



Curriculum Vitae

Orvika Rosnes

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Profile

Orvika Rosnes is economist (PhD) with over twenty years of experience in energy and climate policy analyses, both as a researcher and as a consultant.

She has extensive experience in market analyses, as well as issues related to regulation, market structure and investments in power markets, especially in the Nordic and Northern European power markets and EU's Emission Trading System (EU ETS). From the initial focus on power and carbon markets, she has now turned her attention to economy-wide analyses and distributional impacts. Recent projects include studies of energy efficiency in households and impacts of policies that promote electric vehicles. Cooperation with technical experts in numerous projects has provided insight in the more technical issues related to power and energy markets as well.

Orvika is an expert in model-based scenario analyses. She has experience both in partial equilibrium models and in general equilibrium (CGE) models. Recent work includes development of a new CGE model for Norway, with special focus on climate policy instruments, that is used by the Ministry of Finance for long-term prognoses for the Norwegian economy, and a new CGE-model with regional disaggregation. Previous work includes development of computable models for analyses of international climate policies (including the carbon market under the EU Emission Trading System (EU ETS) and the flexible mechanisms under the Kyoto Protocol), and a power sector model for Sub-Saharan Africa.

She has also experience with other methods, particularly cost-benefit analyses, evaluations and various qualitative methods (surveys, interviews, focus groups).

Orvika has published several articles in scientific journals and contributed to books and book chapters.

Education

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| 2008 | Dr. Scient. (PhD in Economics), Department of Economics and Resource Management, Norwegian University of Life Sciences |
| 2005 | Young Scientists' Summer Program (3 months) at International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. Affiliated with the Environmentally Compatible Energy Strategies (ECS) Program. Scholarship from the Research Council of Norway |
| 2003–2004 | Visiting scholar, Department of Agricultural and Resource Economics, University of California, Berkeley, USA. Scholarship from the Research Council of Norway |

- 1997 Cand. oecon. (Master's Degree in Economics), Department of Economics, University of Oslo, Norway
- 1995–1996 Ruhrgas-scholarship, Universität Mannheim, Germany

Professional experience

- 2018– **Vista Analyse**
Partner/Senior Economist
- 2020 **The Institute of Transport Economics (TØI)**
Senior Research Fellow (part-time)
- 2018– **Statistics Norway (SSB)**, Research Department
Senior Research Fellow (part-time)
- 2011–2018 **Statistics Norway (SSB)**, Research Department, Energy and Environmental Economics Group. Senior Research Fellow (Forsker I)
Research related to climate and energy policies. Responsible for developing a new CGE model for Norway, SNOW, in GAMS/MPSGE. The model is used by the Ministry of Finance for long-term prognoses for the Norwegian economy (Perspektivmeldingen). Participant in the CREE centre (Oslo Centre for Research on Environmentally Friendly Energy, funded by Norwegian Research Council).
- 2010–2011 **Norwegian Government Agency for Financial Management (DFØ)**. Senior Advisor
Advising government agencies on cost-benefit analysis. Responsible for developing a web-based handbook for cost-benefit analysis.
- 1998–2010 **Econ Analysis/Econ Pöyry**, Power Market Group; Energy Market Reform and Development Group. Economist/Senior Economist
Short and long-term analyses of European power and carbon markets (EU ETS). Extensive experience with model development in GAMS and model-based scenario analyses, especially the impacts of climate policies, as well as issues related to regulation, market structure and investments in power markets. Analyses of power market reform and restructuring in other areas (South Africa, Botswana, Sub-Saharan Africa, India and the Baltic countries). Development of computable models.

Selected projects

See www.vista-analyse.no for public reports.

- 2017–2021 **SmartPaths: Smart paths and costly detours towards a sustainable low-emission society**
Research Council of Norway
Research project of how medium-term national climate strategies should be crafted to take us on a smart path to the low-emission society, when accounting for sluggishness and risk of fossil-fuel lock-in in both investments and consumer behaviour.
Orvika is project manager for WP 3 “The road to low emission society: Costs of interacting climate regulations” that studies the interaction between various climate policies (emission quotas and support schemes to electric vehicles (EVs).
- 2021 **Evaluation of Enova’s support scheme «Innovative energy and climate solutions»**
Enova
We evaluate Enova’s program that finances studies on innovative energy and climate solutions in buildings, with the aim of investing in technologies that contribute more to emission reduction and energy efficiency than current standard technologies. We evaluate both the processes and the effects of the program.

