



# Émile Chappin

*Associate Professor Simulations of Energy Systems*

## Education

- 2007–2011 **PhD**, *Delft University of Technology*, Delft  
Simulating Energy Transitions, see <http://chappin.com/ChappinEJL-PhDthesis.pdf> [1]
- 2004–2006 **Master of Science**, *Delft University of Technology*, Delft  
Systems Engineering, Policy Analysis and Management, Energy Track, [2]
- 2001–2004 **Bachelor of Science**, *Delft University of Technology*, Delft  
Systems Engineering, Policy Analysis and Management, Energy & Industry Track, [3]
- 1995–2001 **Pre-university education (V.W.O.)**, *Oranje Nassau College*, Zoetermeer  
Final exams in Mathematics, Statistics, Physics, Chemistry, Biology, Business Economics, Dutch, English, and German

## Work experience

- 2019–present **Associate Professor**, *Energy & Industry Section, Engineering Systems and Services Department, Faculty of Technology, Policy and Management, Delft University of Technology*, Delft
- 2013–2019 **Assistant Professor**, *Energy & Industry Section, Engineering Systems and Services Department, Faculty of Technology, Policy and Management, Delft University of Technology*, Delft
- 2012–2017 **Senior Research Fellow**, *Wuppertal Institute*, Wuppertal
  - 2012 **Visiting researcher**, *Wuppertal Institute*, Wuppertal
- 2011–2013 **Postdoc**, *Energy & Industry Section, Faculty of Technology, Policy and Management, Delft University of Technology*, Delft
- 2007–2011 **PhD Candidate**, *Energy & Industry Section, Faculty of Technology, Policy and Management, Delft University of Technology*, Delft  
Simulating energy transitions.
  - 2007 **Researcher**, *Centre for Environmental Sciences, Leiden University*, Leiden
  - 2004 **Internship**, *Delft University of Technology*, Delft
- 2002–2006 **Student Assistant**, *Delft University of Technology*, Delft, Education and teaching

## Research projects

- 2022–present **Align4Energy**, *NWO funded project*

- 2021–2022 **Emergent Behaviour in the Energy Transition**, RVO funded project in cooperation with the Topsector Energy, outlining the state of the art and a research agenda. Final report: [119]
- 2020–present **Energy Transition Lab**, Co-director TPM Energy Transition Lab
- 2020–present **FutureChargingProject**, Supervision of Mylène van der Koogh
- 2020–present **SIAM**, Studying human behaviour in and between groups: combing the Social Identity Approach (SIA) and Social Simulation (see <https://www.siam-network.online/>)
- 2020–present **NWO Neelke Doorn’s VIDI Water and resilience**, Supervision of Aashis Joshi [66] (see <https://waterandresilience.org/>)
- 2017–present **Y-factor**, The Y-factor for climate abatement (see <http://emlab.tudelft.nl/yfactor>) [12]
- 2011–present **EMLab**, Energy Modelling Laboratory (EMLab) (see <http://emlab.tudelft.nl>) [29]
- 2013–present **Bibliometric studies**, Range of bibliometric studies with various methods, amongst others on TU Delft’s energy research (project leader, 2013-2014), transitions [42] and the built environment [43], on CCS [24], and on energy research [21]
- 2007–present **Electricity market game**, (see <http://emg.tudelft.nl>), [108]
- 2015–2020 **NWO Values in energy systems**, NWO funded project Capturing the societal value of smart energy systems, supervision of Tristan de Wildt [9, 15, 20, 21]
- 2016–2019 **H2020 Cheetah**, Work package leader H2020 CHEETAH project: Changing Energy Efficiency Technology Adoption in Households (lead Fraunhofer ISI, since 2016) [19] [129, 130]
- 2016 **Port decarbonization**, Decarbonization Pathways for the Industrial Cluster of the Port of Rotterdam (see <https://wupperinst.org/en/p/wi/p/s/pd/628/>)
- 2012-2015 **KfC INCAH**, Knowledge for Climate – Infrastructure Networks Climate Adaptation and Hotspots (see <http://knowledgeforclimate.climateresearchnetherlands.nl/>), [22, 42, 46]
- 2012-2015 **EDGaR**, Energy Delta Gas Research – Understanding gas sector intra- and inter-market interactions (see <http://www.edgar-program.com/nl/projects/A1>)
- 2015 **Climate policy instruments in the Netherlands**, Climate policy instruments in the Netherlands (project leader, part of project by Cologne Institute for Economic Analysis for Bundesverband der Deutschen Industrie e.V.

## Teaching

### Postgraduate level

- 2014 **Developed and taught 2-day Agent-Based Modelling course**, Wuppertal Institute
- 2009–2012 **NGInfra Academy (Energy Track)**, NGInfra Foundation  
Track manager, lecturer, game facilitator
- 2010 **33<sup>rd</sup> IAEE conference on Energy Economics**, IAEE, Rio de Janeiro  
Electricity Market Game Workshop
- 2009–2010 **Professional training**, TopTech, Utrecht, Delft  
Lectures and trainings for CapGemini and Energy professionals

### MSc level

- 2017–present **Design of Integrated Energy Systems**, *Delft University of Technology*, Delft  
Module manager, teaching, supervision projects.
- 2012–present **Systems Innovation in Energy and Industry**, *Delft University of Technology*, Delft  
Guest lectures on transition and transition management
- 2011–2013 **Statistical modelling**, *Delft University of Technology*, Delft  
Working classes, project group supervision, sporadically. lectures
- 2009–2011 **Multivariate modeling**, *Delft University of Technology*, Delft  
Working classes, sporadically lectures
- 2005–2009 **Research methods and data analysis**, *Delft University of Technology*, Delft  
Working classes, lectures ('07-'08), module manager ('07-'08)
- BSc level**
- 2014–present **Introduction to energy & industry systems**, *Delft University of Technology*, Delft  
Module manager, developing and teaching lectures and working classes. Development of webreader [137] (see <http://eduweb.eeni.tbm.tudelft.nl/TB141E>)
- 2012–present **Governance Specialisation Energy and Industry**, *Delft University of Technology*, Delft  
Developing and teaching lectures and working classes on the interaction of the CO<sub>2</sub> market and the electricity market
- 2010–2014 **Systems in energy, water and industry part I**, *Delft University of Technology*, Delft  
Developing and teaching working classes
- 2010–2014 **Systems in energy, water and industry part II**, *Delft University of Technology*, Delft  
Developing and teaching working classes
- 2008–2014 **Life Cycle Modeling and Economic Evaluation**, *Delft University of Technology*, Delft  
Developing and teaching lectures on Life Cycle Analysis
- 2007–2016 **Research methods and data analysis project**, *Delft University of Technology*, Delft  
Supervision of project groups on energy topics

## Supervision

- 2013–present **PhD theses**, *Delft University of Technology*, Delft  
Supervision of 7 PhD candidates (3 finished, 4 ongoing)
- 2010–present **Master theses**, *Delft University of Technology*, Delft  
Supervision of ~70 master thesis projects in the programmes Complex Systems Engineering and Management, Engineering Policy Analysis, Industrial Ecology, and Management of Technology
- 2009–present **Bachelor theses**, *Delft University of Technology*, Delft  
Supervision of ~40 bachelor thesis projects in the Systems Engineering Policy Analysis and Management programme

## Other activities (e.g. committees, management, music)

- 2020–present **JASSS editorial board member**, *Editorial board member of Journal of Artificial Societies and Social Simulation*

