



Cigré International Symposium 2019

June 4 - 7 2019, Aalborg, Denmark

GOING OFFSHORE

**CHALLENGES OF THE FUTURE
POWERGRID**



DEPARTMENT OF ENERGY TECHNOLOGY
AALBORG UNIVERSITY



DANISH NATIONAL COMMITTEE

cigré
INTERNATIONAL COUNCIL
ON LARGE ELECTRIC SYSTEMS

Preferential subjects – at a glance - shortened

- Offshore wind power network connection technologies and equipment
- Operation and system stability of weak networks with wind penetration, both DC and AC infeeds
- HVDC technical and economic system perspectives, including multi-terminal DC networks, DC/AC hybrid transmission
- Submarine cable technology and lifecycle
- Onshore networks with mixed usage of HVAC, HVDC, overhead lines, underground and submarine cables.
- Roles and functionalities of distribution and transmission networks
- Eco-design and environmental aspects, including asset management and public acceptance

Webpage of the symposium <https://cigreaalborg2019.dk/>





Call for Papers

GOING OFFSHORE - Challenges of the future power grid

CIGRÉ International Symposium

Aalborg, Denmark, June 4-7, 2019

SYMPOSIUM THEME

The aim of the 2019 CIGRÉ International Symposium is to provide a forum for recent research results and system operations experience related to the rapid transformation and challenges imposed on networks and markets by increased amounts of renewables in the energy mix.

Perhaps exemplified more than anywhere, Northern Europe is about to increase its already large share of wind power with further **offshore** plants and **offshore** interconnectors.

Concurrent wider changes to energy generation and consumption patterns, and challenges to obtain right-of-way for new transmission lines, drive a need to rethink transmission and its coordination with distribution networks. As an example, over 50% of Denmark's electrical energy generation is connected at distribution-level, where the roll-out of electric vehicle charging and electric heating will introduce very large power balancing challenges.

The objective of the symposium is to address recent technical advances and policy that allow transmission and distribution networks to enter their next era, in particular those related to offshore generation, transmission and distribution.

The preferential topics reflect the above, and beyond, across technology, planning, operations and markets. The symposium is intended to bring these important topics to discussion during the technical sessions.

SYMPOSIUM VENUE

Aalborg has a rich and long history, going back to the Vikings. Successful heavy industries have gradually transitioned into an environment of technology-rich enterprises, a feat not least due to the presence of Aalborg University, organizer of the symposium. Aalborg Congress & Culture Centre (uk.akkc.dk) will host all technical sessions, and is located centrally, only 6 km from Aalborg airport.



PROGRAMME

The technical programme sessions opens with keynotes and welcome reception on Tuesday afternoon 4th June, followed by two full days Wednesday 5th and Thursday 6th June. The 32 sessions will run in four parallel tracks. Friday 7th June will offer a visit by boat to the Anholt 400 MW offshore wind farm. A trip to Skagen – one of the loveliest quaint coastal towns in Denmark – will be organized for accompanying persons.

Individual Study Committee meetings and Working Group meetings will take place from Sunday 2nd to Tuesday 4th June.

Information on accompanying persons and social programme available on CigreAalborg2019.dk

PREFERENTIAL SUBJECTS

The principal topics for the symposium are:

- Offshore wind power network connection technologies and equipment: submarine and underground cables; HVAC and HVDC connections; wind farm power quality, transient and harmonic stability.
- Operation and system stability of weak networks with wind penetration, both DC and AC infeeds.
- (Offshore) HVDC technical and economic system perspectives, including multi-terminal DC networks, DC/AC hybrid transmission.
- Submarine cable technology and lifecycle.
- Upgrades and restructuring of onshore networks with mixed usage of HVAC, HVDC, overhead lines, underground and submarine cables.
- Changes and advances to split between roles and functionalities of distribution and transmission networks. Advances in exchange of data and services between DSO and TSO.
- Eco-design and environmental concerns of offshore and onshore transmission solutions, including asset management and public acceptance.

Postgraduate research student participation is encouraged. The symposium hosts a student poster session with best paper awards. As per the instructions, please indicate young authors where appropriate.

