **Universität Freiburg im Breisgau**  
Dr. rer.nat. mit einer Arbeit zur Umweltbewertung von Verkehr, Fakultät für Angewandte Wissenschaften (berufsbegleitend):  
'Umweltindikatoren als ein Instrument der Technikfolgenabschätzung'
- 10/1996 – 9/1998      **Universität Heidelberg**  
Postgraduierte Weiterbildung, Diplom in:  
International Environmental Law and Ecological Economics.
- 10/1993 – 9/1994      **Imperial College, London/Großbritannien**  
MSc / International Diploma: „Quantum Fields and Fundamental Forces“  
Voll-Stipendium des Deutschen Akademischen Austauschdienstes (DAAD).
- 10/1990 – 9/1996      **Universitäten Bonn und Heidelberg**  
Diplom-Physiker mit einer Arbeit in Umweltphysik: „Ozonabbau in der arktischen Grenzschicht: Reaktionskinetische Modellrechnungen zu einem Frühjahrsphänomen“

- Mitglied**      European Research Group on Mobile Emission Sources (ERMES),  
WG Remote sensing.
- Koordinator**      YSSP-Young Scientists Summer Program der Abteilung am IIASA 2009-2017;  
Member and Chairperson of the Institute's YSSP Award Committee;  
Co-host for the Institute-wide *Lunchtime seminar series*;  
IIASA *Carbon Footprint Initiative* seit 2012;  
Co-Organisator des jährlichen *Laxenburger Energie- und Klimatag*, seit 2013.
- Gutachter für**      European Research Council (Marie Curie and other programs);  
Irish Environmental Protection Agency, Hong Kong Innovation Agency;  
Transport Policy, Transportation Research, Science of the Total Environment,  
Atmospheric Environment, Energy Policy, Environmental Science & Technology,  
(featured reviewer in Elsevier's Journal 'Reviewer's Update' 12/2011).
- Sprachen**      Deutsch: Muttersprache;  
Englisch: Arbeitssprache, voll verhandlungssicher;  
Französisch: Sehr gut (C1);  
Spanisch: Mittel (B1).

## Eingeladener Experte zu Verkehr und Umwelt

|                   |                                                                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2002              | 'Mobility Forum' of the United Nations Environment Programme - Division of Technology, Industry and Economics (UNEP-DTIE), Paris.                                   |
| 2003 – 2004       | 'Health Impacts of Transport-Related Air Pollution in the European Region', World Health Organisation (WHO-ECE), Bonn.                                              |
| 2005 – 2006       | 'TRANSFORUM - Scientific forum on transport forecast validation and policy assessment', WP 'Fitness for purpose of definitions and indicators.'                     |
| 2006              | 'TERM – Transport and Environment Reporting Mechanism', European Environment Agency, Copenhagen/DK.                                                                 |
| 2007 – 2008       | 'ATTICA - European Assessment of Transport Impacts on Climate Change and Ozone Depletion'. Lead author for Land Transport Assessment.                               |
| 2008              | 'The future of European long distance Transport'. STOA Scientific Technology Options Assessment of the European Parliament. Copenhagen/DK                           |
| 2009              | 'FreightVision – FORESIGHT on Policy, Technology & External Factors of Freight Transportation in Europe'. EU FP7 Project, Brussels.                                 |
| 2009              | 'Workshop on Mitigation Policies of Emissions from Road Transport', EU DG Enlargement and Turkish Ministry of Environment and Forestry, Ankara.                     |
| 2012/2013         | Expert Reviewer for IPCC Assessment Report 5, WG III: "Mitigation of Climate Change"                                                                                |
| Seit 2010         | Editor forecoinvent - Swiss Center for Life Cycle Inventories, responsible for Land Transport.                                                                      |
| Seit 2012         | Expert to the European Commission, DG ENV for the Revision of the Thematic Strategy on Air Pollution.                                                               |
| Seit 2012         | Expert in remote sensing of vehicle on-road exhaust emissions                                                                                                       |
| Seit 2017         | Scientific Advisory Board: International Conference on Transport & Air Pollution                                                                                    |
| 2018              | Invited expert for DG GROW on "Preparing for the future European Emission Standards on Light and Heavy Duty Vehicles". Brussels, 22 October 2018.                   |
| 05/2019 – 04/2022 | Member of Scientific Management Board of H2020 Research Project "CARES – City Air Remote Emission Sensing"                                                          |
| 02/2020 – 01/2024 | Member of Scientific Management Board of H2020 Research Project "EMERGE - Evaluation, control and Mitigation of the Environmental Impacts of Shipping Emissions"    |
| 05/2019 – 04/2022 | Member of Scientific Advisory Board for H2020 Research Project "uCARe - You Can Always Reduce Emissions because you care"                                           |
| 06/2020-05/2022   | Member of Scientific Advisory Board for a research project by the Irish Environmental Protection Agency: Roadside Emissions in Dublin: Measurements and Projections |