- 2018–present **Editor of Complexity Journal**
- 2015–present **Special Interest Group leader**, *European Social Simulation Association*  
Special Interest Group on Education
- 2015–present **Education Committee**, *Systems Engineering, Policy Analysis and Management BSc and MSc program (as of 2017 only BSc)*
- 2014–present **Management Committee**, *European Social Simulation Association (ESSA)*
- 2014–present **Member Advisory Board**, *Catholic Youth Association WESP*, Zoetermeer
- 2011–present **Pianist, alternate conductor**, *SprinterSingers*, Zoetermeer  
See <http://thesprintersingers.nl>
- 1999–present **Founder, chairman, musical director, conductor and project leader**, *Theaterorkest.nl Foundation*, Zoetermeer  
See <http://theaterorkest.nl>
- 2017 **Machine Learning Certificate**, *Stanford University*, Coursera
- 2006–2017 **Pianist, alternate conductor**, *Musical and Pop Choir Delft*, Delft
- 2015 **Studytour**, *Teacher*, Studytour to Abu Dhabi, Dubai and South-Africa
- 2015 **Organizer**, *Infrastructure Hackathon*  
Hackathon on visualizing Dutch infrastructures, see <http://infra.tbm.tudelft.nl>
- 2015 **Keynote Speech**, *R&Dialogue Project Meeting*, *Forschungszentrum Jülich*  
Die Energiewende - A 'Delft' Perspective
- 2014–2015 **Curriculum committee**, *Redesign of Engineering Policy Analysis MSc curriculum*
- 2014–2015 **Background committee**, *Redesign of Systems Engineering, Policy Analysis and Management MSc curriculum*
- 2014 **Personal Development Programme**, *Programme for TU Delft Tenure Trackers*
- 2013 **Music Production Certificate**, *Statement of Accomplishment Berklee College of Music's MOOC: Introduction to Music Production*, Coursera  
With distinction
- 2013 **Jazz Improvisation Certificate**, *Statement of Accomplishment Berklee College of Music's MOOC: Jazz Improvisation*, Coursera
- 2012–2013 **Special Interest Group leader**, *European Social Simulation Association*  
Special Interest Group on societal transitions
- 2009–2013 **Founder and organizing chair**, *Musical Day*, Zoetermeer  
A series of full-day musical-oriented events to promote the performing arts, see <http://musicalday.nl>.
- 2008–2012 **Pianist**, *Haagsch Ad Hoc*, The Hague  
Accompanying singers with as specialty popular and jazz music
- 2012 **Keynote speech**, *KIVI NIRIA Symposium: Integrated Product Development Projects*, Eindhoven  
The Energy Transition: Managing complex infrastructure systems
- 2011 **Teacher, musical leader, pianist**, *Centrum voor Kunst en Cultuur*, Zoetermeer  
See <http://ckc-zoetermeer.nl>
- 2010–2011 **Columnist**, *Het Financieele Dagblad (Dutch Financial Times)*  
Montly column FD (<http://fd.nl>, in Dutch)
- 2010 **Media training**, *Presentatiegroep*, Bloemendaal  
Media and presentation training

- 2010 **Speech**, *Institute of Environmental Systems Research, University of Osnabrück*, Osnabrück, Germany  
Speech, titled ‘Simulations of energy transitions’
- 2010 **Academic hour**, *Ministry of Economic Affairs*, The Hague  
Speech ‘Energy transition – Towards a CO<sub>2</sub>-extensive power generation system’
- 2004–2008 **Musical director and composer**, *Reflectie Theater Association*, Zoetermeer
- 2006 **Musical Director**, *Mavelle Corporation*, Zoetermeer
- 2001–2004 **Employee**, *Public Library*, Zoetermeer  
Tasks at several departments, including the logistics department and the media department, processing several types of media, providing technical facilities and helping costumers.
- 2001–2003 **Chairman and Treasurer**, *Catholic Youth Association WESP*, Zoetermeer

## Achievements

- 2021 Teacher of the year E&I 2020-2021 Faculty of Technology Policy and Managements
- 2019 Maestro Zoetermeer 2019 Award
- 2019 Teacher of the year 2018-2019 Faculty of Technology Policy and Management, Domain E&I
- 2017 Best paper award, 48th International Simulation and Gaming Association’s conference [73].
- 2016 Best student paper prize, 8th International Congress on Environmental Modelling and Software with PhD candidate Thorben Jensen [36].
- 2016 Domain teacher of the year for the Energy and Industry Domain (TPM/TU Delft)
- 2016 Nominated for Teacher of the Year of the faculty Technology, Policy, and Management (TU Delft)
- 2012–2014 First prize (2012), first prize (2013), second prize (2014) Alblasserdam Havenfestival Choir Concours, accompanying Musical- and Popkoor Delft
- 1996 First prize MCDonalds Music Concours, region Zoetermeer; second prize Talent of the Year Concours Zoetermeer, both with a composition Rêverie (<http://chappin.com/emile/docs/reverie.pdf>), piano together with Sterre Jongerius

## Languages

- English Near native (C2)
- Dutch Native

## Computer skills

Operating Systems	MS Windows, Linux, MacOS	Tasks	Server administration and maintenance
Software	Office, Matlab, Maple, Cycle-Tempo, Arena, Powersim, Eclipse, Protégé, SPSS, L <sup>A</sup> T <sub>E</sub> X, AgentSpring, Netlogo, Visio, CMLCA	Languages	Java, Visual Basic, PHP, HTML, JSP, Bash

## Interests

- Music Playing piano, with a focus on improvisation and accompanying; composing music; accompanying and directing choirs, orchestras and bands focusing on theater/musicals

Literature Writing poetry and short stories, reading  
Multimedia Computers, developing websites, radio plays and photography

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## Publications

Publications are sorted by publication type (theses, peer reviewed journal articles, book chapters, conference papers, and the others, primarily reports, columns and news paper items). Per type, they are sorted per year of publication (starting with the newest).

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## Theses

- [1] Chappin, E. J. L. *Simulating Energy Transitions*. PhD thesis, Delft University of Technology, Delft, the Netherlands, 2011. URL <http://chappin.com/ChappinEJL-PhDthesis.pdf>. ISBN: 978-90-79787-30-2.
- [2] Chappin, E. J. L. Carbon Dioxide Emission Trade Impact on Power Generation Portfolio – Agent-based Modelling to Elucidate Influences of Emission Trading on Investments in Dutch Electricity Generation. Master’s thesis, Delft University of Technology, Delft, the Netherlands, 2006.
- [3] Chappin, E. J. L. *Een model voor waterstofacceptatie – Een causale analyse van de factoren die de maatschappelijke acceptatie van waterstof beïnvloeden*. Delft University of Technology, Delft, 2004. URL [http://chappin.com/emile/docs/spm3911\\_kwantitatief\\_definitief.pdf](http://chappin.com/emile/docs/spm3911_kwantitatief_definitief.pdf).

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## Peer-reviewed journal articles

- [4] Chappin, E. J., J. Schleich, M.-C. Guetlein, C. Faure, and I. Bouwmans. Linking of a multi-country discrete choice experiment and an agent-based model to simulate the diffusion of smart thermostats. *Technological Forecasting and Social Change*, 180:121682, 2022. ISSN 0040-1625. doi: <https://doi.org/10.1016/j.techfore.2022.121682>. URL <https://www.sciencedirect.com/science/article/pii/S0040162522001871>.
- [5] Joshi, A., E. Chappin, and N. Doorn. Does Distributive Justice Improve Welfare Outcomes in Climate Adaptation? An Exploration Using an Agent-Based Model of a Stylized Social–Environmental System. *Sustainability*, 13(22):12648, November 2021. ISSN 2071-1050. doi: 10.3390/su132212648. URL <https://www.mdpi.com/2071-1050/13/22/12648>.
- [6] van der Koogh, M., E. Chappin, R. Heller, and Z. Lukszo. Are We Satisfying the Right Conditions for the Mobility Transition? A Review and Evaluation of the Dutch Urban Mobility Policies. *Sustainability*, 13(22):12736, November 2021. ISSN 2071-1050. doi: 10.3390/su132212736. URL <https://www.mdpi.com/2071-1050/13/22/12736>.
- [7] Melliger, M. and E. Chappin. Phasing out support schemes for renewables in neighbouring countries: An agent-based model with investment preferences. *Applied Energy*, 305:117959, 2022. ISSN 0306-2619. doi: <https://doi.org/10.1016/j.apenergy.2021.117959>. URL <https://www.sciencedirect.com/science/article/pii/S0306261921012666>.
- [8] de Vries, G., K. Biely, and E. Chappin. Psychology: The missing link in transitions research. *Environmental Innovation and Societal Transitions*, 2021. ISSN 2210-4224. doi: <https://doi.org/10.1016/j.eist.2021.09.015>. URL <https://www.sciencedirect.com/science/article/pii/S2210422421000757>.

