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Students flock to the University of Bergen's initiative on Renewable Energy!

As a part of the University of Bergen's initiative on Renewable Energy, the Geophysical Institute offers two educations focusing on energy; a 2-year master's programme in collaboration with the Western Norway University of Applied Sciences and an integrated 5-year programme starting this fall. After receiving this year's number of applicants for these educations, it seems safe to say that the students have found our initiative highly attractive. Read more about this on page 3!

Read also about our recent lunch-meetings and a very interesting half-day seminar with focus on the Norwegian energy market.

Enjoy reading!

Hans-Kristian Ringkjøb



Upcoming Events

There are many interesting events in store for the Bergen Energy Lab. Please keep an eye on <http://www.uib.no/en/energy/calendar> for additional events and eventual changes in the program.

Lunch Meetings

02. May – Lunch Meeting (12.00-13.00)

Gudmund Olsen (Statoil): Hywind + Guided tour at the wave tank

Western Norway University of Applied Sciences – Room C112

09. May – Extended Lunch Meeting (12.00-13.15)

**Esmeralda Colombo (Faculty of Law): Legal Control and Enforcement over National Energy Plans
Solar Panels in Bergen – Lessons learnt (TBC)**

The Faculty of Social Sciences

16. May – Lunch Meeting (12.00-13.00)

Claes Eskilsson (Chalmers): Wave Energy

Helland-Hansen, GFI

23. May – Lunch Meeting (12.00-13.00)

Stian Backe (GFI): Planning models for installing offshore wind farms

Helland-Hansen, GFI

30. May – Lunch Meeting (12.00-13.00)

Kirsti Midtømme (CMR) : Geothermal Energy in Norway and in Hordaland

Department of Physics & Technology, TBC

The NorRen Summer School

This year's NorRen summer school for PhD candidates explores the Norwegian renewable energy landscape. Norway features tall mountains and deep fjords, and in the county of Sogn og Fjordane some of the most spectacular views are found - as well as countless highly interesting renewable energy plants. The summer school encompasses expert talks, work on group projects, and excursions.

The overall objective of the NorRen Summer School is to provide participants with a comprehensive overview of current energy-related challenges. This programme targets professionals and PhD's working in the field of energy and climate change, delivering academic

content within an internationally-representative and experience-rich learning environment. The course will combine lectures from a range of disciplines with study visits to energy facilities and the opportunity to collaborate with fellow participants on group projects. Throughout the week, students, professionals, and high-level academics and experts in the energy field will work together to develop a better understanding of the challenges facing the industry today.

NB! Application deadline May 1

Follow the link for more information about the programme and application!

NorRen Summer School 2017 <http://norren.no/>



Students flock to the University of Bergen's initiative on Renewable Energy!



Illustration Photo (Colourbox)

The Geophysical Institute is responsible for a two-year master's programme in energy in collaboration with the Western Norway University of Applied Sciences. This year the programme received as much as 185 first priority applicants for its two study specialisations; respectively 102

for energy technology and 83 for renewable energy. The total number of applicants (including second and third priority applications) was 419, an increase of over 700 % since the start of the programme in 2012.

A new integrated master's programme in energy starts this fall. This five year programme gives a sound technical competency within natural sciences and deep insight into various energy resources, how they are transformed and used. The programme received 66 first priority applications for its 15 planned available places.

The educations offered on energy are a part of the University of Bergen's initiative on climate and energy transformation. Based on the number of applicants, it seems safe to say that students have found this initiative highly attractive.



Recent Lunch Meetings

By: Stian Backe

Extended Lunch-meeting: Malgorzata Cyndecka & Gunnar Eskeland



Malgorzata Cyndecka & Gunnar Eskeland (Photo: Stian Backe)

On the 28th of March, the Bergen Energy Lab arranged an extended lunch seminar with presentations from Malgorzata Cyndecka and Gunnar Eskeland.

Malgorzata Cyndecka is a Postdoctoral researcher at the Faculty of Law at UiB. Her presentation was about EU/EEA state aid law and the energy sector. She gave an overview of the legalities around state aid and how public support can be provided to commercial businesses to promote environmentally friendly technologies.

