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## **The rebound effect through industrial ecology's eyes : the case of transport eco-innovation**

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## Curriculum Vitae

David Font Vivanco was born on the 15<sup>th</sup> of October 1985 in Barcelona, Catalonia. He obtained in 2003 his high school diploma from the Institut Barcelona-Congrés in Barcelona. In 2008 he graduated in environmental sciences from the Autonomous University of Barcelona (UAB), specializing in environmental management. His bachelor thesis focused on the identification and impact of epistemic communities in the context of climate change policies in Spain. Shortly after graduating he started an internship of six months as an environmental technician in an industrial plant from Honeywell’s automotive division, also in Barcelona. During 2009 he worked for 3 months as an officer in the Catalan Waste Agency, in the area of industrial waste management. He later joined ENT environment and management to work as an environmental consultant, carrying consulting and research activities in the areas of waste management and environmental economics, where he worked until 2012. While developing his professional career, he obtained a Master of Science (MSc) in renewable energies engineering and management from the University of Barcelona (UB) in 2009 and a MSc in industrial ecology from the UAB in 2012. During the latter he completed a research thesis on developing waste management indicators using spatial material flow analysis, which was later awarded with the Environmental Sciences Research Prize by the Environmental Scientists Association of Catalonia (COAMB) and the Catalan Environmental Sciences Association (ACCA). In March 2012 he completed his career shift towards research and started his PhD studies at the Industrial Ecology Department at CML – Institute of Environmental Sciences of the University of Leiden, where the thesis presented before you was conceived and developed. Aside from research activities, he had the opportunity to participate in various scientific conferences and workshops abroad as well as be involved in education through different roles such as lecturer, supervisor and coordinator. The research that culminated in this thesis was framed within the Environmental Macro-Indicators of Innovation (EMInInn) project, an EU FP7 project involving multiple European universities and research centres aimed at assessing the environmental impacts associated with innovation. One of the articles included in this thesis was awarded with the CML-Publication Prize for the best scientific publication of 2014, while another was awarded with the 2014 Graedel Prize for the best paper published by a junior author in the Journal of Industrial Ecology.

## Publications

### Submitted

- Font Vivanco, D., McDowall, M., Freire-González, J., Kemp, R. & van der Voet, E. The foundations of the environmental rebound effect and its contribution towards a general framework. Submitted for publication to *Ecological Economics*.
- Font Vivanco, D., Kemp, R. & van der Voet, E. How to deal with the rebound effect? A policy-oriented approach. Submitted for publication to *Energy Policy*.
- Font Vivanco, D., Tukker, A. & Kemp, R. Do methodological choices in environmental modelling bias rebound effects? A case study on electric cars. Submitted for publication to *Environmental Science & Technology*.

### Published

- Font Vivanco, D., Kemp, R. & van der Voet, E., 2015. The relativity of eco-innovation: environmental rebound effects from past transport innovations in Europe. *Journal of Cleaner Production* 101(0): 71-85. [doi: 10.1016/j.jclepro.2015.04.019]
- Font Vivanco, D., Freire-Gonzalez, J., Kemp, R. & van der Voet, E., 2014. The remarkable environmental rebound effect of electric cars: A microeconomic approach. *Environmental Science & Technology* 48(20): 12063–12072. [doi: 10.1021/es5038063]
- Font Vivanco, D. & van der Voet, E., 2014. The rebound effect through industrial ecology's eyes: a review of LCA-based studies. *The International Journal of Life Cycle Assessment* 19(12): 1933-1947. [doi: 10.1007/s11367-014-0802-6]
- Font Vivanco, D., Kemp, R., van der Voet, E. & Heijungs, R., 2014. Using LCA-based decomposition analysis to study the multi-dimensional contribution of technological innovation to environmental pressures. *Journal of Industrial Ecology* 18(3): 380–392. [doi: 10.1111/jiec.12118]
- Font Vivanco, D., Puig Ventosa, I. & Gabarrell Durany, X., 2012. Building waste management core indicators through Spatial Material Flow Analysis: Net recovery and transport intensity indexes. *Waste Management* 32(12): 2496-2510. [doi:10.1016/j.wasman.2012.06.010]

### Abstracts for scientific conferences

- Font Vivanco, D., Kemp, R. & van der Voet, E., 2015. The relativity of eco-innovation: environmental rebound effects from past transport innovations in Europe. 8th International Conference of the International Society for Industrial Ecology. University of Surrey, Guildford (United Kingdom).
- Font Vivanco, D., Kemp, R. & van der Voet, E. How to deal with the rebound effect? A policy-oriented approach. 8th International Conference of the International Society for Industrial Ecology. University of Surrey, Guildford (United Kingdom).

- Font Vivanco, D., Freire-Gonzalez, J., Kemp, R. & van der Voet, E., 2014. The relativity of eco-innovation. The income rebound effect from new (electric) vehicle propulsion technologies. 20th International Sustainable Development Research Conference (ISDRC), NTNU – Trondheim University, Trondheim (Norway).
- Font Vivanco, D. & van der Voet, E., 2014. The rebound effect through industrial ecology's eyes. A review of LCA-based studies and proposal of a common framework. 20th International Sustainable Development Research Conference (ISDRC), NTNU – Trondheim University, Trondheim (Norway).
- Font Vivanco, D., Kemp, R., van der Voet, E. & Heijungs, R., 2014. Using LCA-based decomposition analysis for the multi-dimensional environmental assessment of innovation. 7th International Conference of the International Society for Industrial Ecology, University of Ulsan, Ulsan (South Korea).