Orvika is project manager.

- 2021 **Climate change and climate risk – development of methods to analyse cross-sectoral climate risk**
Norwegian Environmental Agency
We develop methods to study climate risk in a cross-sectoral setting. We use food systems – from primary production in agriculture and fisheries via processing, logistics and transport to the consumer – as our case to develop a method that can be used in other sectors.
- 2021 **Regional consequences of climate policies**
Research Council of Norway and Ministry for Regional Development
We use the regional CGE-model NOREG 2 to prepare regional economic projections for the next 30 years, and analyse the consequences of the new climate policy initiatives in Norway.
- 2018–2022 **Costs of electricity supply interruptions to the society**
Statnett
Research project studying the costs of electricity supply interruptions to the society. The aim of the project is to identify the potential synergetic costs of simultaneous interruptions in power supply in different sectors (households, ICT, transportation, electronic payment systems, etc.). The project involves a large survey (5000 respondents) to quantify the willingness to pay for uninterrupted electricity supply. We have completed literature survey and selection of method; mapped and selected relevant sectors to study; prepared and tested the survey. The web-based survey will be carried out in January 2021.
- 2020–2021 **Long-term impacts of the corona pandemic on economies in Norwegian regional**
Research Council of Norway and Ministry for Regional Development
We analyse the long-term impacts of the corona pandemic on Norwegian regions (fylker) with the regional CGE-model NOREG 2.
- 2020– **Consequences of new organization of Sykehuset Innlandet**
Helse Sør-Øst
Analyses of the different consequences to the society of a new organization and relocation of a hospital, Sykehuset Innlandet. Orvika is responsible for the report about consequences on employment, recruitment and economic development in the relevant cities and regions.
- 2020 **Cost-benefit analysis of new testing facilities for oil spill preparedness and marine environment at Fiskebøl**
Norwegian Centre for oil spill preparedness and marine environment and The Norwegian Coastal Administration
Cost-benefit analysis of proposed new testing facilities for oil spill preparedness and marine environment at på Fiskebøl. Role: project leader for the cost-benefit analysis
- 2020 **Low-emission and no-emission vehicles in the agricultural sector**
Møre og Romsdal County Council
Overview of the potential for and interest in low-emission and no-emission vehicles in the agricultural sector in Møre og Romsdal region.
- 2019–2020 **Evaluation of application of cost-benefit analyses in Norway**
Research program Concept, NTNU

Review of cost-benefit analyses in Norway. Cost-benefit analysis is a compulsory part of decision process for large public investments. We reviewed 38 different cost-benefit analyses in the period 2015-2018, analysing whether the application of the theoretical framework is consistent.

- 2019 **Cost-benefit analysis of biorest as climate policy measure**
Norwegian Agriculture Agency
Analysis of the potential and the obstacles for using biorest in biogas production, of profitability and climate impact of biorest.
- 2019 **Evaluation of Enova's support scheme for energy efficiency measures in buildings**
Enova
The evaluation documents the direct impacts (for the users) and the indirect impacts (for the society) of Enova's support scheme for energy efficiency measures in existing buildings.
- 2019 **Energy stations in Møre og Romsdal**
Møre og Romsdal County Council
Analysis of potential for future energy carriers for different segments of transport sector in Møre og Romsdal county. The project analysed potential locations for the energy stations.
- 2018– **NOREG 2.0 – new regional general equilibrium model for Norway**
Research Council of Norway and Ministry of Local Government and Modernisation
Research project where
We develop a new CGE model for Norway, with a regional dimension. This is a five-year research project, with an option for five more years. The project involves both model development, research activities, and prognoses for regional economic development. The first version of the model, NOREG 2.0, is completed; the subsequent research will develop new versions (NOREG 2.1, NOREG 2.2, ...)
Cooperation with Vista Analyse, TØI, SSB og Menon.
- 2018– **Model based analyses with CGE-model SNOW**
Statistics Norway
Part-time engagement (20%) related to research and analyses with the CGE-model SNOW.
- 2018 **Policy measures to reduce emissions from residential burning of firewood**
Norwegian Environment Agency
Analysis of how to reduce emissions (especially local emissions of particulate matter) from burning firewood in households in Norway. We list potential abatements and discuss their potential to reduce emissions. Further, we suggest several measures and policy initiatives that could be implemented by local authorities.
- 2018–2019 **Understanding the economic costs of electricity supply interruptions**
Statnett
Research project studying the costs of electricity supply interruptions to the society. Main responsibility for the analysis of alternative methods for calculation of the VoLL (value of lost load).
- 2018–2019 **Evaluation of Bravo**
FERD Sosiale Entreprenører
Evaluation of the language stimulation tool *Bravo*.
- 2018 **Police University College of the future: opportunities for the Kongsvinger region**
Kongsvinger municipality

