CV Marie Bysveen

Present position: Director EERA JP CCS, Chief Market developer, SINTEF Energi AS
Date of birth : 23.01.68

SUMMARY

Dr. Marie Bysveen (54) holds a PhD in Marine/Mechanical engineering from NTNU/INRIA (France) and a Master Degree (Siv.Ing) from NTH in 1992 in Mechanical Engineering. The PhD was carried in close collaboration with Statoil, using 3D Imaging techniques developed in collaboration with - and at - INRIA (Institute National de Recherche en Informatique et en Automatique), Sophia Antipolis in France.

Bysveen has research experience from NTNU in the field of environmental energy and transport technologies. Dr. Bysveen has also several years of experience from the oil & gas business and from energy consultancy.

Since 2006 she has been working at SINTEF Energy Research, where she has been involved in a wide range of energy research, especially focusing on Carbon Capture and Storage (CCS), Bioenergy, Oil&Gas – and Smart Cities and Communities (SCC). This is both on a national and European level, with the European focus being targeted on increasing the success rate in the European Framework Programmes.

In SINTEF, dr. Bysveen has been acting as Research Manager, Research Director, Executive Vice President, Vice President Research, Senior Researcher and now Chief Market developer at SINTEF Energy.

She has been a member of several European and National expert groups in the field of energy related R&I, one of them being the highest-level Advisory Group for Energy (AGE), invited by the European Commission to give advice on the field of Energy research priorities – and the Innovation Fund Expert Group. She is the coordinator of the EERA Joint Programme on CCS since several years, and in charge for the CO2 capture work on the SET Plan Implementation working group 9.

She has been the coordinator and chair of the board of several large R&D projects within the field of CCS, and centre director of the national Centre of Excellence within the energy field. She is also at the national CCS program CLIMIT Program Board, appointed by the ministry. Bysveen has been appointed a member of the FME NCCS Special Advisory Board and a board member of NTNU Energy Transition (NETI).

SUMMARY Professional Experience & Education

PROFESSIONAL EXPERIENCE

2019 -	Chief Market Developer/Senior Researcher, SINTEF
2018 – 2019	Senior researcher, SINTEF Energi
2014 - 2017	Vice President Research, SINTEF Energi AS
2012 – 2014	Executive Vice President, SINTEF Energi AS
2012	Research Director, SINTEF Energi AS, Dept. of Thermal Energy
2006 – 2012	Research Manager / Senior researcher Combustion, SINTEF Energi
2006 – 2009	Ass. Professor (part time),Dept. of Energy and Process Techn., NTNU
2002 – 2006	Post Doc research fellow, Dept. of Energy and Process Techn., NTNU
2000 – 2002	PhD researcher, Techno Consult AS (now Nor Consult), Bærum
1998 – 2000	Senior process engineer, Kværner Oil & Gas, Oslo
1995 – 1998	PhD fellow, Faculty of marine techn., Institute of marine machinery, NTH
1993 – 1995	Scientific assistant, Fac of Marine Techn., Inst. of marine machinery, NTH

EDUCATION

2017	Business development course: BI (Norwegian Business School)
2013	School of boards (Styreskolen): 'Work in business boards'
2008-2010	Leadership program (SINTEF School)
2000-2001	MBA Courses (Oslo University College)
1996-2000	Dr.ing. (PhD) NTNU – Marine/Mechanical engineering
1993-1997	Courses NTH/AVH
1988-1992	Siv.Ing (MSc) NTH – Mechanical engineering
1987-1988	Mathematics AVH

PROFESSIONAL EXPERIENCE - More details

2019 - **Chief Market Developer,** SINTEF
CCUS and Smart Sustainable Cities

- Business development
- Strategy work – both national and European
- Program manager of SINTEFs Smart Cities and Communities (SCC) program
- Core strategic member of SET Plan Action 9 (CCUS) Implementation Working Group
- Director of European Energy Research Alliance (EERA)'s Joint Programme (JP) on CCS (CO_2 Capture and Storage) (https://www.eera-set.eu/component/projects/projects.html?id=41)
- Member of the Program Board of the national CLIMIT Program (https://climit.no/en/)
- Member of Board of 'GEMINI-ordningen' SINTEF/NTNU (https://www.sintef.no/en/gemini-collaboration/)
- Member of the board of NTNU Energy Transition (https://www.ntnu.edu/energytransition)

