

Curriculum Vitae

SUMMARY

Karen Byskov Lindberg is a senior advisor at Aneo and is also an Adjunct Associate Professor at the Dept. of Electric Power Engineering at NTNU. She holds a M.Sc. and PhD in Energy system analysis from NTNU, the latter on integration of Zero Emission Buildings in the power system. Karen was with the Norwegian Water Resources and Energy Directorate (NVE) for 12 years before joining SINTEF, gaining profound knowledge on Power markets, Energy and climate action plans, Energy performance of buildings, Smart grids and Energy policy, as well as TSO and DSO relations. Her current research includes enabling local energy flexibility in buildings and neighbourhoods – utilizing the flexibility of heat pumps, EVs, PV, battery and building's thermal flexibility. Her special focus is on how end-user flexibility can ease the integration of renewable energies (RES), as well as contribute to enhanced resilience for the overall power system.

In addition to a long list of peer-reviewed journal and conference papers (Scopus *h*-index of 15), Karen has also published several chronicles/articles in Norwegian newspapers and energy magazines.

PERSONAL INFORMATION

Name:	Karen Byskov Lindberg	E-mail:	kbyskov@gmail.com
Address:	Løkenlia 20, N-1352 Kolsås	Mobile:	+ 47 99 60 42 72
Date of birth:	15 February 1978	Nationality:	Norwegian
		ORCID:	0000-0003-1154-1964



EDUCATION

2011 – 2017	Norwegian University of Science and Technology (NTNU) Doctoral degree, Dept. of Electric Power Engineering Thesis title: <i>“Impact of Zero Energy Buildings (ZEBs) on the Power System. A study of load profiles, flexibility and system investments.”</i>	Trondheim, Norway
2008 / 2011	University of Oslo , Macro- and Microeconomics, and Econometrics	Oslo, Norway
1998 – 2005	Norwegian University of Science and Technology (NTNU) M.Sc. Energy and Environmental Engineering, Dept. of Electric Power Engineering Title: <i>“Introduction of Hydrogen in the energy system of Oslo and Akershus towards 2050 using the standard MARKAL modelling tool”.</i>	Trondheim, Norway

WORK EXPERIENCE

2022 –	Aneo (renewable energy company) Senior Advisor Distributed Energy Systems	Oslo, Norway
2017 –	Norwegian University of Science and Technology (NTNU) Adjunct Associate Professor, Department of Electric Power Engineering	Trondheim, Norway
2018 – 2022	SINTEF Community Senior Research Scientist, Research group of Energy and Indoor environment	Oslo, Norway
2014 – 2015	Fraunhofer Institute for Solar Energy Systems (ISE) Visiting researcher, Department of Smart Grids, 13 months	Freiburg, Germany
2005 – 2018	Norwegian Water Resources and Energy Directorate (NVE) Senior Engineer, Energy System and Energy Demand Modelling, Department of Energy	Oslo, Norway
2005	Norwegian University of Science and Technology (NTNU) Scientific assistant, Dept. of Energy and Process Engineering, 6 months	Trondheim, Norway
2002	DNV (Det Norske Veritas) Summer internship, Dept. of Research, 2 months	Oslo, Norway
2001	Norwegian University of Science and Technology (NTNU) Summer internship, Dept. of Energy and Process Engineering, 2 months	Trondheim, Norway
2000	ABB Corporate Research Center Ltd. Student Praktikum, Dept. of Power Electronics, 3 months	Baden, Switzerland

AWARDS

2016	1. Price, Best student paper award at the 13th IEEE International Conference on the European Energy Market (EEM), 6-9 June 2016	Porto, Portugal
2005	NEF's award for best master thesis at the Dept. of Electric Power Engineering NTNU	Trondheim, Norway