## Bibliometrie

Ca. 100 Forschungsarbeiten sind öffentlich verfügbar

|                  | Google Scholar Profile<br>(20 Okt. 2020) |              | Researchgate<br>(23 Okt. 2020): |       |
|------------------|------------------------------------------|--------------|---------------------------------|-------|
|                  | All                                      | Past 5 years |                                 | All   |
| <b>Citations</b> | 3019                                     | 2144         | <b>Citations</b>                | 2768  |
| <b>h-index</b>   | 29                                       | 25           | <b>Reads</b>                    | 22908 |
| <b>i10-index</b> | 42                                       | 37           | <b>RG score</b>                 | 32    |

## Veröffentlichungen (chronologisch)

### Fachartikel (peer-reviewed)

1. Borken, J., Patyk, A., Reinhardt, G.A., 1998: *Landmaschinen und Ökobilanzen - Eine Methode zur differenzierten Bilanzierung von Kraftstoffverbrauch und Emissionen*. VDI Berichte, 1449, 1998, p. 133-138.
2. Borken, J. and Höpfner, U. 2000: *Es liegt noch länger etwas in der Luft*. Deutsche Verkehrs-Zeitung Nr. 151, 19 Dec 2000, S. 12
3. Becker, U., Arlt, G., Beckmann, K., Borken, J., Gorissen, N., Hensel, H., Holz-Rau, C., Jakob, T., Klewe, H., Kritzing, S., Reiter, U., Richard, J., Wacker, M. und Wilke, G. 2003: *Nachhaltige Verkehrsentwicklung*. Forschungsgesellschaft für Straßen- und Verkehrswesen (Hg.) FGSV-Arbeitspapier Nr. 59.
4. Borken, J.; Fleischer, T.; Halbritter, G. 2006: *Zukunftsfähige Verkehrspolitik: Ansätze für den Personenverkehr. Einführung in den Schwerpunkt*. Hocke-Bergler, Peter; Grunwald, Armin; Hoffmann, Brigitte [Hrsg.]: *Technikfolgenabschätzung - Theorie und Praxis*, 3, Forschungszentrum Karlsruhe, ITAS Institut für Technikfolgenabschätzung und Systemanalyse, S. 4 - 11, Dez. 2006. ISSN 1619-7623.
5. Borken, J., Steller, H., Meretei, T., Vanhove, F. 2007: *Global and country inventory of road passenger and freight transportation: Fuel consumption and emissions of air pollutants in the year 2000*. Transportation Research Records – Journal of the Transportation Research Board. ISSN 0361-1981, Vol. 2011, 127-136, 2007. (doi 10.3141/2011-14)
6. Borken, J. and Keimel, H. 2007: *Mobilität und Verkehr im Rahmen einer nachhaltigen Entwicklung*. Internationales Verkehrswesen 59, 10/2007.
7. Birmili, W., Alaviippola, B., Hinneburg, D., Knoth, O., Tuch, Th., Borken-Kleefeld, J., Schacht, A. 2008: *Dispersion of traffic-related exhaust particles near the Berlin urban motorway: Estimation of fleet emission factors*. Atmospheric Chemistry and Physics Discussions 8, 15537-15594, 2008. Then published in Atmos. Chem. Phys., 9, 2355-2374, 2009.
8. P. Hoor, J. Borken-Kleefeld, D. Caro, O. Dessens, O. Endresen, M. Gauss, V. Grewe, D. Hauglustaine, I.S.A Isaksen, P. Jöckel, J. Lelieveld, E. Meijer, D. Olivier, M. Prather, C. Schnadt-Poberaj, J. Stähelin, Q. Tang, J. v. Aardenne, P. van Velthoven, and R. Sausen: *The impact of traffic emissions on atmospheric ozone and OH: Results from QUANTIFY*. Atmos. Chem. Phys. Discuss., 8, 18219-18266, 2008. Final revised paper: Atmos. Chem. Phys., 9, 3113-3136, 2009.
9. Baidya, S., Borken-Kleefeld, J.: *Atmospheric emissions from road transportation in India*. Energy Policy, 37, 3812-3822, 2009, doi:10.1016/j.enpol.2009.07.010
10. Uherek, E., Halenka, T., Borken-Kleefeld, J., Balkanski, Y., Berntsen, T., Borrego, C., Gauss, M., Hoor, P., Juda-Rezler, K., Lelieveld, J., Melas, D., Rypdal, K., Schmid, S.: *Transport Impacts on Atmosphere and Climate: Land Transport*. Atmospheric Environment, 2010, 44 (37), pp. 4772-4816 doi:10.1016/j.atmosenv.2010.01.002. **(for >36 months among the most downloaded papers)**
11. Borken-Kleefeld, J., Berntsen, T., Fuglestedt, J.: *Specific climate impact of passenger and freight transport*. Environmental Science & Technology, 2010, 44 (15), pp 5700–5706. doi:10.1021/es9039693 **(for >12 months among the most downloaded papers)**
12. Myhre, G., Shine, K.P., Rädel, G., Gauss, M., Isaksen, I., Tang, Q., Prather, M.J., Williams, J., van Velthoven, P., Dessens, O., Koffi, B., Szopa, S., Hoor, P., Grewe, V., Borken-Kleefeld, J., Berntsen, T.K., Fuglestedt, J.: *Radiative forcing due to changes in ozone and methane caused by the transport sector*. Atmospheric Environment 2010, 45 (2), 387-394, doi: 10.1016/j.atmosenv.2010.10.001.
13. Borken-Kleefeld, J., Sausen, R.: *„Wie viel tragen die „klassischen“ Luftschadstoffe zur globalen Erwärmung bei?“* Internationales Verkehrswesen (63) 1, 2011, p.50-52
14. Borken-Kleefeld, J., Berntsen, T., Fuglestedt, J.: *Times matter! - Response to Wallington et al.*: Environmental Science & Technology 2011, 45 (7), 3167-3168.
15. E. Saikawa, J. Kurokawa, M. Takigawa, J. Borken-Kleefeld, D. L. Mauzerall, L. W. Horowitz, and T. Ohara: *The impact of China's vehicle emissions on regional air quality in 2000 and 2020: a scenario analysis*. Atmos. Chem. Phys., 11, 9465-9484, 2011.