2018 – **Senior researcher,** SINTEF Energi AS, Dept. Thermal Energy

- Business development
- Strategy work – both national and European
- Program manager of SINTEFs Smart Cities and Communities (SCC) program
- Expert in high-level H2020 Advisory Group for Energy (AGE) advising the European Commission on Energy R&I priorities
- Director of European Energy Research Alliance (EERA)'s Joint Programme (JP) on CCS (CO_2 Capture and Storage) (*www.eera-set.eu*)
- Member of the Program Board of the national CLIMIT Program (*www.climit.no*)
- Coordinator H2020 project GATEWAY
- Member of Board of 'GEMINI-ordningen' SINTEF/NTNU (*www.sintef.no*)

2014 - 2017 **Vice President Research,** SINTEF Energi AS

- Business development
- Strategy work – both national and European
- Invited expert in high-level H2020 Advisory Group for Energy (AGE) giving advise to the European Commission on Energy R&I priorities
- Director for Centre of Excellence FME Cenbio - Bioenergy Innovation Centre
- Coordinator of European Energy Research Alliance (EERA)'s Joint Programme (JP) on CCS (CO_2 Capture and Storage) (*www.eera-set.eu*)
- Member of the Program Board of CLIMIT Program (*www.climit.no*)
- Coordinator H2020 project GATEWAY
- Member of board of 'GEMINI-ordningen' SINTEF/NTNU (*www.sintef.no*)
- Advisor for CEO, SINTEF Energi AS
- Preparation of quarterly board meetings of SINTEF Energi AS
- Preparation of weekly top management meetings at SINTEF Energi AS

2012 – 2014 **Executive Vice President,** SINTEF Energi AS

- Business development
- Strategy work – both national and European, in close collaboration with CEO
- Invited expert in high-level H2020 Advisory Group for Energy (AGE) giving advise to the European Commision on Energy R&I priorities
- Co-chair of European Energy Research Alliance (EERA)s Joint Programme (JP) on CCS
- Manager of the administrative staff at SINTEF Energi AS
- Advisor for CEO, SINTEF Energi AS
- Preparation of quarterly board - and weekly top management meetings at SINTEF Energi AS

2012 (1/2 year) **Research Director,** SINTEF Energi AS, Dept. of Thermal Energy

- Management of the Department of Thermal Energy at SINTEF Energi, including three research groups, namely: Combustion Group, Bioenergy group and Policy and governance

group . Approximately 30 employees in total, mostly researchers.
- Center Director of the International Research Center FME CenBio

2006 – 2012 Research Manager / Senior researcher Combustion, SINTEF Energi AS, Dept. of Energy Processes

- Management of the Combustion research group (11 researchers)
- Member of the management team of Dept. of Energy Processes
- Initiation, development and management and co-ordinator of several large national and European R&D projects
- Responsible for successful large, multi-client research applications – both national and European (FP7)
- Appointed senior researcher at SINTEF Energy Research in 2010. This is a highly ranked scientifical & strategic recognition including a thorough procedure resembling the professorship procedure. The evaluation outcome was very positive
- Combustion research in general, including hydrogen and oxyfuel combustion in gas turbines and internal combustion engines
- CCS R&D projects (CO_2 Capture and Storage), BIOCCS market development
- Combustion and gasification of biomass

Reference projects:

- DECARBit – Enabling advanced pre-combustion capture techniques and plants.(Co-ordinator, FP7 project, 2008-2011, Budget: 150 MNOK)
- GasBio – Gasification of biomass for biofuel production (Co-ordinator, Norwegian Research Council.2010-2013. Budget: 40 MNOK)
- BIGCLC - Large-scale demonstration of pressurized Chemical Looping Technology (CLC) in natural gas power generation with CO_2 capture (Project manager, Norwegian Research Council project, 2006-2013. Budget: 50 MNOK).