PROJECT MANAGEMENT AND OTHER PROFESSIONAL EXPERIENCE

2021–	SmartBuildingHub , funding from Research Council of Norway	
2021–	COFACTOR , Project manager, funding from Research Council of Norway	
2021–2022	Reviewer committee of BuildSim Nordic 2022 conference, https://buildsimnordic2020.ibpsa-nordic.org/	
2020–	Member of the International Advisory Board (IAB) of the research project Flexible Energy Denmark (FED), https://www.flexibleenergydenmark.com/	
2020	Reviewer of International Conference on Smart Energy Systems and Technologies 2020 (IEEE SEST).	
2019–2022	FLEXBUILD , Work package leader, funding from Research Council of Norway	
2019–2020	Reviewer committee of BuildSim Nordic 2020 conference, https://buildsimnordic2020.ibpsa-nordic.org/	
2018–2022	GreenCharge , Project leader of Oslo Pilot, funding from EU H2020	
2018–2022	FME ZEN , Project leader of Bærum Pilot in WP6, funding from Research Council of Norway	
2018–2019	PI-SEC (planning instruments for smart energy communities), Project member, funding from Research Council of Norway	
2016–2017	Co-chair Panel 5 “Buildings and construction technologies and systems” ECEEE Summer studies 2017 http://www.eceee.org/summerstudy/ . https://www.eceee.org/library/conference_proceedings/eceee_Summer_Studies/	
2008–2010	Project Manager in KLIMAKUR 2020 . Translating the reference path of Norway's GHG emissions towards 2020 to energy consumption. Analysing measures and policy instruments for combating GHG emissions from the Norwegian building stock. www.klimakur2020.no .	
2007–2018	Responsible for Energy system analysis within the NVE. Developing TIMES and LEAP models of the Norwegian Energy System.	

RESEARCH PROGRAMMES

2016 – 2024	Research Center on Zero Emission Neighbourhoods in Smart Cities (ZEN, www.ntnu.no/zen)
2011 – 2019	Research Center for Sustainable Energy Studies (CenSES, www.ntnu.no/censes)
2008 – 2016	Research Center on Zero Emission Buildings (ZEB, www.zeb.no)

LANGUAGE SKILLS

English: fluent oral and written. **Danish:** fluent oral and written. **German:** good oral, and limited written.

TEACHING EXPERIENCE

2019 –	Lecturer, TET4135 Energy systems planning and operation, Faculty of Information Technology and Electrical Engineering, NTNU
2017 –	Lecturer, TEP 4235 Energy management in Buildings, Faculty of Engineering, NTNU
2014 –	Supervising master and PhD students, Dept. of Electric Power Engineering, NTNU

RESEARCH INTERESTS

Optimisation, Load profiles, Smart Grids, End-user Flexibility, Energy efficiency of buildings, Integration of local renewables and storage, Techno-economic optimisation of buildings and neighbourhoods, National energy system analysis. Power markets. Regulatory aspects of the power system. Statistics.

POPULAR SCIENCE ARTICLES

2022	Sandberg, Nina Holch; Lindberg, Karen Byskov . <i>Viktig sjanse til å spare strøm glipper når bygg renoveres</i> . Kronikk i Dagens Næringsliv. 2022-03-11.
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- 2022 **Lindberg, Karen Byskov.** *Strømregningen ble 210.000 kroner dyrere enn planlagt.* Intervju i Stavanger aftenblad [Avis] 2022-01-17
- 2021 Floch, Jacqueline; **Lindberg, Karen Byskov**; Portvik, Sture; Bubilek, Patryk. *Smart teknologi vil krympe ladekostnader og redusere behovet for dyr nettutbygging.* Kronikk i Dagens næringsliv.
- 2021 **Lindberg, Karen Byskov.** *Kan varmtvann, elbillading og romvarme utnyttes fleksibelt?* Intervju ITB Aktuelt. 2021-06-15. <https://www.itbaktuelt.no/2021/06/15/kan-varmtvannstanken-elbillading-og-romvarme-utnyttes-fleksibelt/>
- 2021 **Lindberg, Karen Byskov.** *Energifleksible bygg og påvirkning på strømmettet.* Intervju i VVS Aktuelt. <https://www.vvsforum.no/energifleksible-bygg-og-paavirkning-paa-stroemnettet.6485785-568598.html>
- 2021 **Lindberg, Karen Byskov**; Sandberg, Nina Holch. *Telenors bygg på Svalbard blir nær utslippsfritt.* Intervju i E24.
- 2020 **Lindberg, Karen Byskov**; Korpås, Magnus. *Vi må elektrifisere nå for å få nullutslipp i 2050.* Kronikk i EnerWe.
- 2020 **Lindberg, Karen Byskov**; Sandberg, Nina Holch. *Energi inn i arealplanen - en forutsetning for Smarte Byer.* Kronikk i Kommunal Rapport.
- 2020 **Lindberg, Karen Byskov**; Sandberg, Nina Holch. *Energi må inn i arealplanene.* Kronikk i Budstikka (avis).
- 2019 Hauge, Åshild Lappegard; Walnum, Harald Taxt; Lien, Synne Krekling; **Lindberg, Karen Byskov.** *Klimamål må være mer enn ord – her er verktøyet!* Kronikk i Kommunal Rapport.