- Analysis of the possible relocation of the Norwegian Police University College and potential use of the facilities in Kongsvinger region.
- 2018 **Impacts the new E39 road (Lyngdal-Sandnes)**
Statens vegvesen, region Sør
Analysis of local and regional impacts and distributional impacts of the different alternatives of the new E39 road.
- 2017– **SmartPaths (Smart paths and costly detours towards a sustainable low-emission society)**
Research Council of Norway
Analysis of how medium-term national climate strategies should be crafted to take us on a smart path to the low-emission society, when accounting for sluggishness and risk of fossil-fuel lock-in in both investments and consumer behaviour. “Smart” in this context is persistent, cost-effective and robust.
- 2011– **SNOW: CGE-model for Norway**
Ministry of Finance
Development and updating of the CGE-model SNOW; model-based analyses of climate, energy and tax policies. Responsible for model development and model-based analysis. Project leader since 2017.
- 2015–2016 **WILL (Governing EU–Norwegian willingness to extract, combust and consume less carbon)**
Research Council of Norway
Involved in WP3: Optimal combinations of consumption and extraction policies in an EU–Norwegian perspective.
- 2012–2015 **ENTRACTE (Economic iNsTRuments to Achieve Climate Targets in Europe)**
European Union’s Seventh Framework Programme for research, technological development and demonstration
Involved in Work Package 3, Task 3.1: The interaction between energy efficiency and climate policies. The project investigated impacts of various energy efficiency policy measures (like energy efficiency standards and support schemes) on energy markets, investment in energy-saving technologies and GHG emissions, when taking into account rebound effects. A central issue was how policy instruments directed towards one sector of the economy affect the energy efficiency of the economy in total, and whether the energy efficiency policies contribute to carbon emissions abatement in presence of other climate policies (e.g. renewable targets).
- 2012–2013 **Emissions in Norway and the EU until 2050**
Ministry of Finance
We compare the development of CO₂-emissions in Norway and the EU when assuming cost-efficient abatements to achieve the 2°C target. The focus is on how the different structure of the economies influences the emissions in Norway and the EU.
- 2012 **Energy Efficiency Directive: Consequences for Norway**
Energi Norge
Analysis of the potential impacts of the EU’s Energy Efficiency Directive for Norway, including assessment of the power balance and targets for renewable energy.
- 2007–2009 **Costing Power Investment Needs in Africa until 2015**
World Bank

- Analysis of investment needs in the power sector in Sub-Saharan Africa until 2015. Involves i) collection of an extensive data set; ii) projection of electricity demand in 2015 based on econometric modelling and establishment of country access targets; iii) estimation of the costs associated with meeting projected demand in 2015, applying a least cost expansion model to the individual power pools. The least cost expansion model for different regions (Southern, Eastern, Western and Central Africa), comprising 43 countries, was developed for this project.
- 2008 **Low-emission vehicles in Norway in 2020.**
Climate and Pollution Agency, Norway.
Analysis of expected development of vehicle market in Norway until 2020-2050, and analysis of which policy instruments would be necessary to boost the use of energy efficient and low-emission vehicles.
- 2008 **Baltic electricity market 2025.**
Statnett.
Analysis of expected developments in the Baltic electricity market until 2025.
- 2007–2008 **Experiences from the Nordic power market reform and their relevance for Indian power market.**
The Royal Norwegian Embassy.
Evaluation of which experiences from the power market reform in the Nordic countries are relevant for and could be transferred to Indian power sector. Activities include regulation of power sector, transmission tariffs, simulation of the future Indian power market, end user market and a certification course for power traders. The project involves both desk studies and a series of workshops. The project is undertaken in cooperation with SWECO, Nord Pool and Statnett from Norway, and PTC India from India. Econ Pöyry has been responsible for the analysis of regulation of power sector.
- 2007 **Evaluation of the Energy Legal Framework in Norway.**
Ministry of Oil and Energy, Norway.
Evaluation of the Energy Legal Framework in Norway in order to identify possible obstacles to investing in electricity generation capacity and recommend improvements.
- 2007 **European Carbon Market: The State of the Market and Outlook for the Kyoto Period.**
Multi-client study.
Analysis of the EU ETS market in the first trading period (2005-2007) and in the Kyoto period (2008-2012).
- 2006 **European Carbon Market: the Kyoto period and beyond.**
Multi-client study.
Analysis of carbon market in the EU in the Kyoto period 2008-2012.
- 2006 **Electricity Regulatory Initiative Seminar.**
International Centre for Hydropower (ICH) for Norwegian Agency for Development Cooperation (NORAD).
Lecturer at course on power market. Topic: regional power trade.
- 2006 **Restructuring of Botswana Power Corporation.**
PPA for Botswana Power Corporation (BPC).
Member of the team implementing the restructuring of BPC. Main responsibility for development and implementation of transfer pricing system between profit centres in BPC.
- 2006 **Capacity development in the Nordic power market.**
Multi-client study.