2006 – 2009 Assistant Professor (part time)
Dept. Of Energy and Process Technology, NTNU

- Teaching Thermodynamics, Heat and Combustion courses
- Supervising MSc and PhD students
- Strategic work for the field of Combustion engines and Fuels technology
- Strategy work/collaboration between NTNU, SINTEF and MARINTEK

2002 – 2006 Post Doc research fellow
Department of Energy and Process Technology and Department of Marine Technology, NTNU

- Developing a novel, patented technology 'Dieselgas' (technology for the use of natural gas in piston engines) (No. GB2413824) together with professor Terje Almås, NTNU and STATOIL.
- Internal combustion engines and fuels technology
- Management of R&D projects
- Close cooperation with fuels technology centre of Statoil at Mongstad, Norway (PKS)
- Co-advisor for 1 PhD student - with professor Terje Almås and Johan E. Hustad
- Main advisor for 10 MScs
- Appointed technical and scientific expert and a member of the Norwegian delegation to IMO (UNs International Maritime Organisation): Work associated with air pollution from international shipping, member of Norwegian delegation to IMO
- Most publications at SAE (Society of Automotive Engineers), being the most important publication channel for applied fuel technology and internal combustion engines science
- Member of several committees for the evaluation of applicants for assistant professors positions at: University College of Ålesund, University College of Bergen and Lunds Tekniska Høgskole (LTH), Sweden
- Member of PhD committees at LTH, Lund, Sweden

2000 – 2002 PhD researcher, Techno Consult AS (now Nor Consult), Bærum, Norway

- Consultant/researcher within the fields of energy efficiency, ventilation and offshore technology

1998 – 2000 Senior process engineer, Kværner Oil & Gas, Dept. of Process Technology, Oslo
- Responsible systems engineer on detail engineering (EPC) contracts related to the Grane and Åsgard B offshore field developments

1995 – 1998 PhD fellow, Faculty of marine technology, Institute of marine machinery, NTH
- Personal scholarship from The Research Council of Norway, being a part of a larger STATOIL project
- Work focused on the development of a novel, hydraulically actuated compression machine for studies of fuel quality by the use of Schlieren technique and high speed imaging in two directions and 3D imaging
- Main author on all publications from the PhD. Co-authors from both NTH and industry (STATOIL)
- Active on the most important publication arena within the field of Combustion Engines, namely, SAE – Society of Automotive Engineers
- International research stay (1 year) at INRIA France (Institute de Recherce en Informatique et Automatique, France). Goal of research stay was to develop advanced digital imaging algorithms to construct 3D images of flames visualized in two directions
- PhD thesis entitled: ''Visualisation in two directions on a dynamic combustion rig for studies of fuel quality''.

1993 – 1995 Scientific assistant, Faculty of Marine Technology, Institute of marine machinery, NTH
- Teaching and research assistant in Marine Machinery courses
- Contractual research through SINTEF B

EDUCATION – More details

2017 - BI (Norwegian Business School), Trondheim, Norway
- Business development and innovation courses

2013 School of boards: Work in business boards, Trheim, Norway

2008-2010 SINTEF School, Trondheim, Norway
- 2 years program 'Mental training in leadership'

2000-2001 Oslo University College, Norway
- 1 year program in Business Administration

1996-2000 Dr.ing. (PhD) NTNU, Trondheim, Norway
- Faculty of marine technology, Institute of marine machinery (Fuels Technology)
- INRIA (Institute de Recherce en Informatique et Automatique, France)
- Thesis:''*Visualisation in two directions on a dynamic combustion rig for studies of fuel quality'*

1993-1997 Courses NTH/AVH, Trondheim, Norway
- Several Marine Technology Courses
- Applied pedagogics
- International cultural sociology

1988-1992 Siv.Ing (MSc) NTH, Trondheim, Norway
- Faculty of mechanical engineering, Department of thermal energy

1987-1988 Mathematics AVH, Trondheim, Norway
- 1 year MSc courses in mathematics and statistics

PUBLICATIONS and COMMUNICATION (2008-2017)

(This list is approx 80 % updated. Publications from before 2008 are not listed.)