PUBLICATIONS

Published journal papers and refereed conference papers

- 2022 Å.L. Sørensen, M. C. Westad, B. Manrique-Delgado, **K. B. Lindberg.** *Stochastic load profile generator for residential EV charging.* BuildSim Nordic Conference, Copenhagen, Denmark, August
- 2022 SK Lien, NH Sandberg, **KB Lindberg**, E Rosenberg, P Seljom, I Sartori. *Comparing Model Projections with Reality: Experiences from Modelling Building Stock Energy Use in Norway.* Energy and Buildings, 112186
- 2022 S Jiang, M Natvig, S Hallsteinsen, **KB Lindberg.** *Lessons Learned from Demonstrating Smart and Green Charging in an Urban Living Lab.* International Conference on Advanced Information Networking and Applications
- 2022 NH Sandberg, SK Lien, **KB Lindberg**, I Sartori. *Mål om 10 TWh energisparing i bygningsmassen: Hvordan ligger vi an og hva er potensialet?* Praktisk økonomi og finans, vol. 38
- 2021 K. E. Thorvaldsen, M. Korpås, **K. B. Lindberg**, H. Farahmad. *A stochastic operational planning model for a zero emission building with emission compensation.* Applied Energy, vol. 302, pp. 117415
- 2021 JP Real, JK Møller, C Rasmussen, **KB Lindberg**, I Sartori, H Madsen. *Simulating heat load profiles in buildings using mixed effects models.* Journal of Physics: Conference Series 2069 (1), 012138
- 2021 I. M. Andersen, **K. B. Lindberg.** *Optimal investment decisions for a zero emission building under uncertainty: Stochastic BUTLER.* 4th International Conference on Smart Energy Systems and Technologies - SEST. IEEE 2021 ISBN 978-1-7281-7660-4
- 2021 K. H. Andersen, S. K. Lien, H. T. Walnum, **K. B. Lindberg**, I. Sartori. *Further development and validation of the "PROFet" energy demand load profiles estimator.* Building Simulation 2021 Conference - Cold Climate HVAC & Energy, 1st to 3rd Sept
- 2021 M. Askeland, S. Backe, S. Bjarghov, **K. B. Lindberg**, M. Korpås. *Activating the potential of decentralized flexibility and energy resources to increase the EV hosting capacity: A case study of a multi-stakeholder local electricity system in Norway.* Smart Energy, vol. 3
- 2021 S. Backe, D. Pinel, M. Askeland, **K. B. Lindberg**, M. Korpås, A. Tomasgard. *Zero Emission Neighbourhoods in the European Energy System.* SINTEF akademisk forlag 2021 (ISBN 978-82-536-1687-2) ZEN Report(30)
- 2021 L. Georges, E. Storlien, M. Askeland, **K. B. Lindberg.** *Development of a data-driven model to characterize the heat storage of the building thermal mass in energy planning tools.* E3S Web of Conferences 2021, vol. 246.
- 2021 M. Hofmann, **K. B. Lindberg.** *Do households react to variable power prices? – Results from a Norwegian pricing experiment.* IEEE PES Innovative Smart Grid Technologies Europe (ISGT