PAPER PUBLICATION

Papers will be available to download one month in advance of the symposium for registered participants – see on the symposium website. One month after the symposium, papers can be purchased on CIGRE [online library](#). CIGRE Science & Engineering will publish the 5 best papers selected from the symposium. The Technical Committee will produce a summary report of the symposium for publication in Electra.

REGISTRATION

Registration will be opened on 1st September 2018. Together with preliminary programme information, synopsis and paper templates will be available on: CigreAalborg2019.dk

COMMITTEES

The Symposium Technical Committee is composed of the chairmen of the following study committees:

- SC C4 System Technical Performance (lead)
- SC B1 Insulated Cables
- SC B2 Overhead lines
- SC B4 HVDC and Power Electronics
- SC C1 System Development and Economics
- SC C2 System Operation and Control
- SC C3 System Environmental performance
- SC C6 Distribution Systems and Dispersed Generation

The Organizing Committee is chaired by the chairman of the Danish National Committee Jørgen S. Christensen.

The Technical Committee is chaired by Zia Emin, chairman of SC C4.

The Local Committee is chaired by Claus Leth Bak.

SUBMISSION OF SYNOPSES

Participants wishing to present and publish papers should submit synopses by following instructions on CigreAalborg2019.dk, where the synopses and paper templates are also available. All synopses, papers, and presentations must be in English. Please note authors should be available to present at the symposium.

DEADLINES

Receipt of synopsis:	28 th September 2018
Notification of acceptance:	19 nd October 2018
Receipt of full paper:	18 th January 2019
Notification of final acceptance:	12 th April 2019

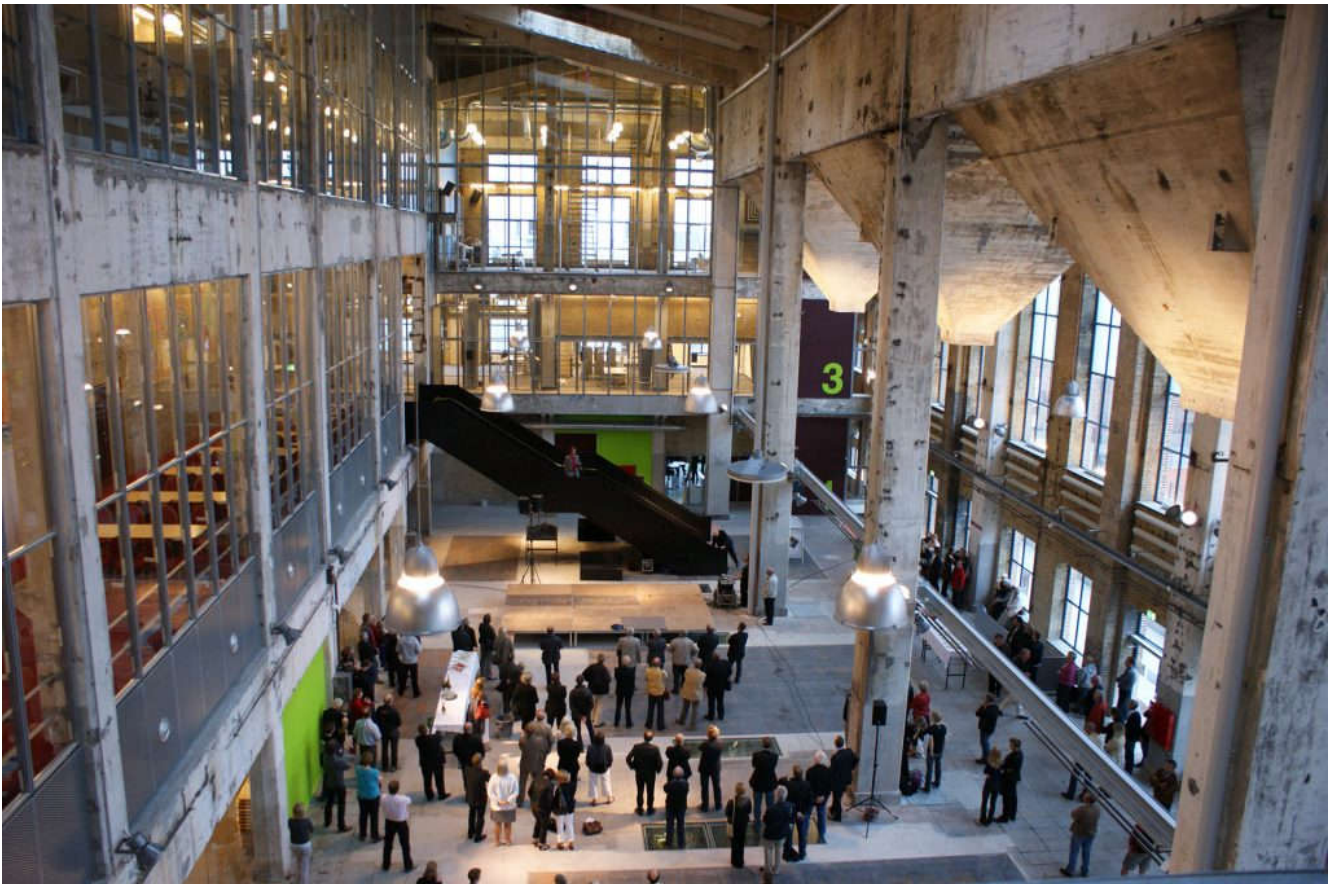
**Cigré International symposium 2019 in Aalborg –
day to day**