2017

Bysveen, M., Natvig., Antonsen, S.
'SINTEF Smarte byer: Vi skal bidra til gode byer å bo i og massiv tjenesteinnovasjon'
Blog: https://blogg.sintef.no/sintefbuilding-nb/smartcities-sintef-skal-bidra-til-gode-byer-a-bo-i-og-massiv-tjenesteinnovasjon/
#SINTEFblog

Jakobsen, J.P., Bysveen M., Vågenes E. T., Eickhoff C., Mikunda T., Neele F., Brunner L., Heffron R., Schumann D., Downes L., Hanstock D.
'Developing a Pilot Case and Modelling the Development of a Large European CO_2 Transport Infrastructure -The GATEWAY H2020 Project'
Energy Procedia, ISSN:1876-6102

Bysveen, M.
'The Rotterdam Nucleus – a pilot case for CO_2 transport infrastructure'
Presentation at CO_2 OpenForum, Venice, May 2017

Bysveen, M.
Participation in NRK2 TV during Norwegian election campaign 'The green shift'

- **And many other similar presentations and interviews**

2016

Bysveen, M.
'COP22: … eller Cåpp Wæhh Døh som det ropes på flyplassen. Dag 1'
https://blog.sintef.com/uncategorized/cop22_dag1/
#SINTEFBlog

Bysveen, M.
'COP22: Forskning og magi i Marrakech. Dag 2'
https://blog.sintef.com/uncategorized/cop22-dag-2/
#SINTEFBlog

Bysveen, M.
'COP22: Feber i kropp og på kloden. Dag 3'
https://blogg.sintef.no/sintefenergy-nb/bioenergi/cop22_dag2/
#SINTEFblog

Bysveen, Skjelhaugen, O.J., Sevault, A., Rydså, L.
CenBio Vision - Enabling sustainable and cost-efficient bioenergy industry in Norway
EUBCE 2016 - 24th European Biomass Conference and Exhibition

Bysveen, M.
'Biogassreaktor ga innovasjonspris'
Gemini, interview

Olsen, C., Bysveen, M.
https://www.forskningsradet.no/prognett-horisont2020/Nyheter/Blir_hort_i_Europaparlamentet_om_klimalosning/1254013737243&lang=no
'Blir hørt i Europaparlamentet om klimaløsning'

Forskningsrådet, web

Bysveen, M.
'CO2 håndtering fra NOT til HOT'
Forskning.no, interview

- ***And many other similar presentations and interviews***

2015
Bysveen, M.
Participation in European Parliament panel discussion on CO_2 Capture and Storage (CCS)
European Parliament, Brussels, Nov 12th 2015

Bysveen, M.
http://blog.sintefenergy.com/sintefenergy/ccs/gateway-kick-off-for-ccs-deployment-in-europe/
'GATEWAY kick-off for CCS deployment in Europe'
#SINTEFblog

Bysveen, M.
'Gir råd om energipolitikk til EU kommisjonen'
https://blogg.sintef.no/sintefenergy-nb/politikk/sintef-gir-energi-rad-til-eu-kommisjonen/
#SINTEFblog

Bysveen, M.
Klimaforskernes juleønsker
NRK, P1-radiointerview

- ***And many other similar presentations and interviews***

2014
Bysveen, M.
'SET Plan: Trondheim ledende innen CCS forskning i Europa'
https://blogg.sintef.no/sintefenergy-nb/politikk/trondheim-ledende-innen-ccs-forskning-i-europa/
#SINTEFblog

Sundkvist S.G. , Dahlquist, A., Janczewski J. , Sjödin M. , Bysveen M., Ditaranto M. , Langørgen Ø., Seljeskog M., Siljan M.
"Concept for a combustion system in oxyfuel gas turbine combined cycles."
Journal of engineering for gas turbines and power 136, 10.