- Europe), 18-21 Oct, DOI: 10.1109/ISGTEurope52324.2021.9639976
- 2021 D. Pinel, M. Korpås, **K. B. Lindberg**. *Impact of the CO₂ factor of electricity and the external CO₂ compensation price on Zero Emission neighborhoods' energy system design*. Building and Environment, vol. 187, pp. 107418
- 2021 Å. L. Sørensen, **K. B. Lindberg**, I. Sartori, I. Andresen. *Analysis of residential EV energy flexibility potential based on real-world charging reports and smart meter data*. Energy and Buildings, vol. 241, pp. 110923
- 2020 D. Franjo, R. Grønberg, **K. B. Lindberg**, H. Madsen. *Implementing flexibility into energy planning models: Soft-linking of a high-level energy planning model and a short-term operational model*. Applied Energy, vol. 260, pp. 114292
- 2020 D. Fischer, A. Surmann, **K. B. Lindberg**. *Impact of emerging technologies on the electricity load profile of residential areas*, Energy and Buildings, vol.208, pp. 109614
- 2019 M. Askeland, S. Backe, **K. B. Lindberg**. *Zero energy at the neighbourhood scale: Regulatory challenges regarding billing practices in Norway*. 1st Nordic conference on Zero Emission and Plus Energy Buildings, 6-7 Nov, Trondheim, Norway
- 2019 Sørensen, Å. L., Sartori, I., **Lindberg, K. B.**, Andresen, I. *Analysing electricity demand in neighbourhoods with electricity generation from solar power systems: A case study of a large housing cooperative in Norway*. 1st Nordic conference on Zero Emission and Plus Energy Buildings, 6-7 Nov, Trondheim, Norway
- 2019 M. Hofmann, **K. B. Lindberg**. *Price elasticity of electricity demand in metropolitan areas-Case of Oslo*. 16th International Conference on the European Energy Market (EEM), 18-20 Sept, Ljubljana, Slovenia
- 2019 Sørensen, Å. L., **Lindberg, K. B.**, Walnum, H. T., Sartori, I., Aakenes, U. R., Andresen, I. *Heat analysis for energy management in neighbourhoods: Case study of a large housing cooperative in Norway*. 10th Intern. Conference on Indoor Air Quality, Ventilation, Energy Conservation in Buildings (IAQVEC) 5-7 Sept, Bari, Italy
- 2019 Walnum, H. T., Alonso, M. J., Clauss, J., **Lindberg, K. B.** *Characterization of heat load profiles in buildings and their impact on demand side flexibility*. 10th Intern. Conference on Indoor Air Quality, Ventilation, Energy Conservation in Buildings (IAQVEC) 5-7 Sept, Bari, Italy
- 2019 Sørensen, Å. L., Sartori, I., **Lindberg, K. B.**, Andresen, I. *Electricity analysis for energy management in neighbourhoods: Case study of a large housing cooperative in Norway*. Intern. Scientific Conference on Climate Resilient Cities (CISBAT), 4-6 Sept 2019, EPFL Lausanne, Switzerland
- 2019 Walnum, H. T; **Lindberg, K. B.**; Sartori, I. *Influence of inputs knowledge on Grey-box models for Demand Response in Buildings*. 16th Conference of International Building Performance Simulation Association (IBPSA), 2-4 Sept., Rome, Italy
- 2019 Lien, S. K.; Sørnes, K.; Hauge, Å. L.; **Lindberg, K. B.**; Walnum, H. T. *Selection of key performance indicators (KPIs) in the transition towards low-carbon urban communities*. ECEEE 2019 Summer Study on Energy Efficiency, 3-8 June, France, ISBN 978-91-983878-5-8.
- 2019 **K. B. Lindberg**, P. Seljom, H. Madsen, D. Fischer, M. Korpås. *Long-term electricity load forecasting: Current and future trends*. Utilities Policy, vol. 58, pp. 102-119
- 2019 **K. B. Lindberg**, S. Bakker, I. Sartori. *Modelling electric and heat load profiles of non-residential buildings for use in long-term aggregate load forecasts*. Utilities Policy, vol. 58, pp. 63-88
- 2019 J. Clauss, S. Stinner, C. Solli, **K.B. Lindberg**, H. Madsen, L. Georges. *Evaluation Method for the Hourly Average CO₂eq. Intensity of the Electricity Mix and Its Application to the Demand Response of Residential Heating*. Energies, vol. 12, pp.1345, doi:10.3390/en12071345
- 2019 H. T. Walnum, K. Sørnes, Å. L. Hauge, **K. B. Lindberg**, B. F. Nielsen, M. Mysen, "Developing a scenario calculator for Smart Energy Communities in Norway: identifying gaps between vision and practice", Sustainable Cities and Society, 46 (Special Issue on Innovative Approaches towards Sustainable Design of the Built Environment), pp.101418. <https://doi.org/10.1016/j.scs.2019.01.003>
- 2018 J. Clauss, S. Stinner, C. Solli, **K. B. Lindberg**, H. Madsen, L. Georges, "A generic methodology to evaluate hourly CO₂ factors of the electricity mix to deploy the energy flexibility potential of Norwegian buildings", The 10th International Conference on System Simulation in Buildings, Liege, December 10-12, 2018
- 2018 R. G. Junker, A. G. Azar, **K. B. Lindberg**, G. Renders, R. Relan, H. Madsen. *Characterizing the*