- Analysis of the Nordic power market until 2010, with focus on generation and transmission capacity development.
- 2006 **Capacity building to Ministry of Energy and Minerals, Tanzania.**
Ministry of Energy and Minerals, Tanzania
Lecturer at course on power market modelling.
- 2005 **European Carbon Market 2005-2007.**
Multi-client study.
Analysis of EU Emission Trading Scheme (EU ETS) for CO₂. Principal responsibility for development of a computable model for European carbon market.
- 2005–2006 **EU ETS after one year: Experiences and outlooks.**
Nordic Council of Ministers.
Analysis of EU Emission Trading Scheme (EU ETS): assessment of experiences during the first year and outlook for the remaining period of EU ETS.
- 2004–2005 **Energy Policy News.**
Subscribers.
Monthly survey of energy policies in Northern Europe.
- 2002–2005 **Electricity Regulatory Initiative Seminar.**
Norwegian Water Resources and Energy Directorate for delegates from developing countries.
Lecturer at seminars on different topics on the structure, market arrangements and regulatory system of the Nordic power market.
- 2002 **Climate Policy and Burden Allocation.**
Norwegian Research Council and Norwegian Electricity Industry Association (EBL).
Analysis of current climate policy issues and policy measures in Northern Europe and possible driving forces behind energy and climate policies during the next 10 years.
- 2002 **Power Sector Reform in the Baltic States.**
Swedish Energy Agency (STEM).
Analysis of the outlook for power sector reform and development of a common electricity market in the Baltic countries, as well as price development in a potential competitive Baltic power market.
- 2002 **Marginal Electricity Production and CO₂ Emissions.**
Swedish Energy Agency (STEM).
The project analysed which generation technologies have covered marginal electricity demand in Sweden during the last 5-6 years and what will be the marginal electricity source in the future, taking into account the impacts of various climate policy actions.
- 2002 **Benefits and Risks of Power Sector Reform.**
Department of Public Enterprises (DPE), South Africa
- 2002 **Testing Times: The Future of the Scandinavian Electricity Industry.**
Multi-client study EI2010.
Evaluation of the performance of the Scandinavian power markets in the decade after deregulation, and identification of future challenges that were highlighted by market scenarios for the next decade.
- 1998–2002 **Nordisk Kraft.**
Subscribers.
Monthly survey and analysis of short term developments the Nordic electricity market.
Editor 2000-2002.
- 2001 **Electricity Market Scenarios for South Africa – Extension.**

- National Electricity Regulator (NER), South Africa.*
Participated in the following tasks: i) install the newly developed power market model and train NER staff on model analysis; ii) analysis of generation capacity clustering; iii) review of special power purchasing deals.
- 2001 **Electricity Price Scenarios for South Africa.**
Department of Minerals and Energy (DME), South Africa.
Analyses of price and investment implications of different reform options.
- 2001 **Restructuring of the Electricity Supply Industry.**
BusinessMap, South Africa.
A study undertaken to examine the implications of industry reform, focussing on valuation of existing generation assets in the industry.
- 2001 **Development of the Nordic power market.**
Elkraft System and Eltra, Denmark.
Analyses of different development scenarios for the Nordic power market until 2012.
- 2000 **Electricity market scenarios for South Africa.**
National Electricity Regulator, South Africa.
The project examined options for market reform in South Africa, including modelling of a future competitive market. The project has supported the National Electricity Regulator in preparing for the introduction of competition.
- 2000 **Estimated loss of load.**
Federation of Norwegian Electricity Utilities.
Econometric analysis of loss of load in Norwegian distribution companies, in order to adjust income caps of the companies.
- 1999 **Energy scenarios and energy strategies.**
For a large power company.
Outlines for energy futures in Europe which were refined and operationalised by running the ECON power market model to analyse impacts on prices, new technology and other developments.
- 1998–1999 **The Nordic Electricity Reform: Economic and Environmental Consequences.**
Norwegian Research Council – SAMRAM programme.
- 1998 **Nordic Power and GHG Emissions Trade.**
Nordic Council of Ministers.
Analysis of whether a system for greenhouse gas emissions trading can be integrated with the open Nordic electricity market, and which impacts this might have on electricity flows.
- 1998 **Consequences of Increased Electricity Tax.**
Federation of Norwegian Electricity Utilities.
Assessment of consequences of increased electricity tax on different consumer groups and on the environment.