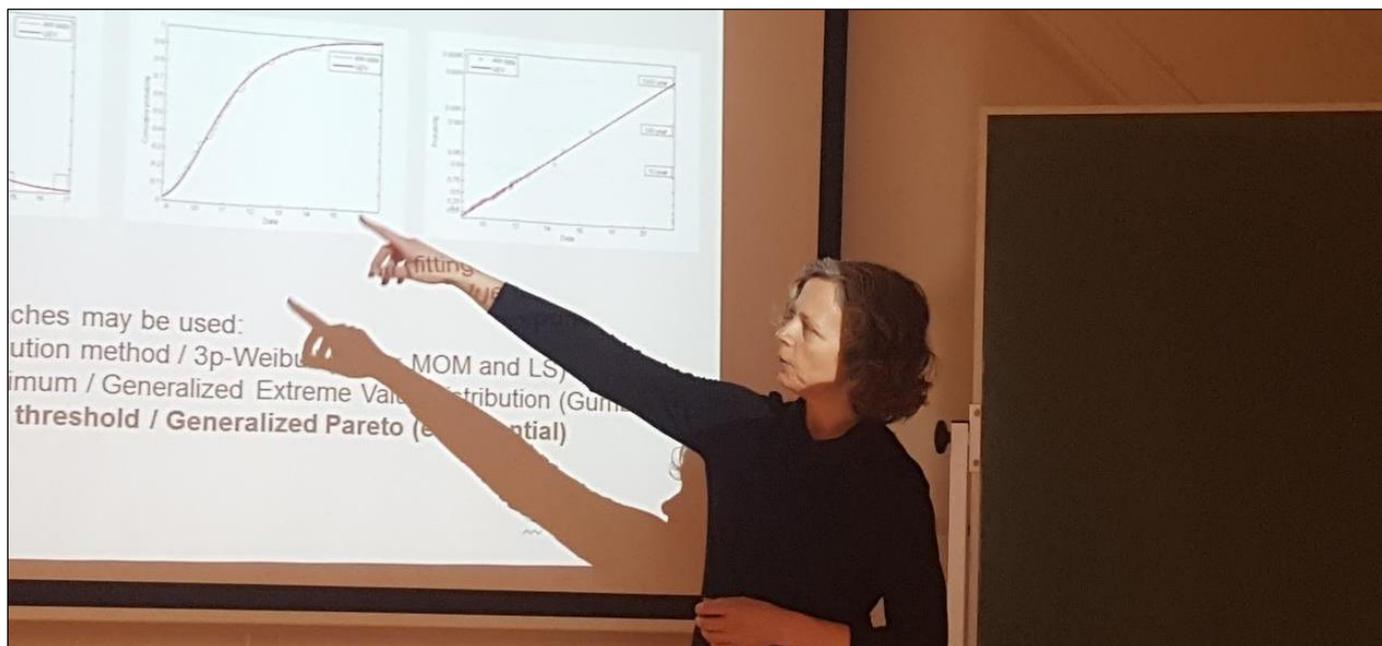
Gunnar Eskeland is a Professor of Resource and Environmental Economics at NHH. He gave a

talk on urban transportation development with Bergen as an example. With the Von Thunen Model as a reference, Gunnar presented how different transportation vessels are optimal for different areas in and around a city.

See Malgorzata's presentation [here](#), and Gunnar's presentation [here](#).



Birgitte Rugaard Furevik (Norwegian Meteorological Institute): The Potential for Wave Energy in the North Sea



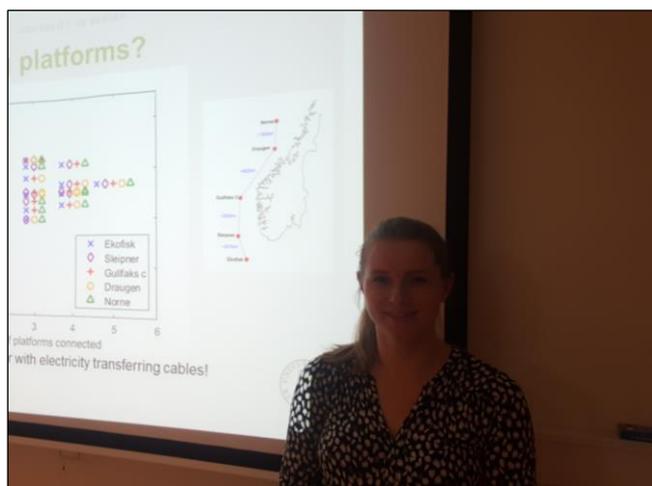
Birgitte Rugaard Furevik (Photo: Stian Backe)

On Tuesday the 4th of April, Birgitte Rugaard Furevik held a presentation for the Bergen Energy Lab during a lunch seminar. She is a Senior Scientist at the Norwegian Meteorological Institute, and her work areas include ocean wave modelling and forecasting.

Birgitte gave a presentation on renewable wave energy in the North Sea. Presenting an overview of the energy potential from waves in the North Sea, she explained how meteorological analyses are needed to forecast and make use of ocean waves.

Her presentation can be seen [here](#).