- [9] de Wildt, T. E., A. R. Boijmans, E. J. L. Chappin, and P. M. Herder. An ex ante assessment of value conflicts and social acceptance of sustainable heating systems. *Energy Policy*, 153:112265, June 2021. ISSN 03014215. doi: 10.1016/j.enpol.2021.112265. URL <https://linkinghub.elsevier.com/retrieve/pii/S0301421521001348>.
- [10] de Wildt, T. E., I. R. van de Poel, and E. J. L. Chappin. Tracing Long-term Value Change in (Energy) Technologies: Opportunities of Probabilistic Topic Models Using Large Data Sets. *Science, Technology, & Human Values*, page 016224392110544, November 2021. ISSN 0162-2439, 1552-8251. doi: 10.1177/01622439211054439. URL <http://journals.sagepub.com/doi/10.1177/01622439211054439>.
- [11] Holtz, G., C. Schnülle, M. Yadack, J. Friege, T. Jensen, P. Thier, P. Viebahn, and E. J. L. Chappin. Using Agent-Based Models to Generate Transformation Knowledge for the German Energiewende Potentials and Challenges Derived from Four Case Studies. *Energies*, 13(22):6133, November 2020. ISSN 1996-1073. doi: 10.3390/en13226133. URL <https://www.mdpi.com/1996-1073/13/22/6133>.
- [12] Chappin, E. J. L., M. Soana, C. E. C. Arensman, and F. Swart. The Y factor for Climate Change abatement A method to rank options beyond abatement costs. *Energy Policy*, 147:111894, December 2020. ISSN 03014215. doi: 10.1016/j.enpol.2020.111894. URL <https://linkinghub.elsevier.com/retrieve/pii/S0301421520306091>.
- [13] Squazzoni, F., J. G. Polhill, B. Edmonds, P. Ahrweiler, P. Antosz, G. Scholz, E. Chappin, M. Borit, H. Verhagen, F. Giardini, and N. Gilbert. Computational models that matter during a global pandemic outbreak: A call to action. *Journal of Artificial Societies and Social Simulation*, 23(2):10, 2020. ISSN 1460-7425. doi: 10.18564/jasss.4298. URL <http://jasss.soc.surrey.ac.uk/23/2/10.html>.
- [14] Yang, L., L. Zhang, A. Philippopoulos-Mihalopoulos, E. J. L. Chappin, and K. H. van Dam. Integrating agent-based modeling, serious gaming, and co-design for planning transport infrastructure and public spaces. *URBAN DESIGN International*, 2020. doi: 10.1057/s41289-020-00117-7.
- [15] de Wildt, T. E., E. Chappin, G. van de Kaa, P. Herder, and I. van de Poel. Conflicted by decarbonisation: Five types of conflict at the nexus of capabilities and decentralised energy systems identified with an agent-based model. *Energy Research & Social Science*, 64:101451, 2020. ISSN 2214-6296. doi: <https://doi.org/10.1016/j.erss.2020.101451>. URL <http://www.sciencedirect.com/science/article/pii/S2214629620300281>.
- [16] Heijnen, P., E. J. L. Chappin, and P. Herder. A method for designing minimum-cost multi-source multi-sink network layouts. *Systems Engineering*, 2019:1–22, 2019. doi: 10.1002/sys.21492. URL <https://onlinelibrary.wiley.com/doi/full/10.1002/sys.21492>.
- [17] Kraan, O., I. Nikolic, V. Kning, E. Chappin, and G.-J. Kramer. Why fully liberalised electricity markets will fail to meet deep decarbonisation targets even with strong carbon pricing. *Energy Policy*, 131:99–110, 2019. URL <https://www.sciencedirect.com/science/article/pii/S0301421519302551>.
- [18] Kraan, O., I. Nikolic, E. Chappin, and G.-J. Kramer. The influence of the energy transition on the significance of key energy metrics. *Renewable & Sustainable Energy Reviews*, 111:215–223, 2019. doi: 10.1016/j.rser.2019.04.032. URL <https://www.sciencedirect.com/science/article/pii/S1364032119302448>.
- [19] Hesselink, L. and E. J. L. Chappin. Adoption of energy efficient technologies by households - barriers, policies and agent-based modelling studies. *Renewable & Sustainable Energy Reviews*,



- 99:29–41, 2019. doi: 10.1016/j.rser.2018.09.031. URL <https://www.sciencedirect.com/science/article/pii/S1364032118306737>.
- [20] de Wildt, T., E. Chappin, G. van de Kaa, P. Herder, and I. van de Poel. Conflicting values in the smart electricity grid; a comprehensive overview. *Renewable and Sustainable Energy Reviews*, 111:184–196, 2019. doi: 10.1016/j.rser.2019.05.005. URL <https://www.sciencedirect.com/science/article/pii/S1364032119303119?via%3Dihub>.
- [21] De Wildt, T., E. J. L. Chappin, G. Van der Kaa, and P. M. Herder. A comprehensive approach to reviewing latent topics addressed by literature across multiple disciplines. *Applied Energy*, 228:2111–2128, 2018. doi: 10.1016/j.apenergy.2018.06.082. URL <https://www.sciencedirect.com/science/article/pii/S030626191830953X>.
- [22] Bollinger, A., C. Davis, R. Evins, E. Chappin, and I. Nikolic. Multi-model ecologies for shaping future energy systems: design patterns and development paths. *Renewable and Sustainable Energy Reviews*, 2018. doi: 10.1016/j.rser.2017.10.047. URL <http://www.sciencedirect.com/science/article/pii/S1364032117314259>.
- [23] Köhler, J., F. de Haan, G. Holtz, K. Kubeczko, E. Moallemi, G. Papachristos, and E. Chappin. Modelling sustainability transitions: An assessment of approaches and challenges. *Journal of Artificial Societies and Social Simulation*, 21(1):8, 2018. ISSN 1460-7425. doi: 10.18564/jasss.3629. URL <http://jasss.soc.surrey.ac.uk/21/1/8.html>.
- [24] Viebahn, P. and E. J. L. Chappin. Scrutinising the gap between the expected and actual deployment of carbon capture and storage - a bibliometric analysis. *Energies*, 11(2319), 2018. doi: doi:10.3390/en11092319.
- [25] Voulis, N., M. J. J. van Etten, E. J. L. Chappin, M. Warnier, and F. M. T. Brazier. Rethinking european energy taxation to incentivise consumer demand response participation energy policy. *Energy Policy*, 124:156–168, 2019. doi: 10.1016/j.enpol.2018.09.018. URL <https://www.sciencedirect.com/science/article/pii/S0301421518306244>.
- [26] Bhagwat, P. C., J. C. Richstein, E. J. L. Chappin, K. K. Iychettira, and L. J. de Vries. Cross-border effects of capacity mechanisms in interconnected power systems. *Utilities Policy*, 46:33–47, 2017. ISSN 0957-1787. doi: <http://dx.doi.org/10.1016/j.jup.2017.03.005>. URL <http://www.sciencedirect.com/science/article/pii/S0957178716300832>.
- [27] Bhagwat, P. C., K. K. Iychettira, J. C. Richstein, E. J. L. Chappin, and L. J. D. Vries. The effectiveness of capacity markets in the presence of a high portfolio share of renewable energy sources. *Utilities Policy*, 2017. doi: 10.1016/j.jup.2017.09.003. URL <https://www.sciencedirect.com/science/article/pii/S0957178716300406>.
- [28] Bhagwat, P. C., A. Marchesella, J. C. Richstein, E. J. Chappin, and L. J. D. Vries. An analysis of a forward capacity market with long-term contracts. *Energy Policy*, 111:257–267, 2017. doi: 10.1016/j.enpol.2017.09.037. URL <http://www.sciencedirect.com.tudelft.idm.oclc.org/science/article/pii/S0301421517305967>.
- [29] Chappin, E. J. L., L. J. de Vries, J. Richstein, P. Bhagwat, K. Iychettira, and S. Khan. Simulating climate and energy policy with agent-based modelling: the energy modelling laboratory (emlab). *Environmental Modelling & Software*, 96:421–431, 2017. doi: 10.1016/j.envsoft.2017.07.009. URL <http://www.sciencedirect.com/science/article/pii/S1364815216310301>.
- [30] Chappin, E. J. L., X. Bijvoet, and A. Oei. Teaching sustainability to a broad audience through an entertainment game - the effect of catan: Oil springs. *Journal of Cleaner Production*, 156:



556–568, 2017. doi: 10.1016/j.jclepro.2017.04.069. URL <https://www.sciencedirect.com/science/article/pii/S0959652617307874>.

