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*Oscar Kraan – October 2018*

# About the author

Oscar Kraan was born on the 9th of December 1985 in The Hague, The Netherlands. After graduating in 2004 from the Gymnasium Haganum in The Hague, he went to Leiden to study physics. During his studies in physics Oscar got interested in the energy transition and was invited for two honours programs related to the energy transition. In this period, he also served in various committees of his study, student and sport association. He finished his Bachelor's studies in 2012 with a bachelor thesis in which he compared the potential of wind and wave energy. He then continued his studies with an M.Sc. in Energy Science at Utrecht University which he obtained in 2013. He graduated with a combined internship and master thesis on agent-based modelling of space heating in the built environment, conducted at and in collaboration with Shell.

After graduating Oscar continued to work on the energy transition and started his PhD which was Shell sponsored and conducted in collaboration with Leiden University, Utrecht University and Delft University of Technology. In the last five years he conducted research on energy scenarios and the simulation of the evolution of energy system focusing on the dynamics between individual incentives and collective behaviour. This work has resulted in five scientific articles, several opinion articles in Dutch media and strategic insights for various stakeholders. In addition, Oscar supervised Master student thesis projects at various Universities in The Netherlands. Next to his scientific work Oscar collaborated with Shell's scenario team on the *Net Zero Emission outlook* as well as Shell latest scenario Sky. From November first 2018 Oscar will be working at Deloitte as Senior Strategy Consultant for energy related industries.





# Publications

## Scientific publications

**Kraan, O.**, Kramer, G.J., Haigh, M, Laurens, C.. *The Energy Transition: A reliance on technology alone ultimately leads to a bet on Solar Fuels*, to be submitted.

**Kraan, O.**, Chappin, E., Kramer, G.J., Nikolic, I.. *The influence of the energy transition on the significance of key energy metrics*, under review at Renewable and Sustainable Energy Reviews.

**Kraan, O.**, Dalderop, S., Kramer, G.J., Nikolic, I. (2019). *Jumping to a better world: An agent-based exploration of criticality in low-carbon energy transitions*, Energy Research & Social Science 47 (156-165).

**Kraan, O.**, Kramer, G.J., Nikolic, I. (2018). *Investing in the future electricity system - An agent-based modelling approach*, Energy 151 (569-580).

**Kraan, O.**, Kramer, G.J., Nikolic, I., Chappin, E., Koning, V.. *Why fully liberalised electricity markets will fail to meet decarbonisation targets*, under review at Energy Policy.

Greeven S., **Kraan, O.**, Chappin, E., Kwakkel J.H. (2016). *The emergence of climate change mitigation action by society: an agent-based scenario discovery study*, Journal of Artificial Societies and Social Simulation 19(3)9.

**Kraan, O.**, Kramer, G.J., Van der Lei, T., Huppes, G. (2015). *Modelling the energy transition: Towards an application of agent-based modelling to integrated assessment modelling*, Advances in Social Simulation 2015, Springer International publishing.

## **Other publications**

**Kraan, O.**, Berghout N. (2016). *Energiedoelen? CO2-opslag is de enige manier; we moeten er nú mee beginnen*, in Dutch Newspaper NRC. <https://www.nrc.nl/nieuws/2016/08/22/energiedoelen-co2-opslag-is-de-enige-manier-we-moeten-er-nu-mee-beginnen-3532224-a1517465>

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**Kraan, O.**, (2017). *Millenials: Wees je bewust van je reislust!*, newspaper of Utrecht University (DUB) and newspaper of Delft University of Technology (Delta). <https://www.dub.uu.nl/nl/opinie/millennials-wees-je-bewust-van-je-reislust>, <https://www.delta.tudelft.nl/article/wees-je-bewust-van-je-reislust>

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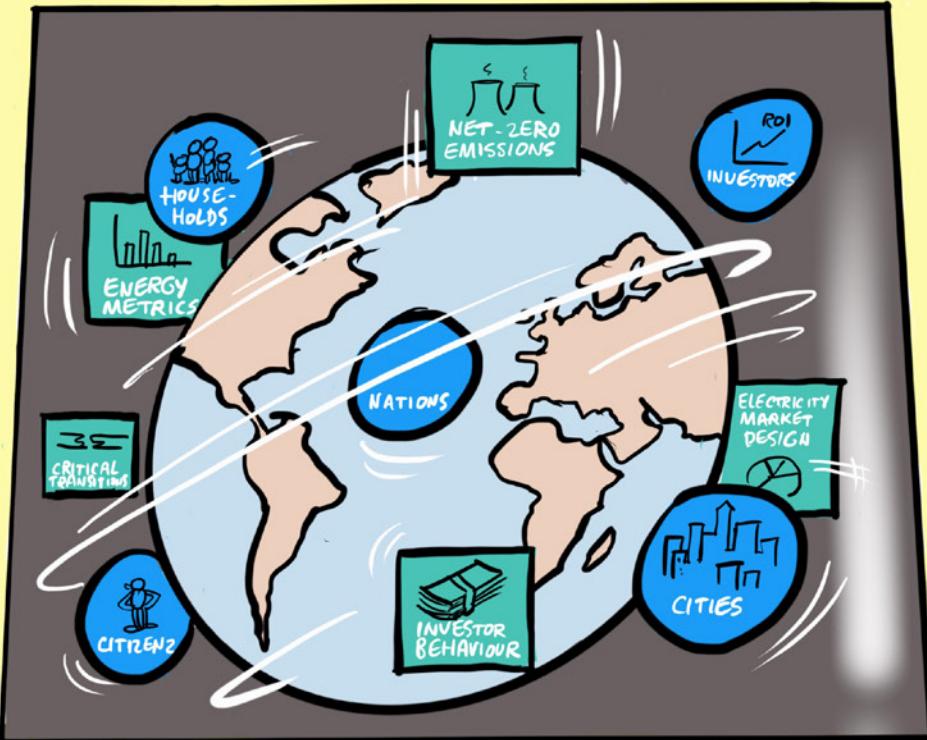
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# ON THE EMERGENCE      OF THE ENERGY TRANSITION



SO... WHAT  
IS THE CRUX  
OF THE  
MATTER?

WELL...  
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