Ida Marie Solbrekke (GFI): Electrification of the Norwegian Shelf with Wind Energy



Ida Marie Solbrekke (Photo: Stian Backe)

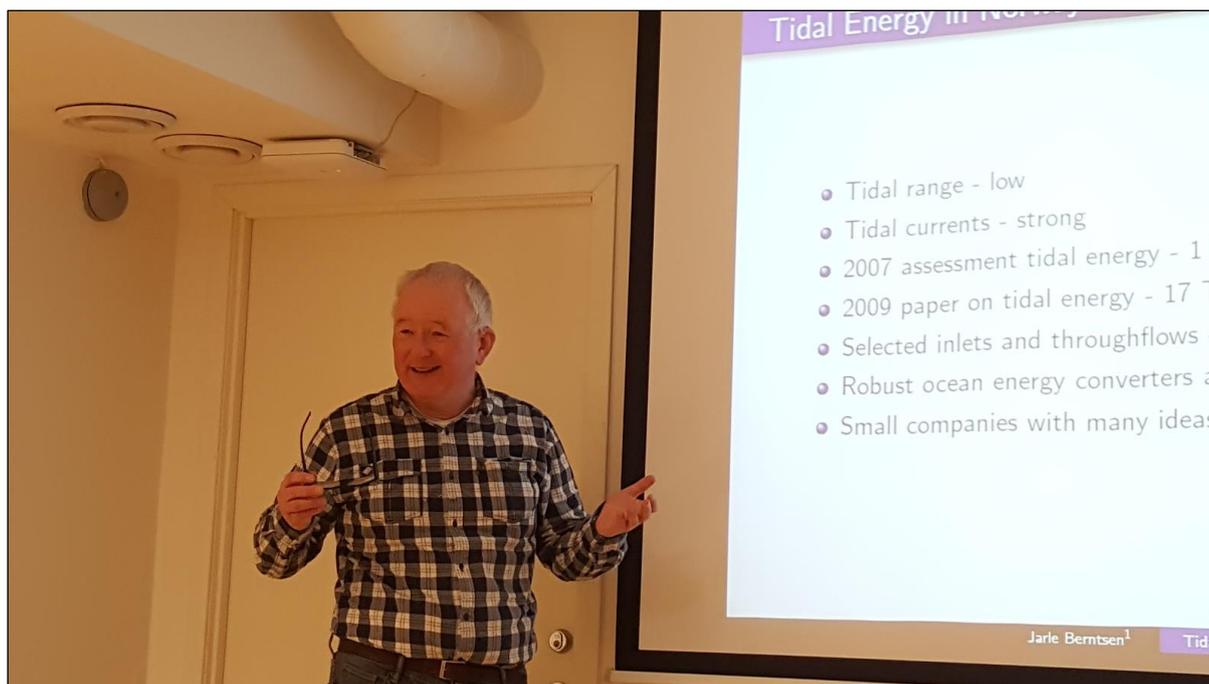
Ida Marie Solbrekke held a presentation for Energy Lab on the 18th of April 2017.

She is a PhD Candidate at the Geophysical Institute at the University of Bergen. The topic of her research is renewable energy.

Ida presented her work on possibilities for electrification of the Norwegian shelf using wind energy. Based on wind measurements from different Norwegian platforms, her analyses on linking platforms together suggested how to maximize power production and minimize variability in production.

See her presentation [here](#).

Jarle Berntsen (Department of Mathematics): Tidal Current Energy



Jarle Berntsen (Photo: Stian Backe)

On the Bergen Energy Lab lunch meeting on the 24th of April, Jarle Berntsen gave a talk on tidal current energy.

Jarle is a Professor at the Department of Mathematics at the University of Bergen, and he has contributed significantly to research on ocean modelling.

His presentation gave an overview of the potential for harvesting energy from tidal currents. Giving examples of some existing technologies, as well as some success stories, Jarle explained how mathematical research can contribute in optimizing energy harvest from hydrodynamic flow.

See his presentation [here](#).



Seminar: The Norwegian Energy Market



With a focus on the Norwegian energy market, the Bergen Energy Lab arranged a free half-day seminar at the Geophysical Institute at the University of Bergen on the 5th of April 2017.

By: Stian Backe

The first talk was held by [Endre Bjørndal](#), who is an associate professor at the Department of Business and Management Science at NHH. In his presentation about regulation of electricity networks and implications for integration of distributed generation, he talked about the Norwegian electricity market and how economical models underlie the estimation of electricity prices.

The next speaker also represented an economic perspective on the topic. [Ørjan Mydland](#) is pursuing a PhD at NHH, and he gave a presentation about his research on economies of scope and scale in the electricity industry. Investigating data from Norwegian companies, analyses suggest significant cost increases for most companies when separating electricity generation and distribution.