- [31] Jensen, T. and E. J. L. Chappin. Automating agent-based modeling: data-driven generation and application of innovation diffusion models. *Environmental Modelling and Software*, 92:261–268, 2017. URL <https://www.sciencedirect.com/science/article/pii/S1364815216303814>.
- [32] Jensen, T. and E. J. L. . Chappin. Reducing domestic heating demand: managing the impact of behavior-changing feedback devices via marketing. *Journal of Environmental Management*, 197:642–655, 2017. doi: 10.1016/j.jenvman.2017.04.036. URL <https://www.sciencedirect.com/science/article/pii/S0301479717303845>.
- [33] Bhagwat, P. C., J. C. Richstein, E. J. L. . Chappin, and L. J. de Vries. The effectiveness of a strategic reserve in the presence of a high portfolio share of renewable energy sources. *Utilities Policy*, 39:13 – 28, 2016. ISSN 0957-1787. doi: <http://dx.doi.org/10.1016/j.jup.2016.01.006>. URL <http://www.sciencedirect.com/science/article/pii/S0957178716300169>.
- [34] Friege, J., G. Holtz, and E. J. L. Chappin. Exploring homeowners’ insulation activity. *Journal of Artificial Societies and Social Simulation*, 19(1):4, 2016. doi: 10.18564/jasss.2941. URL <http://jasss.soc.surrey.ac.uk/19/1/4.html>.
- [35] Greeven, S., O. Kraan, E. J. L. Chappin, and J. H. Kwakkel. 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, 2016. ISSN 1460-7425. doi: 10.18564/jasss.3134. URL <http://jasss.soc.surrey.ac.uk/19/3/9.html>.
- [36] Jensen, T., G. Holtz, C. Baedeker, and E. J. L. Chappin. Energy-efficiency impacts of an air-quality feedback device in residential buildings: an agent-based modeling assessment. *Energy and Buildings*, 116:151–163, 2016. doi: <http://dx.doi.org/10.1016/j.enbuild.2015.11.067>. URL <http://www.sciencedirect.com/science/article/pii/S0378778815304308>.
- [37] Holtz, G., F. Alkemade, F. J. de Haan, J. Köhler, E. Trutnevyte, T. Luthe, J. Halbe, G. Pachristos, E. J. L. Chappin, and J. H. Kwakkel. Prospects of modelling societal transitions - position paper of an emerging community. *Environmental Innovation and Societal Transitions*, 2015. doi: 10.1016/j.eist.2015.05.006. URL <http://www.sciencedirect.com/science/article/pii/S2210422415000441>.
- [38] Jensen, T., G. Holtz, and E. J. L. Chappin. Agent-based assessment framework for behavior-changing feedback devices: combined spreading of devices and energy conservation in domestic heating. *Technological Forecasting & Social Change*, 98:105–119, 2015. doi: 10.1016/j.techfore.2015.06.006. URL <http://www.sciencedirect.com/science/article/pii/S0040162515001729#>.
- [39] Richstein, J. C., E. J. L. Chappin, and L. J. de Vries. Adjusting the co2 cap to subsidised res generation: Can co2 prices be decoupled from renewable policy? *Applied Energy*, 156:693–702, 2015. doi: 10.1016/j.apenergy.2015.07.024. URL <http://www.sciencedirect.com/science/article/pii/S0306261915008533>.
- [40] Richstein, J. C., E. J. L. Chappin, and L. J. de Vries. The market (in-)stability reserve for eu carbon emission trading: Why it may fail and how to improve it. *Utilities Policy*, 35:1–18, 2015. doi: 10.1016/j.jup.2015.05.002. URL <http://www.sciencedirect.com/science/article/pii/S0957178715300059>.

- [41] Chappin, E. J. L. and T. van der Lei. Adaptation of infrastructures to climate change: a socio-technical systems perspective. *Utilities Policy*, 31:10–17, December 2014. doi: 10.1016/j.jup.2014.07.003. URL <http://www.sciencedirect.com/science/article/pii/S0957178714000472>.
- [42] Chappin, E. J. L. and A. Ligtoet. Transition and transformation: a bibliometric analysis of two scientific networks researching socio-technical change. *Renewable and Sustainable Energy Reviews*, 30:715–723, February 2014 2014. doi: 10.1016/j.rser.2013.11.013. URL <http://www.sciencedirect.com/science/article/pii/S1364032113007624>.
- [43] Frieghe, J. and E. Chappin. Modelling decisions on energy-efficient renovations: a review. *Renewable and Sustainable Energy Reviews*, 39:196–208, 2014. ISSN 1364-0321. doi: 10.1016/j.rser.2014.07.091. URL <http://www.sciencedirect.com/science/article/pii/S1364032114005437>.
- [44] Heijnen, P., E. Chappin, and I. Nikolic. Infrastructure network design with a multi-model approach: Comparing geometric graph theory with an agent-based implementation of an ant colony optimization. *Journal of Artificial Societies and Social Simulation*, 17(4):1, 2014. ISSN 1460-7425. doi: 10.18564/jasss.2533. URL <http://jasss.soc.surrey.ac.uk/17/4/1.html>.
- [45] Richstein, J. C., E. J. L. Chappin, and L. J. de Vries. Cross-border electricity market effects due to price caps in an emission trading system: An agent-based approach. *Energy Policy*, 71: 139–158, August 2014 2014. doi: 10.1016/j.enpol.2014.03.037. URL <http://www.sciencedirect.com/science/article/pii/S0301421514002043>.
- [46] Bollinger, L. A., C. W. J. Bogmans, E. J. L. Chappin, G. P. J. Dijkema, J. N. Huibregtse, N. Maas, T. Schenk, M. Snelder, P. van Thienen, S. de Wit, B. Wols, and L. A. Tavasszy. Climate adaptation of interconnected infrastructures: a framework for supporting governance. *Regional Environmental Change*, 14(3):919–931, 2013. doi: 10.1007/s10113-013-0428-4. URL <http://link.springer.com/article/10.1007/s10113-013-0428-4>. DOI: 10.1007/s10113-013-0428-4.
- [47] Chappin, E. J. L. and M. R. Afman. An agent-based model of transitions in consumer lighting: Policy impacts from the e.u. phase-out of incandescents. *Environmental Innovation and Societal Transitions*, 7:16–36, 2013. doi: 10.1016/j.eist.2012.11.005. URL <http://www.sciencedirect.com/science/article/pii/S2210422412000706>.
- [48] Ligtoet, A. and E. J. L. Chappin. Experience-based exploration of complex energy systems. *Journal of Futures Studies*, 17(1):57–70, September 2012 2012. URL <http://www.jfs.tku.edu.tw/17-1/A04.pdf>.
- [49] Chappin, E. J. L. and G. P. J. Dijkema. Agent-based modeling of energy infrastructure transitions. *International Journal of Critical Infrastructures*, 6(2):106–130, 2010. doi: 10.1504/IJCIS.2010.031070. URL <http://www.inderscience.com/info/inarticle.php?artid=31070>.
- [50] Chappin, E. J. L. and G. P. J. Dijkema. On the impact of CO<sub>2</sub> emission-trading on power generation emissions. *Technological Forecasting & Social Change*, 76(3):358–370, 2009. doi: 10.1016/j.techfore.2008.08.004.

---

## Book chapters

- [51] Chappin, E., N. York-Smith, and I. Nikolic. *Agent-based modelling of the social dynamics of energy end use*. 2019. URL <https://www.sciencedirect.com/science/article/pii/B9780128185674000296>.