- Energy Flexibility of Buildings and Districts*. Applied Energy, Vol. 225, pp. 175-182
- 2018 S. Backe, P. Crespo del Granado, D. Pinel, A. Tomasgard, M. Korpås, **K.B. Lindberg**. *Towards Zero Emission Neighbourhoods: Implications for the Power System*. 15th International Conference on the European Energy Market, June 27-29, Expo Lodz, Lodz, Poland
- 2017 **K. B. Lindberg**. *Impact of Zero Energy Buildings on the Power System. A study of load profiles, flexibility and system investments*. Doctoral thesis at NTNU, 2017:35
- 2017 P. Seljom, **K. B. Lindberg**, A. Tomasgard, G. Doorman and I. Sartori. *The impact of Zero Energy Buildings on the Scandinavian energy system*. Energy, vol.118, pp.284-296
- 2016 **K. B. Lindberg**, T. Dyrendahl, G. Doorman, M. Korpås, E. Øyslebø and C. Skotland. *Large scale introduction of Zero Energy Buildings in the Nordic Power System*. 13th International Conference on the European Energy Market, Porto, Portugal, 6-9 June
- 2016 **K. B. Lindberg**, D. Fischer, G. Doorman, M. Korpås, and I. Sartori. *Cost-optimal energy system design in Zero Energy Buildings with resulting grid impact: A case study of a German multi-family house*. Energy Build., Vol. 127, pp. 830-845
- 2016 D. Fischer, **K. B. Lindberg**, H. Madani and C.Wittwer. *Impact of PV and variable prices on optimal system sizing for heat pumps and thermal storage*. Energy Build., Vol. 128, pp. 723-733
- 2016 D. Fischer, A. Flunk, N. Kreifels, B. Wille-haussmann, **K. B. Lindberg**, B. Stephen, and E. H. Owens. *Modelling the Effects of Variable Tariffs on Domestic Electric Load Profiles by Use of Occupant Behaviour Submodels*. IEEE Trans. Smart Grid, DOI: 10.1109/TSG.2016.2544141
- 2016 **K. B. Lindberg**, G. Doorman, D. Fischer, I. Sartori, M. Korpås, and A. Ånestad. *Methodology for optimal energy system design for Zero Energy Buildings using mixed-integer linear programming*. Energy Build., Vol. 127, pp. 194-205
- 2015 **K.B. Lindberg**, J.E. Chacón, G. Doorman, D. Fischer. *Hourly Electricity Load Modelling of non-residential Passive Buildings in a Nordic Climate*. IEEE PowerTech conference in Eindhoven, Netherlands, 29 June – 2 July 2015
- 2014 D. Fischer, **K. B. Lindberg**, S. Müller, E. Wiemken, and B. Wille-Haussmann. *Potential for Balancing Wind and Solar Power Using Heat Pump Heating and Cooling Systems*. 4th Solar Integration Workshop, Berlin, Germany, 10-11 Nov.
- 2014 **K.B. Lindberg**, A. Ånestad, G.Doorman, D.Fischer, C.Wittwer and I.Sartori. *Optimal Investments in Zero Carbon Buildings*. 1st International conference on Zero Carbon Buildings (ZCB2014), Birmingham, UK, 11-12 Sept.
- 2014 D. Fischer, J. Scherer, A. Haertl, **K.B. Lindberg**, M. Elci, and B. Wille-Haussmann. *Stochastic Modelling and Simulation of Energy Flows for Residential Areas*. Conference proceedings, VDE-Kongress 2014 Smart Cities: Intelligente Lösungen für das Leben in der Zukunft, Germany, Oct 2014
- 2014 D. Fischer, T. Rivera Toral, **K. B. Lindberg**, B. Wille-Haussmann and H. Madani, “*Investigation of Thermal Storage Operation Strategies with Heat Pumps in German Multi Family Houses*”, Presented at the Renewable Energy Research Conference (RERC2014) in Oslo, Norway, 16-17 June 2014, Energy Procedia, vol. 58, pp. 137-144
- 2014 F. Noris, E. Musall, J. Salom, B. Berggren, S. Ø. Jensen, **K. B. Lindberg** and I. Sartori. *Implications of Weighting factors on Technology Preference in net Zero Energy Buildings*. Energy and Buildings, vol. 82, pp. 250–262
- 2014 J. Salom, J. Widen, J. A. Candanedo and **K. B. Lindberg**. *Analysis of grid interaction indicators in Net Zero Energy Buildings with sub-hourly collected data*. Special issue of Advances in Building Energy Research, <http://dx.doi.org/10.1080/17512549.2014.941006>
- 2014 J. Salom, A. J. Marszal, J. Widén, J. A. Candanedo and **K. B. Lindberg**. *Analysis of Load Match and Grid Interaction Indicators in net Zero Energy Buildings with simulated and monitored data*. Applied Energy, vol. 136, pp. 119-131
- 2014 J. Salom, A. J. Marszal, J. A. Candanedo, J. Widén, **K. B. Lindberg** and I. Sartori. *Analysis of Load Match and Grid Interaction Indicators in net Zero Energy Buildings with High-Resolution Data*. Technical Report of IEA Task 40 of the Solar Heating and Cooling Program (SHC), Available: <http://task40.iea-shc.org/data/sites/1/publications/T40A52--LMGI-in-Net-ZEBs--STA-Technical-Report.pdf>
- 2013 T.H. Dokka, I. Sartori, M. Thyholt, K. Lien and **K.B. Lindberg**. *A Norwegian Zero Emission Building Definition*. In Passivhus Norden, The 6th Passive House Conference in the Nordic countries, Göteborg, Sweden.