16. Amann M, Bertok I, Borcken-Kleefeld J, Cofala J, Heyes C, Höglund-Isaksson L, Klimont Z, Nguyen B, Posch M, Rafaj P, Sandler R, Schöpp W, Wagner F, Winiwarter W: *Cost-effective control of air quality and greenhouse gases in Europe: Modeling and policy applications*. Environmental Modelling & Software, 26(12):1489-1501, 2011.
17. Wagner, F., Amann, M., Borcken-Kleefeld, J., Cofala, J., Höglund-Isaksson, L., Purohit, P., Rafaj, P., Schöpp W, Winiwarter W: *Sectoral marginal abatement cost curves: Implications for mitigation pledges and air pollution co-benefits for Annex I countries*. Sustainability Science, 7(2):169-184, 2012. doi:10.1007/s11625-012-0167-3
18. Borcken-Kleefeld, J., J. Fuglestvedt, and T. Berntsen: *Mode, Load, and Specific Climate Impact from Passenger Trips*. Environmental Science & Technology 2013 47 (14), 7608-7614, doi: 10.1021/es4003718 (**Best Policy Paper in ES&T in 2013**).
19. Aamaas, B., J. Borcken-Kleefeld, G. P. Peters: *The climate impact of travel behavior: A German case study with illustrative mitigation options*. Environmental Science & Policy, Volume 33, November 2013, 273-282, doi: 10.1016/j.envsci.2013.06.009.
20. Kiesewetter, G., J. Borcken-Kleefeld, W. Schöpp, C. Heyes, P. Thunis, B. Bessagnet, E. Terrenoire, A. Gsella, M. Amann: *Modelling NO<sub>2</sub> concentrations at the street level in the GAINS integrated assessment model: projections under current legislation*. Atmos. Chem. Phys. 14 (2), Jan 2014, p. 813-829. doi: 10.5194/acp-14-813-2014.
21. Chen, Y., J. Borcken-Kleefeld: *Real-driving emissions from cars and light commercial vehicles - Results from 13 years remote sensing at Zurich/CH*. Atmospheric Environment, (88), p. 157-164, 2014 doi: 10.1016/j.atmosenv.2014.01.040
22. G. Kiesewetter, J. Borcken-Kleefeld, W. Schöpp, C. Heyes, P. Thunis, B. Bessagnet, E. Terrenoire, and M. Amann: *Modelling street level PM<sub>10</sub> concentrations across Europe: source apportionment and possible futures*. Atmos. Chem. Phys. Discuss., 14, 18315-18354, 2014. doi:10.5194/acpd-14-18315-2014.
23. J. Borcken-Kleefeld, Chen, Y.: *New emission deterioration rates for gasoline cars - Results from long-term measurements*. Atmospheric Environment, (101) 58-64, 2015. doi: 10.1016/j.atmosenv.2014.11.013
24. Zheng, Bo, Qiang Zhang, J. Borcken-Kleefeld, Hong Huo, Dabo Guan, Z. Klimont, G.P. Peters, Kebin He: *How will greenhouse gas emissions from motor vehicles be constrained in China around 2030?* Applied Energy 156 (2015) 230–240. <http://dx.doi.org/10.1016/j.apenergy.2015.07.018>.
25. Chen, Y., J. Borcken-Kleefeld: *NO<sub>x</sub> Emissions from Diesel Passenger Cars Worsen with Age*. Environ. Sci. Technol., (50) 7, 19 April 2016, pp:3327-3332. doi: 10.1021/acs.est.5b04704
26. Amann, M., Pallav Purohit, Anil D. Bhanarkar, Imrich Bertok, Jens Borcken-Kleefeld, Janusz Cofala, Chris Heyes, Gregor Kiesewetter, Zbigniew Klimont, Jun Liu, Dipanjali Majumdar, Binh Nguyen, Peter Rafaj, Padma S. Rao, Robert Sander, Wolfgang Schöpp, Anjali Srivastava, B. Harsh Vardhan: *Managing future air quality in megacities: A case study for Delhi*. Atmospheric Environment (161) July 2017, pp. 99-111, <https://doi.org/10.1016/j.atmosenv.2017.04.041>.
27. Klimont, Z., Kaarle Kupiainen, Chris Heyes, Pallav Purohit, Janusz Cofala, Peter Rafaj, Jens Borcken-Kleefeld, and Wolfgang Schöpp: *Global anthropogenic emissions of particulate matter including black carbon*. Atmos. Chem. Phys. 17 (14): 8681-8723, 20 Oct 2016. doi: 10.5194/acp-17-8681-2017. (see also: Atmospheric Chemistry and Physics Discussions 17 (14): 8681-8723. doi:10.5194/acp-2016-880.)
28. JE Jonson, J Borcken-Kleefeld, D Simpson, A Nyíri, M. Posch, C. Heyes: *Impact of excess NO<sub>x</sub> emissions from diesel cars on air quality, public health and eutrophication in Europe*. Env Res Let, 12 (9): e094017. 2017. **Most downloaded paper for 4 weeks, about 26400 full text downloads since 18 Sept 2017; “in the top 5% of all research outputs scored by Altmetric”**
29. L Höglund-Isaksson, P Purohit, M Amann, I Bertok, J. Borcken-Kleefeld: *Cost estimates of the Kigali Amendment to phase-down hydrofluorocarbons*. Env. Sci & Pol, 75, 138-147, 2017.
30. C Li, J Borcken-Kleefeld, J Zheng, Z Yuan, J Ou, Y Li: *Decadal evolution of ship emissions in China from 2004 to 2013 by using an integrated AIS-based approach and projection to 2040*. Atm. Chem. Phys. Disc., 1-36. DOI:10.5194/acp-2017-743. 2017  
accepted as Li C, Borcken-Kleefeld J, Zheng J, Yuan Z, Ou J, Li Y, Wang Y, & Xu Y (2018). *Decadal evolution of ship emissions in China from 2004 to 2013 by using an integrated AIS-based approach and projection to 2040*. Atmospheric Chemistry and Physics 18 (8): 6075-6093. DOI:10.5194/acp-18-6075-2018.