- [52] Holtz, G. and E. J. L. Chappin. *Considering actor behaviour: agent-based modelling of transitions*, chapter 7. Routledge Studies in Sustainability Transitions. Routledge London and New York, 2019. URL <http://chappin.com/emile/docs/Chapter-7-ABM-Holtz-Chappin.pdf>.
- [53] Garay Garcia, O., C. van Daalen, E. Chappin, B. van Nuland, I. Mohammed, and B. Enserink. *Assessing the residential energy rebound effect by means of a serious game*, volume 10825 LNCS of *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, pages 129–138. Springer Verlag, 1 2018. ISBN 9783319919010. doi: 10.1007/978-3-319-91902-7\_13.
- [54] Chmieliauskas, A., E. Chappin, C. Davis, I. Nikolic, and G. Dijkema. New methods in analysis and design of policy instruments. In Gheorghe, A. V., editor, *System of Systems*. Intech, 2012. URL <http://cdn.intechweb.org/pdfs/30419.pdf>.
- [55] Chappin, E. J. L. and M. R. Afman. Agent-based model of consumer lighting. In van Dam, K. H., I. Nikolic, and Z. Lukszo, editors, *Agent-Based Modelling of Socio-Technical Systems*, volume 9 of *Agent-Based Social Systems*, chapter 6, pages 181–200. Springer, 2012. doi: 10.1007/978-94-007-4933-7\_6. URL <http://www.springerlink.com/content/h07x2253318251h6/>.
- [56] Chappin, E. J. L. and G. P. J. Dijkema. Agent-based model of CO<sub>2</sub> policies and electricity generation. In van Dam, K. H., I. Nikolic, and Z. Lukszo, editors, *Agent-Based Modelling of Socio-Technical Systems*, volume 9 of *Agent-Based Social Systems*, chapter 7, pages 201–219. Springer, 2012. doi: 10.1007/978-94-007-4933-7\_7.
- [57] Chappin, E. J. L. and G. P. J. Dijkema. Transition management in energy: Design and evaluate transitions with a suitable simulation framework. In van Geenhuizen, M., W. J. Nuttall, D. Gibson, and E. Oftedal, editors, *Energy and Innovation: Structural Change and Policy Implications*, International Series on Technology Policy and Innovation, pages 187–210. Purdue University Press, 2010. ISBN 978-1-55753-578-8.
- [58] Holtz, G., J. Vervoort, E. Chappin, and S. Karmacharya. Challenges and opportunities in transition modelling. In *Modelling system innovations in coupled human-technology-environment systems*. University of Osnabrück, Osnabrück, Germany, 2010.
- [59] Chappin, E. J. L., G. P. J. Dijkema, and L. J. d. Vries. Carbon policies: Do they deliver in the long run? In Sioshansi, P., editor, *Carbon Constrained: Future of Electricity*, Global Energy Policy and Economic Series, pages 31–56. Elsevier, 2010. ISBN: 978-1-85617-655-2.

---

## Conference papers

- [60] Chappin, E. The Y factor for climate change abatement – beyond the technological challenge. In *International Conference on Renewable Energy and Sustainable Technologies*, 2021.
- [61] Chappin, E., I. Bouwmans, and E. Deijkers. Emlab-consumer—simulating energy efficiency adoption decisions of european households. In Ahrweiler, P. and M. Neumann, editors, *Advances in Social Simulation*, Springer Proceedings in Complexity. Springer International Publishing, 2021. ISBN 978-3-030-61502-4 978-3-030-61503-1. doi: 10.1007/978-3-030-61503-1. URL <https://link.springer.com/10.1007/978-3-030-61503-1>.
- [62] Hofstede, G. J. and E. Chappin. Archetypical patterns in agent-based models. In Ahrweiler, P. and M. Neumann, editors, *Advances in Social Simulation*, Springer Proceedings in Complexity.

Springer International Publishing, 2021. ISBN 978-3-030-61502-4 978-3-030-61503-1. doi: 10.1007/978-3-030-61503-1. URL <https://link.springer.com/10.1007/978-3-030-61503-1>.

- [63] Joshi, A., E. J. L. Chappin, and N. Doorn. An agent-based model to study resilience in a stylized social system. In *16th annual Social Simulation Conference*, 2021.
- [64] Scholz, G., N. Wijermans, R. Paolillo, T. Masson, M. Neumann, E. Chappin, A. Templeton, and G. Kocheril. Social identity in agent-based models: A systematic review. In *16th annual Social Simulation Conference*, 2021.
- [65] Chappin, E. J. L. and L. J. De Vries. Agent-based modelling of EU energy and climate policy: investment, uncertainty and policy imperfections. In *EMP-E 2020 Modelling Climate Neutrality for the European Green Deal*, Online, October 2020. URL <https://www.youtube.com/watch?v=HWXevxb5DK8>.
- [66] Joshi, A., E. J. L. Chappin, S. Vermeulen, and N. Doorn. An agent-based model to operationalize actor responsibilities and distributive justice in a stylized social system. In *Joint International Resilience Conference 2020*, 2021.
- [67] Chappin, E., I. Bouwmans, and E. Deijkers. Emlab-consumer - simulating energy efficiency adoption decisions of european households. In *Social Simulation Conference 2019*, 2019.
- [68] Hofstede, G. J. and E. J. L. Chappin. Iconic patterns in agent-based modelling. In *Social Simulation Conference 2019*, 2019.
- [69] de Wildt, T. and E. J. L. Chappin. The unbalances in well-being caused by the energy transition: Abm and scenario discovery. In *Social Simulation Conference 2019*, 2019.
- [70] Hesselink, L. and E. Chappin. Agent-based model of energy efficiency technology adoption in households - a first version with policies targeted at intermediaries. In *BEHAVE 2018, 5th European Conference on Behaviour and Energy Efficiency*, pages 161–162, 2018.
- [71] De Wildt, T. and E. Chappin. Evaluating the moral acceptability of energy systems using agent-based models. In *International Association People-Environment studies 2018*, 2018.
- [72] Chappin, E. J. L. ., G. Korevaar, and S. Pelka. Teaching the modelling of integrated energy systems â course design and first experience. In *Social Simulation Conference, Dublin*, 2017.
- [73] Garcia, O. G., E. van Daalen, E. Chappin, B. van Nuland, I. Mohammed, and B. Enserink. Assessing the residential energy rebound effect by means of a serious game. In *ISAGA 2017 Conference*, 2017.
- [74] Chappin, E. J. L. . Complementing weaknesses in marginal abatement cost curves. In *39th IAEE International Conference "Energy: Expectations and Uncertainty"*, 2016.
- [75] Jensen, T. and E. J. L. Chappin. Agent-based modeling 2.0: data-driven selection of model structure. In *CESUN Conference 2016*, 2016.
- [76] Jensen, T. and E. J. L. Chappin. Agent-based modeling automated: Data-driven generation of innovation diffusion models. In Sauvage, S., J.-M. SÁ!nchez-PÁ©rez, and A. Rizzoli, editors, *8th International Congress on Environmental Modelling and Software*, Toulouse, France, 2016. International Environmental Modelling and Software Society (iEMSs).
- [77] Jensen, T., G. Holtz, and E. Chappin. Automated model structure variation and policy robustness testing: a procedure for innovation diffusion models. In *SSC 2016 conference*, 2016.