Day	Time	Activity			
Sunday June 2 nd	-	Study committee and working group meetings			
	-	Study committee and working group meetings			
Monday June 3 rd	-	Study committee and working group meetings			
	-	Study committee and working group meetings			
Tuesday June 4 th	-	Tutorial 1	Tutorial 2	Tutorial 3	Tutorial 4
	-	Tutorial 5	Tutorial 6	Tutorial 7	Tutorial 8
Wednesday June 5 th	18:30 – 20:30	Welcome reception			
	8:30 – 8:40	Opening welcome session			
	8:40 – 09:10	Keynote speech			
	09:10 – 09:20	President of Cigré address			
	09:30 – 11:00	Session 1	Session 5	Session 9	Session 13
	11:15 – 12:30	Session 2	Session 6	Session 10	Session 14
	12:30 – 13:30	Lunch			
	13:30 – 14:30	Panel debate with main sponsors speeches by ØRSTED, VESTAS, and SIEMENS followed by 30 minutes panel debate			
	14:45 – 15:45	Session 3	Session 7	Session 11	Session 15
	16:00 – 17:00	Session 4	Session 8	Session 12	Session 16
	18:30 – 23:00	Gala dinner including entertainment			
	8:30 – 10:00	Session 17	Session 21	Session 25	Session 29
	10:30 – 11:00	Session 18	Session 22	Session 26	Session 30
	12:00 – 13:00	Lunch			
Thursday June 6 th	13:00 – 14:45	Session 19	Session 23	Session 27	Session 31
	15:00 – 16:45	Session 20	Session 24	Session 28	Session 32
	10:30 – 12:00	Student poster session open			
	14:00 – 15:30	Student poster session open			
Friday June 7 th	17:00 – 18:00	Closing session including students best paper prizes			
	8:00 – 16:00	Technical tour to offshore wind power plant ANHOLT with the Anholt ferry including lectures and lunch			