31. Rafaj P, Kiesewetter G, Gül T, Schöpp W, Cofala J, Klimont Z, Purohit P, Heyes C, Amann, M.; Borken-Kleefeld, J. (2018). *Outlook for clean air in the context of sustainable development goals*. *Global Environmental Change* 53: 1-11. DOI:10.1016/j.gloenvcha.2018.08.008.
32. Purohit, Pallav; Amann, Markus; Kiesewetter, Gregor; Rafaj, Peter; Chaturvedi, Vaibhav; Dholakia, Hem H; Koti, Poonam Nagar; Klimont, Zbigniew; Borken-Kleefeld, Jens; Gomez-Sanabria, Adriana (2019). *Mitigation pathways towards national ambient air quality standards in India*. *Environment International* 133, 105147,
33. Chen, Yuche; Zhang, Yunteng; Borken-Kleefeld, Jens (2019). *When is enough? Minimum sample sizes for on-road measurements of car emissions*. *Environmental Science & Technology*, 53 (22), 13284-13292
34. Davison, Jack; Bernard, Yoann; Borken-Kleefeld, Jens; Farren, Naomi J; Hausberger, Stefan; Sjödin, Åke; Tate, James E; Vaughan, Adam R; Carslaw, David C (2020). *Distance-based emission factors from vehicle emission remote sensing measurements*. *Science of the Total Environment*, 739, 139688.
35. Chen, Yuche; Sun, Ruixiao; Borken-Kleefeld, Jens (2020). *On-road NOx and smoke emissions of diesel light commercial vehicles—Combining remote sensing measurements from across Europe*. *Environmental Science & Technology* 54 (19) 11744–11752
36. Amann, Markus; Kiesewetter, Gregor; Schöpp, Wolfgang; Klimont, Zbigniew; Winiwarter, Wilfried; Cofala, Janusz; Rafaj, Peter; Höglund-Isaksson, Lena; Gomez-Sabriana, Adriana; Heyes, Chris (2020). *Reducing global air pollution: the scope for further policy interventions*. *Philosophical Transactions of the Royal Society A* 378 (2183) 20190331.
37. Rauterberg-Wulff, A., Schmidt, W., Düring, I., & Borken-Kleefeld, J. (2021). Bestimmung der Real-Emissionen von Kraftfahrzeugen im Berliner Straßenverkehr. *Immissionsschutz*, (3).
38. Qiu, M., & Borken-Kleefeld, J. (2022). Using snapshot measurements to identify high-emitting vehicles. *Environmental Research Letters*, 17(4), 044045.
39. Shu, Y., Hu, J., Zhang, S., Schöpp, W., Tang, W., Du, J., ... & Xie, D. (2022). Analysis of the air pollution reduction and climate change mitigation effects of the Three-Year Action Plan for Blue Skies on the “2+ 26” Cities in China. *Journal of Environmental Management*, 317, 115455.