- [78] Bhamidipati, S., T. van der Lei, E. Chappin, and P. Herder. Simulating asset management strategies for climate change and its impact on roads. In *10th World Congress on Engineering Asset Management - WCEAM 2015*, 2015.
- [79] Holtz, G., T. Jensen, and E. Chappin. Modelling the diffusion and effect of behaviour changing feedback devices. In *EU-SPRI 2015 conference*, 2015.
- [80] Park Lee, E., E. Chappin, Z. Lukszo, and P. M. Herder. The car as power plant: Towards socio-technical systems integration. In *PowerTech Eindhoven 2015 conference*, 2015.
- [81] Binder, C. R., I. Absenger-Helmli, K. Bedenik, E. Chappin, G. Dijkema, A. Goetz, M. Hecher, C. Knoeri, and U. Vilsmaier. Terim – transition dynamics in energy regions: An integrated model for sustainable policies. In *15. Österreichischer Klimatag 2014*, pages 78–79. Universität Innsbruck, 2014.
- [82] Chappin, E. J. L. and P. W. Heijnen. On infrastructure network design with agent-based modelling. In *Social Simulation 2014 Conference*, Brescia, Italy, 2014. ESSA.
- [83] Friege, J. and E. J. L. Chappin. Simulating the influence of socio-spatial structures on energy-efficient renovations. In *Social Simulation 2014 Conference*, Brescia, Italy, 2014. ESSA.
- [84] Jensen, T. and E. J. L. Chappin. Towards an agent-based model on co-diffusion of technology and behavior: A review. In *Proceedings of the European Conference on Modelling and Simulation*, Brescia, Italy, May 2014. doi: 10.7148/2014-0782. URL [http://www.scs-europe.net/dlib/2014/ecms14papers/pm\\_ECMS2014\\_0092.pdf](http://www.scs-europe.net/dlib/2014/ecms14papers/pm_ECMS2014_0092.pdf). ISBN: 978-0-9564944-9-8.
- [85] Richstein, J., E. J. L. Chappin, and L. J. De Vries. Active permit regulation of a carbon emission trading scheme. In *IAEE Conference*, 2014.
- [86] Kasmire, J., G. P. Dijkema, and E. Chappin. The evolution of transition management and sustainability science: A literature review. In *Proceeding of International Society for Industrial Ecology*, Ulsan, Korea, June 25-28, 2013 2013.
- [87] van Blijswijk, M. J., E. J. L. Chappin, and L. J. de Vries. Simulating producer behavior in congested electricity systems. In Koch, A., editor, *Salzburger Geographische Arbeiten*, volume 48 of *8th Conference of the European Social Simulation Association*, pages 141–152, Salzburg, Austria, September 10–14 2012. University of Salzburg, ESSA.
- [88] Chappin, E. J. L. Agent-based simulations of energy transitions. In *Third International Engineering Systems Symposium – Design and Governance in Engineering Systems – Roots, Trunk, Blossoms*, Delft, the Netherlands, June 18–20 2012. URL <http://cesun2012.tudelft.nl/images/7/7d/Chappin50.pdf>.
- [89] Chappin, E., P. Viebahn, J. Richstein, S. Lechtenböhrer, and A. Nebel. Agent-based model of intermittent renewables: Simulating emerging changes in energy markets in transition. In Koch, A., editor, *Salzburger Geographische Arbeiten*, volume 48 of *8th Conference of the European Social Simulation Association*, pages 105–110, Salzburg, Austria, September 10–14 2012. University of Salzburg, ESSA.
- [90] Chappin, E. J. L., A. Chmieliauskas, and L. J. de Vries. Agent-based models for policy makers. In Koch, A., editor, *Salzburger Geographische Arbeiten*, volume 48 of *8th Conference of the European Social Simulation Association*, pages 153–164, Salzburg, Austria, September 10–14 2012. University of Salzburg, ESSA.

- [91] Chappin, E., M. Ferrero, P. Lazzeroni, Z. Lukszo, S. Olivero, and M. Repetto. Daily storage management of hydroelectric facilities. In *15th International IGTE Symposium*, Graz, Austria, September 16–19 2012.
- [92] Chappin, E. J. L. and T. van der Lei. Modeling the adaptation of infrastructures to prevent the effects of climate change – an overview of existing literature. In *Third International Engineering Systems Symposium – Design and Governance in Engineering Systems – Roots, Trunk, Blossoms*, Delft, the Netherlands, June 18–20 2012. URL <http://cesun2012.tudelft.nl/images/3/34/Chappin64.pdf>.
- [93] Chappin, E. J. L. and A. Ligtvoet. The difference between transition and transformation: a bibliometric analysis of two scientific networks. In *Sustainable Transitions: Navigating Theories and Challenging Realities*, Copenhagen, Denmark, August 29–31 2012. Technical University of Denmark.
- [94] Chmieliauskas, A., E. J. L. Chappin, and G. P. J. Dijkema. Modeling socio-technical systems with agentspring. In *Third International Engineering Systems Symposium – Design and Governance in Engineering Systems – Roots, Trunk, Blossoms*, Delft, the Netherlands, June 18–20 2012. URL [http://cesun2012.tudelft.nl/images/c/c2/CESUN2012\\_paper-ChmieliauskasChappinDijkema2.pdf](http://cesun2012.tudelft.nl/images/c/c2/CESUN2012_paper-ChmieliauskasChappinDijkema2.pdf).
- [95] Ligtvoet, A. and E. J. L. Chappin. Observing player behavior in an electricity market game. In Koch, A., editor, *Salzburger Geographische Arbeiten*, volume 48 of *8th Conference of the European Social Simulation Association*, pages 205–214, Salzburg, Austria, September 10–14 2012. University of Salzburg, ESSA.
- [96] Richstein, J. C., E. Chappin, and L. D. de Vries. Impacts of the introduction of co2 price floors in a two-country electricity market model. *IAEE European PhD day at 12th IAEE European conference*, 2012.
- [97] Ligtvoet, A., A. Ghorbani, and E. J. L. Chappin. A methodology for agent-based modelling using institutional analysis – applied to consumer lighting. In *Agent Technologies for Energy Systems Workshop at AAMAS 2011 (ATES 2011)*, Taipei, Taiwan, 2nd May 2011 2011.
- [98] Afman, M. R., E. J. L. Chappin, W. Jager, and G. P. J. Dijkema. Agent-based model of transitions in consumer lighting. In *3rd World Congress on Social Simulation: Scientific Advances in Understanding Societal Processes and Dynamics*, Kassel, Germany, September 6–9 2010. University of Kassel and Center for Environmental Systems Research.
- [99] Cepeda, M., , E. J. L. Chappin, and L. J. d. Vries. Enhancing generation adequacy in regional electricity markets: the effectiveness of the forward capacity mechanism vs. the energy-only approach. In *33st IAEE International Conference, The Future of Energy: Global Challenges, Diverse Solutions*, InterContinental Rio Hotel, Rio de Janeiro, Brazil, June 6–9, 2010 2010. IAEE.
- [100] Chappin, E. J. L., R. Praet, and G. P. J. Dijkema. Transition in LNG markets – combining agent-based modeling and equation based modeling. In *33st IAEE International Conference, The Future of Energy: Global Challenges, Diverse Solutions*, InterContinental Rio Hotel, Rio de Janeiro, Brazil, June 6–9, 2010 2010. IAEE.
- [101] van Dam, K. H. and E. J. L. Chappin. Coupling agent-based models of natural gas and electricity markets. In *First International Workshop on Agent Technologies for Energy Systems (ATES 2010)*, Toronto, Canada, 11th May 2010 2010.