Publications

Articles in international refereed journals

- 2018 «Residential energy efficiency policies: Costs, emissions and rebound effects». *Energy* 143, pp. 191–201. DOI 10.1016/j.energy.2017.10.103 (with B. Bye and T. Fæhn)
- 2014 «Subsidies for Renewable Energy in Inflexible Power Markets». *Journal of Regulatory Economics* 46, pp. 318–343. DOI 10.1007/s11149-014-9258-7

- 2012 «The Cost of Providing Electricity to Africa». *Energy Economics* 34, pp. 1318–1328. <http://dx.doi.org/10.1016/j.eneco.2012.06.008> (with H. Vennemo)
- 2008 «The Impact of Climate Policies on the Operation of a Thermal Power Plant». *The Energy Journal* 29 (2), pp. 1–22. DOI 10.5547/ISSN0195-6574-EJ-Vol29-No2-1

Articles in Norwegian refereed journals

- 2016 «Energiteknologi og energiøkonomi: Analyser av energipolitikk i to ulike modelltradisjoner». *Samfunnsøkonomen* 6–2016, pp. 47–57 (with B. Bye, K. Espegren, T. Fæhn, E. Rosenberg)
- 2015 «Robuste norske klimamålsetninger». *Samfunnsøkonomen* 1–2015, pp. 67–77 (with M. Greaker)

Books and book chapters

- 2012 «Forecasting CO₂ Prices in the EU ETS». In Q.P. Zheng, P.M. Pardalos, S. Rebennack, N.A. Iliadis, M.V. Pereira (eds.) *Handbook of CO₂ in Power Systems*, pp. 243–274. Springer-Verlag Berlin Heidelberg (with A.-F. Sinner and B. Tennbakk)
- 2011 *Africa's Power Infrastructure. Improving investment, connectivity, reliability and efficiencies*. The World Bank Press. Available at <https://openknowledge.worldbank.org/handle/10986/2290> (with A. Eberhard, M. Shkaratan and H. Vennemo)
- 2007 *Short-term Effects of Long-term Policies: Climate Policies in Power Markets*. Department of Economics and Resource Management, Norwegian University of Life Sciences. Dissertation No. 2007:11
Best PhD Student Paper Award for one of the articles (Subsidies to Renewable Energy in Inflexible Power Markets) at Energy, Climate and Technology (ECT) Conference 2008, Bergen, Norway.

Discussion papers

- 2021 «The road to low emission society: Costs of interacting climate regulations». *SSB Discussion Paper 972*. With B. Bye, K. Kaushal, K. Turner, H. Yonezawa
- 2019 «Marginal abatement costs under EU's effort sharing regulation. A CGE analysis.» *CREE Working Paper 3/2019* (also published as *SSB Report 2019/10*) (with B. Bye og T. Fæhn) https://www.cree.uio.no/publications/CREE_working_papers/2019/wp_2019_03.html
- 2018 «Energy technology and energy economics: Analyses of energy efficiency policy in two different model traditions». *CREE Working Paper 1/2018*. http://www.cree.uio.no/publications/CREE_working_papers/2018/wp_2018_01.html (with B. Bye, K. Espegren, T. Fæhn, E. Rosenberg)
- 2009 «Powering up. Costing power infrastructure needs in Sub-Saharan Africa». *AICD Background Paper 5. The World Bank, Washington DC*. Available at <http://www.infrastructureafrica.org> (with H. Vennemo)
- 2007 «Carbon Prices and Abatement in EU ETS». *ECON Working Paper 2007-002*, Oslo (also published as Conference Proceedings for the 9th IAEE European Conference, Florence, 2007) (with B. Tennbakk)
- 2002 «Climate Policy and Burden Allocation». *ECON Research Report 106/2002*.
- 2000 «The Nordic Electricity Reform: Economic and Environmental Consequences». *ECON Working Paper 3/2000*. Oslo (with E. Bowitz, T. Bye and H. Vennemo)