## Buchbeiträge

1. Gühneemann, A. et al. 1998: *Entwicklung eines Verfahrens zur Aufstellung umweltorientierter Fernverkehrskonzepte als Beitrag zur Bundesverkehrswegeplanung*. (IWW Karlsruhe, IFEU Heidelberg, KuP Freiburg, PÖU Hannover, PTV Karlsruhe) Im Auftrag des Umweltbundesamt (F+E-Vorhaben Nr. 105 060 01). Karlsruhe 1998. UBA Berichte 4/99, ISBN: 3-503-04825-1, 490 p.
2. Mangelsdorf, I. et al. 1998: *Durchführung eines Risikovergleiches zwischen Dieselmotoremissionen und Ottomotoremissionen hinsichtlich ihrer kanzerogenen und nicht-kanzerogenen Wirkungen*. (Fraunhofer ITA, Hannover, IFEU Heidelberg, Med. Inst. f. Umwelthygiene, Düsseldorf, FoBiG Freiburg) Forschungsbericht 297 61 001/01 Im Auftrag des Umweltbundesamt. UBA Berichte 2/99, Erich Schmidt Verlag Berlin 1999, ISBN: 3-503-04862-6, 302 p.
3. Borken, J. und Höpfner, U. 1998: *Sustainable mobility – nachhaltig verkehrt?* In: Schmidt, M. und Höpfner, U. (Ed.): 20 Jahre ifeu-Institut - Engagement für die Umwelt zwischen Wissenschaft und Politik. Vieweg Verlag Braunschweig/Wiesbaden 1998, ISBN: 3-528-06980-5, pp. 145-152.
4. Borken, J. 2000: *Growing traffic and better air quality? Emission modelling shows declining traffic pollutant emissions* In: Ratka, R. (Deutsche Stiftung für Internationale Entwicklung DSE) (Hg.): *Environmental Issues in Investment Planning for Sustainable Development*. Proceedings of a Seminar for Planning Experts from Vietnam, Germany June 2000. pp. 147-153, ISBN-Nr.: 3-00-009599-3.
5. Borken, J. and Höpfner, U. 2000: *Mobilität nachhaltig verkehrt?* In: M. Roth et al. (Hrsg.) Themenparkkatalog der EXPO 2000, Bd. 1, Springer Verlag, Wien/New York/Heidelberg, ISBN: 3-211-83434-6, pp. 101-105
6. Krasenbrink, A., Keuken, M., Borken, J. et al. 2005: *Factors determining emissions in the WHO European Region (Ch.1) and Contribution of traffic to levels of ambient air pollution in Europe (Ch.2)*. In: *Health effects of transport related air pollution*. Eds.: M. Krzyzanowski, B. Kuna-Dibbert, J. Schneider 2005, 206 + xvi pp. World Health Organisation (WHO) Copenhagen, ISBN 92-890-1373-7
7. Steller, H. and Borken, J. 2006: *Global road transport's emission inventory for the year 2000*. In Sausen, R., A. Blum, D.S. Lee and C. Brüning (eds.): *Proceedings of an International Conference on Transport, Atmosphere and Climate (TAC)*. Luxembourg, Office for Official Publications of the European Communities, 2006 ISBN 92-79-04583-0, 61-66