- [102] Ligtoet, A., E. J. L. Chappin, and R. M. Stikkelman. Modelling cooperation in infrastructure networks. In *3rd World Congress on Social Simulation: Scientific Advances in Understanding Societal Processes and Dynamics*, Kassel, Germany, September 6–9 2010. University of Kassel and Center for Environmental Systems Research.
- [103] de Vries, L. J. and E. J. L. Chappin. Power play: simulating the interrelations between an electricity market and a CO<sub>2</sub> market in an on-line game. In *33st IAEE International Conference, The Future of Energy: Global Challenges, Diverse Solutions*, InterContinental Rio Hotel, Rio de Janeiro, Brazil, June 6-9, 2010 2010. IAEE.
- [104] Chappin, E. J. L. and P. W. Heijnen. Analyzing simulations of energy transitions: Towards a dynamic path approach. In *6th Conference of The European Social Simulation Association*, Guildford, UK, 2009. ESSA.
- [105] Chappin, E. J. L., G. P. J. Dijkema, and L. J. d. Vries. Agent-based simulation of carbon policies and power generation. In *32st IAEE International Conference, Energy, Economy, Environment: The Global View*, San Fransisco, USA, 2009. IAEE.
- [106] Chappin, E. J. L. and G. P. J. Dijkema. Towards simulation of transitions in energy. In *Industrial Ecology Conference Transitions Toward Sustainability*, Lisboa, Portugal, 21–24 June 2009 2009.
- [107] Nikolic, I., G. P. J. Dijkema, E. Chappin, and C. Davis. Model based decision support for creation and operation of sustainable infrastructure. In *2009 IEEE International Conference on Systems, Man, and Cybernetics*, Hyatt Regency Riverwalk, San Antonio, Texas, USA., October 11–14 2009.
- [108] de Vries, L. J., E. Subramahnan, and E. J. L. Chappin. Power games: using an electricity market simulation game to convey research results. In *Proceedings of the second International Conference on Infrastructure Systems 2009 (INFRA 2009): Developing 21st Century Infrastructure Networks*, Chennai, India, 9-11 December 2009.
- [109] Chappin, E. J. L. Emission-trading as transition instrument for emission reductions? In Groenewegen, J. P. M., T. Fens, J.-F. Auger, and K. Paardenkooper-Suli, editors, *11th Annual International Conference on the Economics of Infrastructures*, Delft, 2008. Delft University of Technology.
- [110] Chappin, E. J. L. and G. P. J. Dijkema. Agent-based modeling of energy infrastructure transitions. In *International Conference on Infrastructure Systems – Building Networks for a Brighter Future*, Rotterdam, The Netherlands, 2008. NGInfra.
- [111] Chappin, E. J. L. and G. P. J. Dijkema. On the design of system transitions – is transition management in the energy domain feasible? In *IEEE IEMC: International Engineering Management Conference*, Estoril, Portugal, 2008. IEEE. doi: 10.1109/IEMCE.2008.4617998.
- [112] Chappin, E. J. L. and G. P. J. Dijkema. Towards the assessment of policy impacts on system transitions in energy. In *31st IAEE International Conference, Bridging Energy Supply and Demand: Logistics, Competition and Environment*, Istanbul, Turkey, 2008. IAEE.
- [113] Chiong Meza, C. M. and E. J. L. Chappin. Modelling energy infrastructures: Where transition theory meets agent-based modelling. In *5th Conference of The European Social Simulation Association*, Brescia, Italy, 2008. ESSA.



- [114] Chiong Meza, C., E. J. L. Chappin, and G. P. J. Dijkema. Transition of energy infrastructure systems: Towards a framework for assessing the system transition process. In *International Conference on Infrastructure Systems – Building Networks for a Brighter Future*, Rotterdam, The Netherlands, 2008. NGInfra Foundation.
- [115] Nikolic, I., E. J. L. Chappin, C. Davis, and G. P. J. Dijkema. On the development of agent-based models for infrastructure evolution. In *International Conference on Infrastructure Systems – Building Networks for a Brighter Future*, Rotterdam, The Netherlands, November 2008. NGInfra Foundation.
- [116] Chappin, E. J. L. and G. P. J. Dijkema. An agent based model of the system of electricity production systems: Exploring the impact of CO<sub>2</sub> emission-trading. In *IEEE SoSE: Systems of Systems Engineering*, San Antonio, Texas, USA, 2007. IEEE. doi: 10.1109/SYSOSE.2007.4304239.
- [117] Chappin, E. J. L. and G. P. J. Dijkema. On the impact of CO<sub>2</sub> emission-trading on power generation emissions. In *10th International Conference on Technology Policy and Innovation*, Stavanger, Norway, June 17–20, 2007 2007. ICTPI.
- [118] Chappin, E. J. L., G. P. J. Dijkema, K. H. v. Dam, and Z. Lukszo. Modeling strategic and operational decision-making – an agent-based model of electricity producers. In Sklenar, J., A. Tanguy, C. Bertelle, and G. Fortino, editors, *The 2007 European Simulation and Modelling Conference*, St. Julians, Malta, 2007. Eurosis.

## ———— Newspaper articles and columns, technical reports, and other publications

- [119] Chappin, E. J. L. and R. Blomme. Emergent behaviour in the energy transition. Technical report, Delft University of Technology, 2022. URL <https://repository.tudelft.nl/islandora/object/uuid%3A45e6f487-41ab-4299-96c7-5c8c8ab58392>.
- [120] Chappin, E. Modelling complexity in the energy transition, October 2021. URL <https://energytransitionlab.weblog.tudelft.nl/2021/10/12/modelling-complexity-in-the-energy-transition/>.
- [121] Melliger, M. and E. Chappin. Ending subsidies slows the growth of wind and solar power ending subsidies slows the growth of wind and solar power, October 2021. URL <https://www.iass-potsdam.de/en/blog/2021/10/ending-subsidies-slows-growth-wind-and-solar-power>.
- [122] Brugger, H., A. Durand, T. Mandel, B. Schlomann, M. Pfaff, R. Walz, M.-C. Guetlein, C. Faure, J. Schleich, G. Tu, L. Whitmarsh, C. Whittle, A. Mueller, and E. Chappin. Changing energy efficiency technology adoption in households (cheetah) - d 7.3 full report on policy implications from the micro-, meso- and macro-level analysis. Technical report, Fraunhofer ISI, 2020. URL <https://www.briskee-cheetah.eu/library-and-reports/full-report-on-policy-implications-from-the-micro-meso-and-macro-level-analysis/>.
- [123] Nikolic, I., M. Warnier, J. Kwakel, E. J. L. Chappin, Z. Lukszo, F. Brazier, L. de Vries, M. Cvetkovic, P. Palensky, and A. Verbraeck. Principles, challenges and guidelines for a multi-model ecology. Technical report, Delft University of Technology, 2019.

- [124] Nikolic, I., Z. Lukszo, E. Chappin, M. Warnier, J. Kwakkel, P. Bots, and F. Brazier. Guide for good modelling practice in policy support. Technical report, Delft University of Technology, 2019.
- [125] Borit, M., E. Chappin, E. Chattoe-Brown, B. Edmonds, and N. Gotts. A proposal for a review of artificial societies and social simulation. *CPM Report*, 18(243), 2018. URL <http://cfpm.org/discussionpapers/208>.
- [126] Chappin, E. J. L. Escaping the modelling crisis. *Review of Artificial Societies and Social Simulation*, 2018. URL <https://roasss.wordpress.com/2018/10/15/ec/>.
- [127] Holtz, G., C. Schnülle, M. Yadack, J. Friege, T. Jensen, P. Thier, P. Viebahn, and E. J. L. Chappin. *Using agent-based models to generate transformation knowledge for the German Energiewende: potentials and challenges derived from four case studies*, volume 218. 2018.
- [128] Müller, A., L. Kranzl, M. Hartner, H. Brugger, A. Durand, E. Chappin, I. Bouwmans, and J. Sleich. Changing energy efficiency technology adoption in households (cheetah) - discussion paper on the definition of scenarios [d5.1]. Technical report, Fraunhofer ISI, 2018.
- [129] Chappin, E. J. L., L. Stougie, S. Pelka, K. Blok, G. Tu, C. Faure, J. Sleich, and S. Braungardt. Changing energy efficiency technology adoption in households (cheetah) - literature on concepts [d3.1]. Technical report, Fraunhofer ISI, 2017. URL [http://www.briskee-cheetah.eu/static/media/uploads/site-3/library/d3.1.literature\\_review\\_on\\_concepts.pdf](http://www.briskee-cheetah.eu/static/media/uploads/site-3/library/d3.1.literature_review_on_concepts.pdf).
- [130] Chappin, E. J. L., L. X. W. Hesselink, K. Blok, A. Mueller, S. Forthuber, S. Braungardt, and B. Fries. Changing energy efficiency technology adoption in households (cheetah) - working paper on modelling and survey [d3.2]. Technical report, Fraunhofer ISI, 2017. URL [http://www.briskee-cheetah.eu/static/media/uploads/site-3/library/d3.2.cheetah\\_working\\_paper\\_on\\_modelling\\_and\\_survey.pdf](http://www.briskee-cheetah.eu/static/media/uploads/site-3/library/d3.2.cheetah_working_paper_on_modelling_and_survey.pdf).
- [131] Holtz, G., C. Schnülle, M. Yadack, J. Friege, T. Jensen, P. Viebahn, P. Thier, and E. J. L. Chappin. *Using agent-based models to generate transformation knowledge for the German Energiewende - potentials and limitations derived from four case studies*. 2017. URL [https://epub.wupperinst.org/frontdoor/deliver/index/docId/6874/file/6874\\_EnerTransRuhr.pdf](https://epub.wupperinst.org/frontdoor/deliver/index/docId/6874/file/6874_EnerTransRuhr.pdf).
- [132] van Bloemendaal, K., G. P. J. Dijkema, O. Özdemir, E. Woerdman, Z. Lukszo, G. Bas, E. J. L. Chappin, C. B. Davis, M. van Hout, T. Jong, J. de Joode, B. Kiewiet, and A. Kooshknow. White paper on modelling - understanding gas sector intra- and inter- market interactions (ugsiimi). Technical report, The EDGaR UGSIIMI Team, November 2015.
- [133] Chappin, E. J. L. and G. P. J. Dijkema. Modeling for transition management. *Social Science Research Network*, 2015. doi: 10.2139/ssrn.2618413. URL <http://ssrn.com/abstract=2618413>.
- [134] Chappin, E. J. L. Die energiewende: A delft perspective. In Ernst, A., editor, *Integration of the German energy transition in the EU-context*, volume Energie & Umwelt, pages 37–42. Forschungszentrum Jülich GmbH, 2015. ISBN 978-3-95806-079-1.
- [135] Chappin, E. J. L. . Review of complexity and the economy. *JASSS Reviews*, 18(3), 2015. URL <http://jasss.soc.surrey.ac.uk/18/3/reviews/1.html>.
- [136] de Vos, T., E. Chappin, and M. Kroesen. Maatschappelijke acceptatie van energieopslag met compressed air. *Tijdschrift Milieu - Dossier* -, 12:11–14, December 2015.
- [137] Chappin, E. J. L. e. Webdictaat introductie in energie- en industriesystemen, 2014. URL <http://eduweb.eeni.tbm.tudelft.nl/TB141E>.