Marte Wigen Nilsson (Photo: Stian Backe)

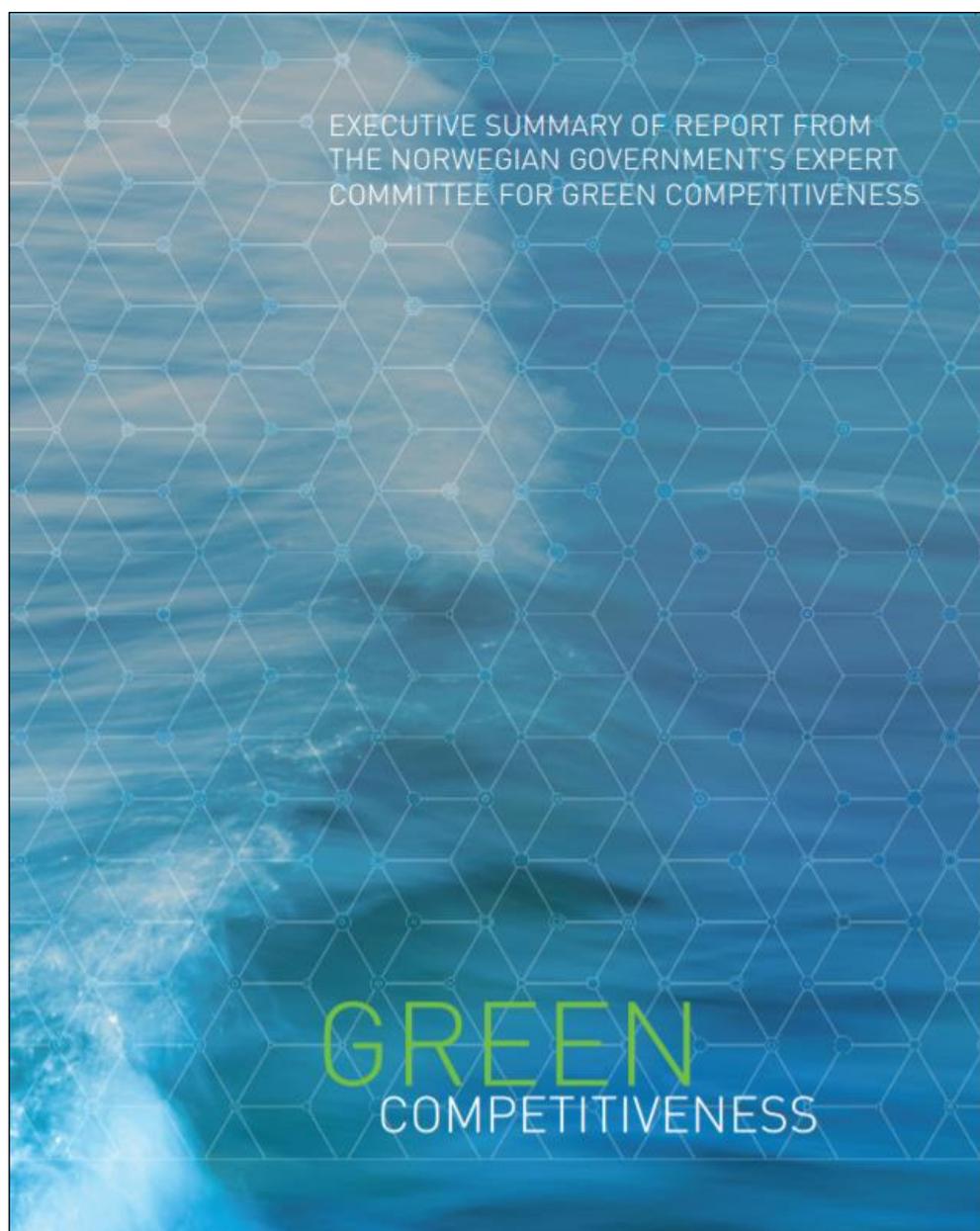


After a coffee break, [Marte Wigen Nilsson](#) from Multiconsult gave a talk about experiences with photovoltaic solar panels in the Bergen area. She presented data on power produced from three different projects on Marineholmen (DNV), at Håkonsvern (FLO) and in Os (Oseana). With significant local variations, Marte demonstrated the need for geophysical data when estimating photovoltaic potential.

The last speaker was [Per R. Sandberg](#) from Statoil, who joined the seminar through Skype. He participated in leading the Norwegian expert

committee on green competitiveness until the fall of 2016. The commission had the goal of suggesting how Norway can meet its climate goals in the future. He presented some of the conclusions from this work, along with how Norwegian industries ought to reduce emissions. (The executive summary of the report can be found [here](#)).

All the presentations can be accessed by clicking the names of the speakers, and you can also see a video of the seminar [here](#).



Front page of the report on green competitiveness