8. Borken, J. 2008: *How Big Is Rail's Contribution to Local Air Pollution?* In: Community of European Railway and Infrastructure Companies (CER) and Local Transport Today Ltd (ed.): Rail transport and the Environment: Meeting the challenge. Brussels/London, 2008, p.61-67, ISBN 978-1-899650-44-6
9. Boulter PG, Borken-Kleefeld J, Ntziachristos L: *The evolution and control of NOx emissions from road transport in Europe*. In: The Handbook of Environmental Chemistry, Springer-Verlag, Berlin, Germany pp.1-23 (2012)
10. J Cofala, I Bertok, J Borken-Kleefeld, C Heyes... - Implications of energy trajectories from the World Energy Outlook 2015 for India's air pollution. International Institute for Applied Systems Analysis ..., 2015
11. OECD IEA IIASA (2016). Energy and Air Pollution: World Energy Outlook Special Report 2016. International Energy Agency, Paris, France
12. Heidegger, F., Gerike, R., Schmidt, W., Becker, U., & Borken-Kleefeld, J. (2020). Road-Traffic Emissions. In Managing Air Quality and Energy Systems (pp. 47-60). CRC Press.

### Bücher

1. Borken, J., Patyk, A., Reinhardt, G. 1999: *Basisdaten für ökologische Bilanzierungen – Einsatz von Nutzfahrzeugen in Gütertransport, Landwirtschaft und Bergbau*. Vieweg Braunschweig/Wiesbaden 1999, ISBN: 3-528-03118-2, 223 p + XIII
2. Keimel, H., Berghof, R., Borken, J., Klann, U., 2004. *Nachhaltige Mobilität integrativ betrachtet*. (Vol. 9 in: Global zukunftsfähige Entwicklung – Perspektiven für Deutschland), Edition Sigma, Berlin. ISBN 3-89404-579-5, 158 S.
3. Borken, J. 2005: *Umweltindikatoren als ein Instrument der Technikfolgenabschätzung – Selektion, Aggregation und multi-kriterielle Bewertung am Beispiel des Verkehrs*. PhD-Dissertation at University Freiburg/Breisgau, Faculty for Applied Sciences. 26. April 2005. 153 pp + VIII. <http://www.freidok.uni-freiburg.de/volltexte/1938/>; urn:nbn:de:bsz:25-opus-19385.

### Herausgeberschaften

Mit T. Fleischer und G. Halbritter: *Zukunftsfähige Verkehrspolitik: Ansätze für den Personenverkehr*. Technikfolgenabschätzung - Theorie und Praxis, 3, 2006. Hocke-Bergler, Peter; Grunwald, Armin; Hoffmann, Brigitte [Hrsg.]: Forschungszentrum Karlsruhe, ITAS Institut für Technikfolgenabschätzung und Systemanalyse, S. 4 - 11, Dez. 2006. ISSN 1619-7623.

Editor for *Land Transport* forecoinvent - Swiss Center for Life Cycle Inventories, seit 2013 (<http://www.ecoinvent.org/>)

Associate Editor for *Frontiers in Environmental Science – Air Pollution*, 2016-2019 <https://www.frontiersin.org/journals/environmental-science/sections/air-pollution#>