- 2013 **K.B. Lindberg** and G. Doorman. *Hourly load modeling of non-residential building stock*. IEEE PowerTech conference in Grenoble, France, 16 – 20 June 2013
- 2013 A. Lind, E. Rosenberg, P. Seljom, K. Espegren, A. Fidje and **K.B. Lindberg**. *Analysis of the EU renewable energy directive by a techno-economic optimization model*. Energy Policy, vol.60, pp.364-377
- 2013 A.Z. Mørch, H. Sæle, N. Feilberg, and **K.B. Lindberg**. *Method for Development and Segmentation of Load Profiles for Different final Customers and Appliances*. ECEEE Summer Study on energy efficiency, 3 – 8 June, Toulon/Hyères, France
- 2010 **K.B. Lindberg** and I.H. Magnussen. *Measures and policy instruments for combating GHG emissions from the Norwegian building stock*. (in Norwegian) NVE report no. 2010/4.
- 2009 A. Fidje, E. Rosenberg and **K.B. Lindberg**. *Regional TIMES Model for Norway with High Time Resolution*. Conference proceedings, International Energy Workshop 17-19 June, Venice, Italy <http://www.iccgov.org/iew2009/4-2-c-3.htm>
- 2008 Ø. Vessia and **K.B. Lindberg**. *Will reduced power consumption in Norway lead to lower GHG emissions from European power production?* (in Norwegian) article in NVE-report 2008/1.
- 2007 **K.B. Lindberg**. *Holistic analysis of the energy system – an important tool in the climate debate* (in Norwegian). Professional article in the technical journal Energiteknikk no. 2007/10
- 2005 T.A. Johnsen, **K.B. Lindberg** and T.S. Wahl. *Norwegian electricity consumption – historic development and future prospects*. (in Norwegian) article in NVE-report 2005/3.

SUPERVISING AND CO-SUPERVISING PHD-STUDENTS

- 2018– Matthias Hoffmann. *Flexible demand – an alternative to investments in the central power grid*. Dept. of Electric Power Engineering, NTNU
- 2019–2022 Kasper Emil Thorvaldsen. *Techno-economic models of energy flexible buildings in the future smart grid*. Dept. of Electric Power Engineering, NTNU.
- 2018–2022 Magnus Askeland. *Policy issues for distributed energy resources as a part of larger energy systems*. Dept. of Electric Power Engineering, NTNU.
- 2018– Åse L. Sørensen. *Smart strategies for energy and power management in neighbourhoods*. Dept. of Architecture and Technology, NTNU
- 2017–2021 Dimitri Pinel. *Optimal Investment in the Energy System of Zero Emission Neighborhoods*. Dept. of Electric Power Engineering, NTNU, <https://hdl.handle.net/11250/2833910>

