

## Henrik Lund

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### Summary:

Henrik Lund (born 2 July 1960) is a Danish **engineer** (M.Sc.Eng.1985) and **Professor in Energy Planning** at Aalborg University in Denmark. He holds a **Ph.D.** in Implementaion of Sustainable Energy Systems (1990), and a **Dr.Techn.** in Choice Awareness and Renewable Energy Systems (2009).

Henrik Lund is a highly ranked world leading researcher. He is listed among [ISI Highly Cited](#) researchers ranking him among the **top 1% researchers in the world** within engineering.

Henrik Lund has many years of **management experience** as head of department for approx. 200 staff persons (1996-2002), head of section for approx. 50 persons (2014 – 2016) and head of research group of 20-30 persons (2002 – present). During his time the **Sustainable Energy Planning research group at Aalborg University** has now grown to approx. 30 staff members including 5 professors.

Henrik Lund is **Editor-in-Chief** of Elsevier's high-impact journal **Energy** with annual 10000+ submissions. The journal has a high impact journal and is ranked among the top journals in the world in the field of Thermodynamics and in the category of Energy & Fuels.

### Publications and Citations (April 2021):

- Thomson Reuters Highly Cited Researcher within Engineering since 2014: [Link](#)
- Web of Knowledge: 167 Articles and h index = 54 (12000+ citations) [Link to ResearcherID](#)
- Scopus: 179 articles and h index = 60 (15000+ citations) [Link to Scopus](#)
- Research Gate: 177 publications and h index = 62 (17000+ citations) [Link to ResearchGate](#)
- Google Scholar: 600+ publications and h index = 70 (23000+ citations) [Link to GoogleScholar](#)

### Vising Professor Positions:

- Visiting Professor, Shanghai Jiao Tong University, Shanghai, China, November 2015
- Visiting Professor, Università degli Studi di Napoli "Parthenope", Napoli, Italy, February 2015
- Visiting Professor, Shanghai Jiao Tong University, Shanghai, China, October 2011
- Visiting Professor, Tsinghua University, Beijing, China, September 2010
- Libra Professor, University of Main at Fork Kent, April 2010

### Major research results and achievements

- Starting with his first publication in 1983 Henrik Lund has for many years played an active role in the **design and debates of sustainable energy strategies and policies**, in Denmark as well as other countries and at the European level. This includes among others Green Energy for Bornholm (1986), Erneuerung der Energiesysteme in den neuen Bundesländern (1993), A Green Energy Plan with Job Opportunities (1996), Sustainable energy alternatives in Thailand (1999), Wind Power in Nicaragua (2006), Energy Strategies of the Danish Association of Engineers (IDA) in 2006, 2009 and 2015 and the Heat Roadmap Europe studies in 2012 and onwards. A full list can be seen from here: <http://www.en.plan.aau.dk/henriklund/publications/>
- As a part of his senior doctoral thesis (Dr.Techn.) in 2009 Henrik Lund formulated the **Choice Awareness theory** which forms a straightforward, comprehensive methodology for comparing different energy systems' ability to integrate variable renewable energy sources together with a

theoretical framework approach aimed at understanding how major technological changes, such as renewable energy, can be implemented at both national and international levels. The latter built on the analysis and involvement in 12 cases of decision making in major energy sector investments in Europe, Asia and the US. This theory is **novel** since it combines a social science theoretical framework understanding with a straightforward cross disciplinary methodology for comparing alternatives within major energy investments. The Choice Awareness theory was afterward published by Academic Press in books in 2010 (1st ed.) and 2014 (2<sup>nd</sup> ed.) as well as translated into Chinese.

- Henrik Lund is the architect and maker of the **Advanced Energy Systems Analysis Tool EnergyPLAN** - designed for the analysis and design of sustainable energy solutions at the national level. The model has been made and improved for now around 20 years in an interaction with a wide group of international academics. Today, the model has more than 5000 registered users in more than 100 countries (<http://www.energyplan.eu/members-map-2/>) and has been applied in around 100 peer reviewed journal articles. The EnergyPLAN model is **ground-breaking** since among others it was the first model in the world to facilitate hourly analyses in a smart energy systems approach including all grids (electricity, heating, cooling and gas) as well as relevant cross grid energy conversion units (power-to-heat and power-to-gas etc.).
- Together with colleagues Henrik Lund has defined and is promoting the concept of **Smart Energy Systems**. This notion was first mentioned in academic literature in a paper from 2012 by Henrik Lund et.al. <http://www.sciencedirect.com/science/article/pii/S0360544212002836>

#### Teaching Experience:

- Teaching experience at all levels of engineering education from first semester courses to PhD courses at Aalborg University, 1985-present.
- Various guest lectures at among others: Shanghai Jiao Tong University (2011 and 2015); GMIT Galway (2015); Università degli Studi di Napoli "Parthenope" (2015); Ångström Laboratory Uppsala University (2014); Institute of Engineering (IOE) Nepal (2014); University of the West of Scotland's Paisley campus, Glasgow (2014); University of Limerick (2011); Tsinghua University, Beijing (2010); University of Main at Fork Kent (2010).
- PhD course as Visiting Professor, Università degli Studi di Napoli "Parthenope", Napoli, Italy, February 2015
- Courses at Aalborg University "Life Long" education, 1999, 2001, 2002, 2003, 2004.
- Sustainable Energy Planning Workshop at Universidad Nacional de Ingeniería, Managua, Nicaragua 2006.
- Local Energy Planning Workshop in Surin, Thailand, 2000.
- Courses at "PROCEED 21" in Lithuania, Latvia and Estonia, 2000-2001.
- Energy Planning Workshop in Bangkok, Thailand, 1999.
- Courses at "Nordic Training Programme for Energy Experts in the Baltic States", the PROCEED Programme, 1997-1998.
- Head of post master education programme in "Energy Planning" and "Distributed CHP generation", 1987-1990.
- Courses at Danish Engineering Associations Educational programme, 1987-1990.

#### PhD supervision and assessment

Henrik Lund has supervised around 15 PhD fellows, has served in the assessment committee of around 25 PhD fellows in various universities around the world and conducted 10-20 PhD courses at Aalborg University and as Visiting Professor.

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