

# 2<sup>nd</sup> German-Japanese Workshop on Renewable Energies 5-7 July 2017, Stuttgart, Germany

## Agenda

### Part I – Energy Systems Analysis

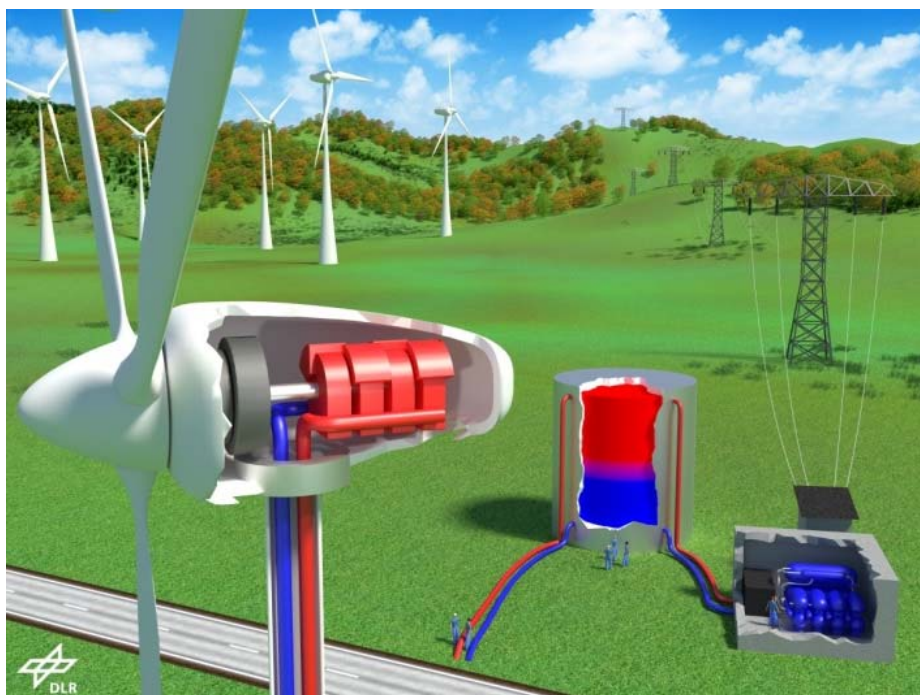
### Part II – Advanced Energy Technologies

**André Thess**

DLR – German Aerospace Center and University of Stuttgart, Germany

**Toru Okazaki**

Institute of Applied Energy, Tokyo, Japan



# Part I – Energy Systems Analysis

**Wednesday, 5 July**

**Introductory session**

<b>Time</b>	<b>Name</b>	<b>Institution</b>	<b>Topic</b>
<b>10.00 h –</b>	Dr. Toru Okazaki	The Institute of Applied Energy (IAE)	Opening
<b>10:15 h</b>	Prof. André Thess	DLR – German Aerospace Center	

**Session 1: Quantitative analysis of future energy systems**

<b>Time</b>	<b>Name</b>	<b>Institution</b>	<b>Topic</b>
<b>10.15 h –</b>	Prof. Koichi Yamada	Center for Low Carbon	Quantitative scenario toward zero
<b>10.45 h</b>		Society Strategy, Japan	emission power system in Japan
		Science and Technology	
		Agency	
<b>10.45 h –</b>	Tobias Fichter,	DLR – German Aerospace	Scenario development at DLR
<b>11.15 h</b>	Dr. Thomas Pregger	Center	(tentative)
<b>11.15 h –</b>	Dr. Tom Brown	Frankfurt Institute for	Sector-Coupling in a Simplified
<b>11.45 h</b>		Advanced Studies	Model of a Highly-Renewable
			European Energy System
		Aarhus University	
<b>11.45 h –</b>			
<b>12.00 h</b>		<b>Discussion</b>	

**Lunch Break**

**Session 2: Enhancing the robustness of model-based energy systems analysis**

<b>Time</b>	<b>Name</b>	<b>Institution</b>	<b>Topic</b>
<b>13.00 h –</b>	Dr. Hans Christian Gils	DLR – German	Model experiments and comparison for
<b>13.30 h</b>		Aerospace	simulation of pathways to a fully renewable
		Center	energy supply
<b>13.30 h –</b>			
<b>13.45 h</b>		<b>Discussion</b>	

**Coffee Break**

### Session 3: Future role of electricity grids and energy storage

Time	Name	Institution	Topic
14.00 h – 14.30 h	Prof. Alexandre Oudalov	ABB	Role of energy storage and grid expansion in the context of scenarios with very high shares of variable renewables
14.30 h – 15.00 h	Yi-Chung Chen	University of Birmingham, UK	Assessments of wind powered thermal energy system for combined heat & power supply – case studies on the UK and China
15.00 h - 15.30 h	Dr. Toru Okazaki	The Institute of Applied Energy	Ongoing paradigm shift of renewable energies
15.30 h – 16.00 h	Felix Cebulla	DLR – German Aerospace Center	Requirements for electrical energy storage: state of research and results from the energy system model REMix
16.30 h – 17.00 h	<b>Discussion</b>		