SUPERVISED MASTER STUDENTS

- 2022 Erlend Magnus Løvestakken. *Grey-box modelling of a domestic hot water tank to be used for flexibility services*. Dept. of Electric Power Engineering, NTNU
- 2022 Balder Bryn Morsund. *Analyzing the impact of increased electric vehicle penetration on cost and grid burden with bi-directional charging and solar energy production*. Dept. of Electric Power Engineering, NTNU
- 2022 Line Trier Aslesen. *Further development of a stochastic simulation tool for EV load profiles*. Dept. of Electric Power Engineering, NTNU
- 2022 Åshild Ryen Vespestad. *Assessing energy flexible operation of a residential Zero Emission Building (casaZero)*. Dept. of Energy and Process Engineering, NTNU (co-supervised)
- 2021 Maria Claire Westad. *A Stochastic Simulation Tool for Generating Hourly Load Profiles for Residential EV Charging, Based on Real-World Charging Reports*. Dept. of Electric Power Engineering, NTNU
- 2021 Henrik Waterloo. *Predicting Domestic Hot Water Consumption in Buildings in Norway Using Machine Learning*. Dept. of Electric Power Engineering, NTNU
- 2021 Malin Valby Kaaløy. *Assessing local flexibility resources in a Zero Emission Neighbourhood with focus on space heat demand and battery storage*. Dept. of Electric Power Engineering, NTNU
- 2021 Audun Aass Engstrøm. *Machine learning algorithm for load profile prediction of buildings*. Dept. of Electric Power Engineering, NTNU
- 2020 Emil Risvik Buseth. *100% renewable energy system at Svalbard using the eTransport modelling tool*.

- Dept. of Electric Power Engineering, NTNU
- 2020 Einar Boman Rinde. *100% renewable energy system at Svalbard using the TIMES modelling tool*. Dept. of Electric Power Engineering, NTNU
- 2020 Philip Robert Swisher. *Advanced Modelling of Political and Technological Innovation on Northern Europe's Energy System Projecting Out to 2050*. Technical Univ. of Denmark (DTU)
- 2020 Ane Mossing, Mina Røise, Tonje Marie Vigmostad. *Lønnsomhet ved omfattende energioppgradering av et 60-tallshus*. Dept. of Energy and Process Engineering, NTNU (bachelor thesis)
- 2020 Camilla Hengebøl. *A study on optimal utilization of electric heating for buildings*. Dept. of Electric Power Engineering, NTNU
- 2019 Marius Bagle. *Investigation into the impact of thermal energy flexibility on cost optimal design and operation of Zero Emission Buildings*. Dept. of Electric Power Engineering, NTNU
- 2019 Sondre Moe Knudsen. *Undersøkelse av hvordan fleksibilitet, inkludert smart lading og Vehicle-to-Home, kan påvirke investeringsbeslutningene av en nullutslippsbygning (ZEB), inkludert produksjon på lokasjonen og fasilitering av lading av elektriske kjøretøy*. Dept. of Electric Power Engineering, NTNU
- 2018 Ingrid Marie Andersen. *Stochastic Optimization of Zero Emission Buildings*. Dept. of Electric Power Engineering, NTNU
- 2018 Lea Beus, Ingrid Hammersbøen, Caroline Eldrup. *Multi-horizon Stochastic Optimization of Zero Emission Neighbourhoods*. Dept. of Industrial Economics and Technology Management, NTNU
- 2017 Synne Lien. *Innvirkning av Norges energipolitikk på fremtidig energibruk i norsk bygningsmasse*. Dept. of Energy and Process Engineering, NTNU
- 2017 Andreas Campbell Pedersen. *Økonometrisk modell for fremskrivning av elforbruket i Norge*. Dept. of Economics, NTNU
- 2016 Tore Dyrendahl. *Impact of a large implementation of ZEBs in the Norwegian power system*. Dept. of Electric Power Engineering, NTNU
- 2015 (Praktikum) Jorge E. Chacón Murillo. *Modelling of thermal and electric load profiles for zero energy buildings in Norway*, Fraunhofer ISE and Technische Universität Dresden, Germany
- 2014 Astrid Ånestad. *Net electricity load profiles of Zero Emission Buildings - A Cost Optimization Investment Model for Investigating Zero Balances, Operational Strategies and Grid Restrictions*. Dept. of Electric Power Engineering, NTNU