2013
Sundkvist S. G., Dahlquist A., Janczewski J., Sjödin M., Bysveen M., Ditaranto M. , Langørgen Ø., Seljeskog M., Siljan M.
"Concept for a Combustion System in Oxyfuel Gas Turbine Combined Cycles"
ASME Turbo Expo 2013

2012
Bischi A., Langørgen Ø., Morin J.-X. , Bakken J. , Ghorbaniyan M. , Bysveen M. , Bolland O.
"Hydrodynamic viability of chemical looping processes by means of cold flow model investigation"
Applied Energy 97, 201-216.

2011

Haugen, N.E., Poyyapakkam, M., Brunhuber, C., Syed, K., Bysveen, M., "*Hydrogen fuel supply system and re-heat gas turbine combustion*". Submitted to Energy Procedia (Journal).

Bischi, A., Langørgen, Ø., Morin, J.X., Bakken, J., Ghorbaniyan, M., Bysveen, M., Bolland. O. "*Hydrodynamic viability of chemical looping processes by means of cold flow model investigation*". Journal of Applied Energy.

Bysveen, M. "*The DECARBit project – Results and the way forward*". European Conference on CCS Research, Development and Demonstration, London.

Bischi, A., Langørgen, Ø., Morin, J.X., Bakken, J., Ghorbaniyan, M., Bysveen, M., Bolland, O. "*Performance analysis of the cold flow model of a second generation chemical looping combustion reactor system*". Energy Procedia (Journal) 4 (2011) 449–456.

2010

Bischi, A., Langørgen, J.X. Morin, J. Bakken, Y. Larring, M. Bysveen, O. Bolland. *"BIGCLC project results overview: Materials and reactor system design with main focus on Cold Flow Model validation*". Presented at the High Temperature Solid Looping Cycles Network, IEA-GHG 2nd Network Meeting. Alkmaar, Netherlands - September 15-17, 2010.

Bysveen, M. "*The DECARBit project – Enabling technologies for pre-combustion CCS power plants. Results*". European Conference on CCS Research, Development and Demonstration, Rotterdam.

Bischi, A., Langørgen, Ø., Saanum, I., Bakken, J., Seljeskog,M., Bysveen,M., Morin, J.X.,Bolland,O. "*Design study of a150 kWth double loop circulating fluidized bed reactor system for chemical looping combustion with focus on industrial applicability and pressurization"*. International Journal of Greenhouse Gas Control (2010), doi:10.1016/j.ijggc.2010.09.005.

Bischi, A., Langørgen, Ø., Morin, J., X., Bakken, J., Tjøstheim, S., Bysveen, M., Bolland, O. "*Design and performance of a full scale Cold Flow Model of an innovative Chemical Looping Combustion reactor system.*" 1st Int. Conf. of Chemical Looping Technologies, Lyon, France

2009

Bysveen, M., Tangen, G., Langørgen, Ø., Røkke, N.A., "*The DECARBit project – enabling technologies for pre-combustion CCS power plants*". Proceedings to the 34th International Technical Conference on Clean Coal &Fuel Systems, Florida, USA.

Bysveen, M., Bakken, J., Langørgen, Ø., Seljeskog, M., Saanum, I., Bischi, A. "*Design of a 150 kW Chemical Looping Combustion (CLC) reactor concept ready for pressurization*". TCCS (5th Trondheim Conference on CO_2 Capture, Transport and Storage), Trondheim, Norway.

2008

Saanum, I., Bysveen, M. *"Study of Particulate-, NOx- and Hydrocarbon Emissions from a Diesel Engine Fuelled with Diesel Oil and Biodiesel with Fumigation of Hydrogen, Methane and Propane*". SAE Technical Paper Series (2008-01-1809)

Before 2008

Not listed