## Projektberichte (thematisch geordnet)

### Bewertung von Umwelt- und Gesundheitswirkungen des Verkehrs

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37. Borcken-Kleefeld, J.: *Going by car, plane, coach or train?* Invited talk at Stakeholder Meeting: Transport Emissions: the Climate Challenge. Results from IP QUANTIFY and SSA ATTICA, Brussels (BE), 24 June 2010. ([http://www.pa.op.dlr.de/attica/stakeholder-meeting/PDF/Borcken-Kleefeld\\_Comparison\\_100720.pdf](http://www.pa.op.dlr.de/attica/stakeholder-meeting/PDF/Borcken-Kleefeld_Comparison_100720.pdf))
38. Fuglestedt, J.; T. Berntsen, J. Borcken-Kleefeld: *Comparing climate impacts of the transport sectors*. US-Federal Aviation Agency's Aviation-Climate Change Research Initiative (ACCRI), Atlanta/Georgia, USA. 24 Feb 2011
39. Lund, M.; J. Fuglestedt; J. Borcken-Kleefeld: *Quantifying and comparing climate impacts of different transport modes*. Presentation at the 'Planet under Pressure 2012' Conference, 26-29 March 2012, London.
40. Borcken-Kleefeld, J.; L. Ntziachristos: *Scope for further emission reductions from road transportation*. 3rd meeting of the DG-ENV SEG on Review of EU Air Policy, Brussels, 21 June 2012
41. Borcken-Kleefeld, J.; J. Fuglestedt, T. Berntsen: *Going by car, coach, train or plane? Comparing climate impacts from passenger trips*. 3rd International Conference on Transport, Atmosphere and Climate (TAC-3), 25-28 June 2012, Prien am Chiemsee/DE
42. Borcken-Kleefeld, J.; K. Kupiainen, Y. Chen, S. Hausberger, M. Rexeis, A. Sjodin, M. Jerksjo, J. Tate: *Remote sensing for identifying high emitters and validating emission models*. Annual plenary meeting of the ERMES Group, 27-28 Sept 2012, Brussels/BE
43. Borcken-Kleefeld, J.; G. Kieseewetter, Th. Papageorgiou, L. Ntziachristos: *Impact of NO<sub>x</sub> vehicle emission standards failure on Air Quality in Europe*. TAP 2012 - 19th International Transport and Air Pollution Conference, 26-27 November, 2012, Thessaloniki/Greece
44. Borcken-Kleefeld, J.; K. Kupiainen, Y. Chen, S. Hausberger, M. Rexeis, A. Sjodin, M. Jerksjo, J. Tate: *Remote sensing: Identifying high emitters and validating emission models*. TAP 2012 - 19th International Transport and Air Pollution Conference, 26-27 November, 2012, Thessaloniki/Greece
45. Borcken-Kleefeld, J.; L. Ntziachristos, G. Kieseewetter, I. Bertok, M. Amann: *Emission developments for mobile sources and their impact on air quality*. 4th meeting of the DG-ENV SEG on Review of EU Air Policy, Brussels, 5 Dec 2012
46. Borcken-Kleefeld, J.; Gregor Kieseewetter, Imrich Bertok, Markus Amann: *The impact of future vehicles on pollutant emissions and air quality in Europe*. Invited keynote lecture at 7th A3PS Conference „ECO-MOBILITY 2012“, 11-12 Dec 2012, Vienna/Austria
47. Borcken-Kleefeld, J., Y. Chen: *Deterioration rates derived from vehicle remote sensing*. International workshop on road transport emissions: Methodologies for assessing emission factors and inventories. ERMES Group, 26-27 Sept 2013 Brussels/BE
48. Borcken-Kleefeld, J.: *Sensitivitätsbetrachtungen zur NO<sub>x</sub>-Entwicklung in der EU*. Fachtagung Verkehrsemissionen of the Swiss Society of Air Protection Officers, 19 Nov. 2013, Zurich/CH.
49. Borcken-Kleefeld, J.: *Remote Sensing Data: Möglichkeiten und Grenzen*. Fachtagung Verkehrsemissionen of the Swiss Society of Air Protection Officers, 19 Nov. 2013, Zurich/CH.
50. Borcken-Kleefeld, J.: *How costly is Europe's love with diesel cars for health and climate?* NextSTEPS Seminar, Institute for Transportation Studies, UC Davis, 25 Mar 2014, Davis (CA)/USA
51. Borcken-Kleefeld, J.: *Fleet monitoring and high-emitter detection with RS: Experiences from Europe and ICCT Guidance*. Invited talk at the Inaugural Mexico City Remote Sensing Device (RSD) Workshop/ Primer Congreso Mundial de Sensor Remoto. 27-28 March 2014, Mexico City/MEX
52. Borcken-Kleefeld, J.: *Where are the high-emitters gone?* 24<sup>th</sup> CRC Real-World Emissions Workshop. 30 Mar – 2 April 2014, San Diego (CA)/USA. doi: 10.13140/RG.2.1.1572.4008  
Extract published in conference summary submitted to J Air & Waste Management.
53. Borcken-Kleefeld, J.: *How costly is Europe's love with diesel cars for health and climate?* Brown Bag Seminar, The International Council for Clean Transportation, 3 April 2014 San Francisco (CA)/USA.
54. Kieseewetter, G., Borcken-Kleefeld, J.: *Luftqualitätsprobleme in Österreich und der Straßenverkehr heute und morgen*. FSV Seminar „Erfolgreiche Emissionsreduktion im Straßenverkehr und Luftqualitätsprobleme in Österreich und International“. 25. Juni 2014, Wien/AT.
55. Borcken-Kleefeld, J., Y. Chen: *Vehicle Emission Deterioration Derived from Long-Term On-Road Measurements*. Poster presented at the 20<sup>th</sup> International Transport and Air Pollution Conference, 18-19 Sept. 2014, Graz/Austria.  
Manuscript published in Conference Proceedings.