Selected reports, dissemination to the general public

- 2020 «Noen krevende tema i anvendte samfunnsøkonomiske analyser. En undersøkelse av praksis i Statens prosjektmodell.» *Concept-rapport nr. 60*, Concept-programmet ved NTNU (med H. Vennemo, J. Furuholmen, L. Andreev)
<https://www.ntnu.no/concept/concept-rapportserie>
- 2019 Marginal abatement costs under EU's effort sharing regulation. A CGE analysis. *SSB Report 2019/10* (with B. Bye og T. Fæhn)
- 2019 SNOW-modellen for Norge: Dokumentasjon av framskrivningsmodellen for norsk økonomi og utslipp. *SSB Notater 2019/1* (with B. Bye and T. Fæhn)
- 2013 «Kostnadseffektive tilpasninger til togradersmålet i Norge og EU fram mot 2050». *SSB Rapporter 39/2013* (with T. Fæhn and E.T. Isaksen)
- 2013 «Konsekvenser av Energieffektiviseringsdirektivet i Norge: Energieffektiviseringsforpliktelser og kraftbalanse». *SSB Rapporter 26/2013* (with A.C. Bøeng)
- 2013 «Virknninger av EUs energieffektiviseringsdirektiv for Norge». *Økonomiske analyser 5/2013* (with A.C Bøeng)
- 2012 «Wind power requires flexible market and subsidy design». *IAEE Energy Forum Third Quarter 2012*. <http://www.iaee.org/en/publications/fullnewsletter.aspx?id=23>.
- 2008 «Subsidier til vindkraft og fleksibiliteten av kraftsystemet: Vindkraft er ikke gratis når møllen er bygd (Subsidies to wind power: wind power is not for free even when the wind mill is built)». Paper presented at the Environmental Economic Council of Denmark's Annual Conference on Environmental Economics and Climate Policies (Det Miljøøkonomiske Råds konference), Copenhagen, Denmark. Available at www.dors.dk (with B. Tennbakk)
- 2002 «Marginal elproduksjon och CO₂ utsläpp i Sverige» (Marginal Electricity Production and CO₂ Emissions in Sweden). *Report 14:2002*, Swedish Energy Agency. Available at www.energimyndigheten.se (with B. Tennbakk)
- 2002 «Power Sector Reform in the Baltic States». *Report 15:2002*, Swedish Energy Agency. Available at www.energimyndigheten.se (with S. Eriksson and A. Gabrielson)
- 2002 *Testing times: The Future of the Scandinavian Electricity Industry*. Econ Analysis, Oslo (with M. Davis, E. Dugstad, T. Eliasson, K. Roland and J.A. Snoen)

Teaching and supervision experience

- 2017 Co-supervisor of Carl Frederik Kontrny's Master thesis (in NMBU): "The road to meeting Norway's non-ETS climate goal in 2030 – is an electric vehicle subsidy the way to go?"
- 2014–2015 Co-supervisor of visiting researcher Ma GuoXia (PhD) from the Chinese Academy of Environmental Planning (CAEP), who stayed at SSB four months in 2014–2015 to learn CGE-modelling with the aim of building a CGE-model for China
- 2010–2011 Courses on cost-benefit analysis for employees of various government agencies
- 2007 Lecturer at course on power market regulation, India
- 2006 Lecturer at course on power market modelling for Ministry of Energy and Minerals, Tanzania
- 2002–2006 Lecturer at seminars on different topics on the structure, market arrangements and regulatory system of the Nordic power market, organized by Norwegian Water Resources and Energy Directorate (NVE) for delegates from developing countries

2001 Training of the National Electricity Regulator (NER) staff on newly developed and installed electricity market model and model-based analysis. Two-week full-time course in Johannesburg, South Africa

Awards and scholarships

2008 Best PhD Student Paper Award for the article *Subsidies to Renewable Energy in Inflexible Power Markets* at Energy, Climate and Technology (ECT) Conference 2008, Bergen, Norway

Languages

Norwegian Fluent

English Fluent

German Good

Estonian Mother tongue