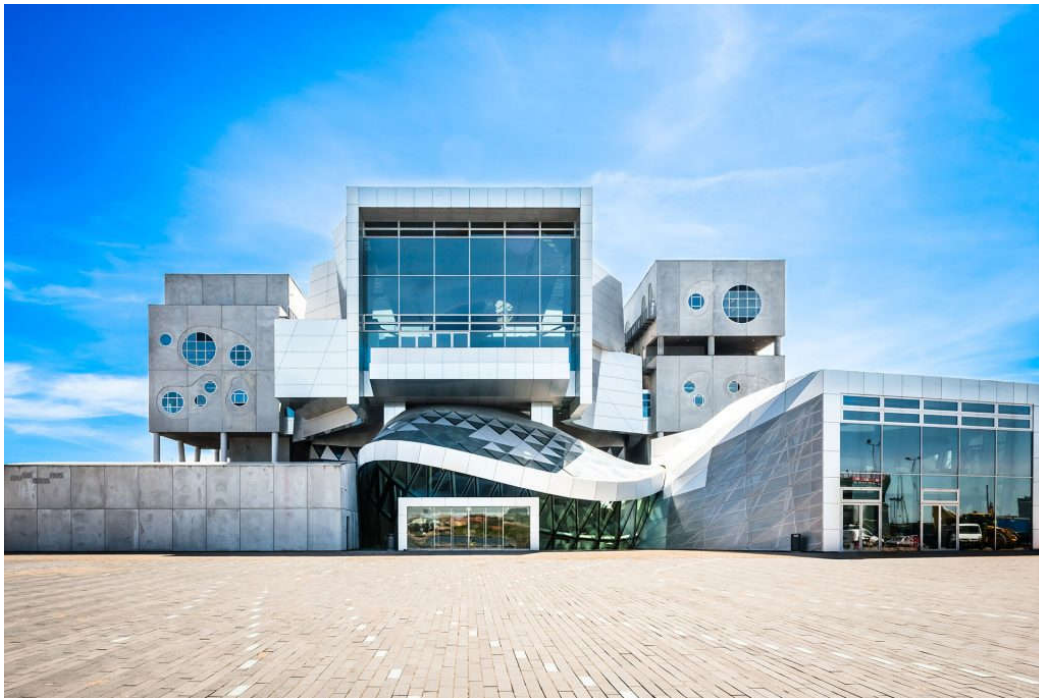
Welcome reception in NORDKRAFT



Speeches and entertainment:


- Welcome by chair of Danish National Committee Claus Leth Bak
- Mayor or vice-mayor Aalborg municipality welcomes to Aalborg
- Presentation of the NORDKRAFT (conversion of coal-fired power plant into a cultural house by Claus René Pedersen
- The minister of Energy or a high-ranking EU person within energy politics
- Drinks and canapés
- The Raggedy Anns plays quiet acoustical folk/country style

Gala diner in Musikkens Hus with orchestral performance of The Piazzola Orchestra in the acoustically superb concert hall



Program:

- Welcome with a glass of sparkling wine and some snacks/canapés
- Concert by the Piazzola Orchestra
- Gala diner at round tables in the upper foyer overlooking the Limfjord enjoying a 3-course dinner with roots in Danish modern food culture. A concert pianist plays classical music quietly



LET'S MEET IN AALBORG VISITAAALBORG.COM/CONVENTION

Aalborg Congress & Culture Centre

Aalborg Kongres & Kultur Center

- ❖ One of Scandinavia's most flexible congress centres – 500,000 guests and 1,000 events annually
- ❖ Located right in the city centre close to hotels
- ❖ The close vicinity of the inside facilities ensures maximum attention to the conference and exhibition

AALBORG UNIVERSITY
DENMARK

- Modern and professional facilities in the center of Aalborg
- Aalborg international airport only 20 minutes away
- All sessions in one place – close to hotels, NORDKRAFT and Musikkens Hus.
- All SC and WG meetings can be hosted (there should be plenty of meeting rooms of various sizes for both SC and WG. If we get short on that Aalborg University provides additional rooms). Pre-registration necessary (linked to registration).
- Restaurant Papegøjehaven available for SC/WG meeting guests.

Technical tour to ANHOLT offshore wind power plant WPP



Program:

- Bus from Aalborg to Grenå (where the ferry is)
- 4 speeches during the voyage of a technical character related to offshore wind power plants and their grid connection
- Presentation of the Anholt WPP by owner ORSTED
- Lunch at the ferry
- Bus return to Aalborg

Spouses tour – Skagen - Grenen



This is wonderful! The program is:

- Bus from Aalborg to Skagen
- Walk or transport with SANDORMEN to Grenen to see the Skagerak and the Kattegat meet.
- Lunch at famous Brøndums Hotel – which hosted the Skagen Painters
- Visit to Skagen Kunstmuseum, Masterpieces from Danish artists P.S. Krøyer and Michael Ancher
- Bus return to Aalborg



The Skagen Painters



Brøndums Hotel





The Cigré Danish National Committee are looking forward to warmly welcoming guests and researchers from near by and far away.

We promise to do our best to give you a fruitful outcome of the symposium and a great experience in Aalborg.

Claus Leth Bak

Main organiser of the symposium

Chairman of Cigré Danish National Committee (September 2018)