- [138] de Vries, L., J. Richstein, and E. Chappin. Europe's carbon trading system needs radical reform, not stop-gap measures. *Reuters Blog*, January 7 2014. URL <http://blogs.reuters.com/great-debate-uk/2014/01/07/europes-carbon-trading-system-needs-radical-reform-not-stop-gap-measures>.
- [139] de Vries, L. and E. Chappin. Onderschat baten wind op zee niet. *Financieel Dagblad*, 10 oktober: 13, 2014. URL <http://energy.weblog.tudelft.nl/2014/10/10/baten-offshore-wind-onderschat/>.
- [140] De Vries, L. J., E. J. L. Chappin, and J. C. Richstein. Emlab-generation - an experimentation environment for electricity policy analysis. Technical report, TU Delft, 2013. URL <http://emlab.tudelft.nl/generation/emlab-generation-report-1.0.pdf>.
- [141] Chappin, E. De juiste sprong in het diepe. *Energie+*, 2011(4/5):36–37, September 2011.
- [142] Chappin, E. Simulating energy transitions. *Mother Pelican*, 7(8):6, 2011. URL <http://www.pelicanweb.org/solisustv07n08page6.html>.
- [143] Chappin, E. Simulating energy transitions. *EDI Quarterly*, 3(2):7–9, June 2011. URL <http://www.energydelta.org/uploads/bestanden/c21f508d-b71c-40f3-a403-d082ec51ce93>.
- [144] Chappin, E. J. L., L. J. de Vries, and G. P. J. Dijkema. Co2 compenseren of reduceren? *FD Selections*, 13 mei, 2011. URL <http://www.fdselections.nl/energie/Opinie/Columns/articleType/ArticleView/articleId/22902/CO2-emissies-compenseren-of-reduceren.aspx>.
- [145] Dijkema, G. P. J., E. J. L. Chappin, and L. J. de Vries. Zonder olie staat alles (niet) stil. *FD Selections*, 7 april, 2011. URL <http://www.fdselections.nl/energie/Opinie/Columns/articleType/ArticleView/articleId/21376/Zonder-olie-staat-alles-niet-stil.aspx>.
- [146] de Vries, L. J., G. P. J. Dijkema, and E. J. L. Chappin. De paradox van de energietransitie. *FD Selections*, 10 maart, 2011. URL <http://www.fdselections.nl/energie/Opinie/Columns/articleType/ArticleView/articleId/19689/De-paradox-van-de-energietransitie.aspx>.
- [147] Chappin, E. J. L., L. J. de Vries, and G. P. J. Dijkema. Klimaat: van hoax naar actie. *FD Selections*, 11 februari, 2011. URL <http://www.fdselections.nl/energie/Opinie/Columns/articleType/ArticleView/articleId/18620/Klimaat-van-hoax-naar-actie.aspx>.
- [148] Dijkema, G. P. J., E. J. L. Chappin, and L. J. de Vries. Stop de offshoring van wind. *FD Selections*, 13 januari, 2011. URL <http://www.fdselections.nl/energie/Opinie/Columns/articleType/ArticleView/articleId/17451/Stop-de-offshoring-van-wind.aspx>.
- [149] de Vries, L. J., G. P. J. Dijkema, and E. J. L. Chappin. Marktwerving in transitie. *FD Selections*, 9 december, 2010. URL <http://www.fdselections.nl/energie/Opinie/Columns/articleType/ArticleView/articleId/16318/Marktwerving-in-transitie.asp>.
- [150] Chappin, E. J. L. Review of: From system complexity to emergent properties (understanding complex systems), aziz-alaoui, m.a. and bertelle, c. (eds.), January 2010. URL <http://jass.soc.surrey.ac.uk/13/1/reviews/chappin.html>. Book Review.
- [151] Chappin, E. J. L., G. P. J. Dijkema, and L. J. de Vries. Europe's Flawed Carbon-Trading System. *Wall Street Journal*, July 15:6, 2010.
- [152] Chappin, E. J. L. and G. P. J. Dijkema. Design of simulation models of energy transition management. In *Delft Design & Engineering Day 2009 – Discover the latest inventions of the TU Delft*, Faculty of Architecture, Julianalaan 134, Delft, November 5th 2009.

- [153] Chappin, E. J. L., G. P. J. Dijkema, and R. M. Stikkelman. Emissiehandel leidt niet tot lagere CO<sub>2</sub>-uitstoot. *TBM Quarterly*, 4(1):3, 2008. URL [http://www.chappin.com/emile/docs/tbm\\_quarterly\\_2008.pdf](http://www.chappin.com/emile/docs/tbm_quarterly_2008.pdf).
- [154] Chappin, E. J. L. No drop in CO<sub>2</sub> emissions despite emission trading (ondanks emissiehandel geen lagere CO<sub>2</sub>-uitstoot). *TPM In Focus (TBM In Beeld)*, page 19, 2008. URL <http://chappin.com/emile/docs/TPM.In.Focus.2008.page19.NL.EN.pdf>.
- [155] Chappin, E. J. L. and G. P. J. Dijkema. Emissiehandel raakt kolencentrales niet. *Financieel Dagblad*, July 7:7, 2007.
- [156] Chappin, E. J. L. and G. P. J. Dijkema. An agent based model to study the impact of CO<sub>2</sub> emission-trading on electric power generation. In *Industrial Ecology Conference*, Toronto, Canada, June 17th – 20th 2007. ISIE.
- [157] Voet, E. v. d., J. B. Guinnée, C. Davis, L. v. Oers, R. Nelis, B. Cok, E. J. L. Chappin, and R. Heijungs. *Greenhouse Gas Calculator for Electricity and Heat from Biomass*. CML, Leiden, 2008.
- [158] Cantarelli, C. C., E. J. L. Chappin, and A. M. Klompenhouwer. *Onderzoek naar waterstoftransport – Eindrapportage*. Delft University of Technology, Delft, 2004. URL [http://chappin.com/emile/docs/spm3910\\_totaalrapport\\_definitief.pdf](http://chappin.com/emile/docs/spm3910_totaalrapport_definitief.pdf).
- [159] Dijkema, G. P. J. and E. J. L. Chappin. *Systemen in de Industrie, Water- en Energiesector*. TBM TU Delft, Delft, 2003. URL [http://chappin.com/emile/docs/dictaat\\_spm1510.pdf](http://chappin.com/emile/docs/dictaat_spm1510.pdf).