56. Borcken-Kleefeld, J.: *Real World Emissions from Road Vehicles: Results from Remote Sensing, Emission Measurements and Models*. Invited plenary talk at the 20<sup>th</sup> International Transport and Air Pollution Conference, 18-19 Sept. 2014, Graz/Austria.  
Manuscript published in Conference Proceedings doi: 10.13140/RG.2.1.2883.1203
57. Borcken-Kleefeld, Gary Bishop, Donald H. Stedman, Peter McClintock: High NO<sub>x</sub> Emissions from Light Diesel Vehicles Also Observed on US Roads. 25th annual Real-World Emissions Workshop on 22–25 March, 2015, in Long Beach (CA)/USA
58. Hausberger, S., Rexeis, M., Lipp, S., Borcken-Kleefeld, J. *RDE monitoring and certification: How remote sensing, on-board emission tests and test benches can be used efficiently*. SAE 2015 World Congress. Detroit/USA. 21-23 Apr 2015
59. Chen, Y., Borcken-Kleefeld, J.: *How stable is the emission control system of light-duty diesel vehicles? - Results from long-term on-road measurements in Europe*. 95th Annual Meeting of Transportation Research Board, 10-14 Jan 2016, Washington DC/USA
60. Panel contribution at European Parliament's 'Conference on Remote Sensing Potential', on *the role of Remote sensing for market surveillance of vehicles*, Brussels/BE, 28 Sept 2017
61. Borcken-Kleefeld, J.: *Controversies around NO<sub>x</sub> health impact assessment*. Presentation at the ERMES Meeting 14 Nov 2017, Dübendorf/Switzerland.
62. J.E.Jonson et al. *Impact of excess NO<sub>x</sub> emissions from diesel cars on air quality, public health and eutrophication in Europe*. Talk at the 22<sup>th</sup> International Transport and Air Pollution Conference, 15-16 Nov. 2017, Dübendorf/Switzerland. (online)
63. Borcken-Kleefeld, J.: *Thousands of snapshots vs. trips with thousands of seconds – how remote sensing complements PEMS/chassis emission measurements*. Talk at the 22<sup>th</sup> International Transport and Air Pollution Conference, 15-16 Nov. 2017, Dübendorf/Switzerland.
64. Invited keynote: „Luftverschmutzung und Verkehr – Wo liegen die Probleme heute und morgen“ Forum Verkehr 2018, 31. Jan -1. Feb. 2018, Wien/AT.
65. Hausberger, S., Borcken-Kleefeld, J., Matzer, C., Lipp, S.: *Überwachung der Kfz-Emissionen im realen Verkehr, Methoden und Ergebnisse*. 20. Technischer Kongress 2018 - Umwelt, Energie und Elektromobilität, Fahrzeugsicherheit und Elektronik. VDA. 27.-28. Feb. 2018, Berlin/DE.
66. Borcken-Kleefeld, J.: *Real vehicle emissions – Measuring and interpreting*. The Real Urban Emissions (TRUE) Initiative City Symposium - Supporting cities to address urban air quality and vehicle emissions, 7-8 June 2018, London/UK
67. Borcken-Kleefeld, J.: *Impact of Euro 6 performances on air quality across Europe*. Integer Emissions Summit & AdBlue Forum Europe 2018, 26 - 28 June 2018, Brussels, Belgium.
68. Panelist on: *Trade-offs between fuel economy, pollutant emissions, costs and performance*. Integer Emissions Summit & AdBlue Forum Europe 2018, 26 - 28 June 2018, Brussels, Belgium.
69. Farren, N. J., D. C. Carslaw, J. Borcken-Kleefeld, A. R. Vaughan, Å Sjödin: *Study on the durability of UK diesel and petrol passenger car emission control systems utilising remote sensing data*. 23<sup>rd</sup> International Transport and Air Pollution Conference. 15-17 May 2019, Thessaloniki, Greece
70. Cofala, J., J. Borcken-Kleefeld, C. Heyes, M. Holland, H. Frageli, A. Nyiri, A. Gomez-Sanabria, R. Sander and M. Amann: *Impact assessment for a potential emission control area in the Mediterranean Sea*. 23<sup>rd</sup> International Transport and Air Pollution Conference. 15-17 May 2019, Thessaloniki, Greece
71. Borcken-Kleefeld, J.: *On-road remote sensing for monitoring of vehicle emissions*. 11<sup>th</sup> International AVL Exhaust Gas and Particulate Emissions Forum, 3 – 4 Mar 2020, Ludwigsburg/DE (online)
72. Borcken-Kleefeld, J.: *Flottenemissionen und hoch-emittierende Fahrzeuge – erste Ergebnisse von Remote Sensing Messungen in Deutschland*. 8. Freiburger Workshop „Luftreinhaltung und Modelle“, 3. Nov. 2020, Freiburg i.Br./DE (online)