### Visit at the world's very first television tower in Stuttgart and Dinner

**Thursday, 6 July**

### Session 4: Renewable energy policy and financing

Time	Name	Institution	Topic
09.00 h – 09.30 h	Prof. Asami Takehama Dr. Manabu Utagawa	Ritsumeikan University, National Institute of Advanced Industrial Science and Technology (AIST)	Statistical analysis of large-scale photovoltaic integration and demand-supply balance in the western Japan grid, implications for grid integration policies for variable renewable energies
09.30 h – 10.00 h	Kristina Nienhaus, Dr. Marc Deißerth	DLR – German Aerospace Center	Agent-based modelling for the analysis of market integration of renewable energies under various energy policy frameworks
10.00 h - 10.30 h	<b>Discussion</b>		

### Closing session

Time	Name	Institution	Topic
10.30 h – 10.45 h	Dr. Christoph Schillings	DLR – German Aerospace Center	Conclusion and Outlook

**Coffee Break**

## Part II – Advanced Energy Technologies

### Introductory session

Time	Name	Institution	Topic
11.00 h – 11.15 h	Prof. André Thess	DLR – German Aerospace Center	Opening
11.15 h – 11.45 h	Dr. Lorenz Granrath	National Institute of Advanced Industrial Science and Technology (AIST)	Introduction of AIST and its Renewable Energy Research
11.45 h – 12.00 h	<b>Discussion</b>		

### Lunch Break

### Session 1: Wind-powered thermal systems (WTES)

Time	Name	Institution	Topic
13.00 h – 13.30 h	Prof. Po-Wen Cheng	University of Stuttgart	Wind power research at the University of Stuttgart (tentative)
13.30 h – 14.00 h	Dr. Toru Okazaki	The Institute of Applied Energy	Present status of Japanese wind-powered thermal systems program
14.00 h – 14.30 h	Dr. Kenji Higashi	Riken	RHE Rankine cycle and applicability
14.30 h – 15:00 h	<b>Discussion</b>		

### Coffee break

### Session 2: Advanced Energy Technologies

Time	Name	Institution	Topic
15.30 h – 16.00 h	Mr. Ryo Nishihata	Osaka University	A Study on Heat and Power Control Scheme Considering Copper Losses and Iron Losses of the Induction Generator for a Wind-Thermal Power Generation System
16.00 h – 16.30 h	Dr. Michihiro Ohta	National Institute of Advanced Industrial Science and Technology (AIST)	High-performance and cost-effective thermoelectrics for waste heat recovery
16.30 h – 17:00 h	<b>Discussion</b>		

## Friday, 7 July

### Session 4: Thermal energy storage technologies and application

Time	Name	Institution	Topic
09.30 h – 10.00 h	Prof. Yulong Din	University of Birmingham, UK	Recent progress in thermal energy storage using composite phase change materials for medium to high temperature applications
10.00 h – 10.30 h	Dr. Antje Seitz (tbc)	DLR – German Aerospace Center	High-Temperature Thermal Energy Storage for Demand Oriented Supply of Power and Heat
10.30 h- 11.00 h	Dominik Bestenlehner	University of Stuttgart	Research on thermal energy storage at the University of Stuttgart (tentative)
11.00 h – 11.30 h	Dr. Lee Yong-Hoon	KELK	Thermoelectric Desalination System with Solar Thermal Storage
11.30 h - 12:00 h	<b>Discussion</b>		

### Closing session

Time	Name	Institution	Topic
12.00 h – 12.15 h	Dr. Toru Okazaki	The Institute of Applied Energy	Conclusion and Outlook
	Prof. André Thess	DLR – German Aerospace Center	

### Lunch

### End of workshop

## Venue

The workshop is held at the DLR-Campus in Stuttgart-Vaihingen. It is located halfway between the city centre and the airport, and can be reached by metro service (station *Universität*). For further information, please follow

<http://www.dlr.de/tt/en/Portaldata/41/Resources/dokumente/anfahrt/stuttgart/Anfahrt-ST-englisch.pdf>

## Registration

Please register on our registration page before June 23, 2017:

<http://smodell.besl-eventservice.de/eZ8SyN04Hiov>

## Evening Program

On the evening of July 5, we will have a tour to the world's very first television tower, located in Stuttgart. Directly after the last session we will leave for the tower. Participation in the tour and entrance to the tower are free of charge to all workshop participants. There will be a joint dinner close to the tower afterwards, which is included for all speakers. Non-presenting participants are invited to join the dinner at their own expense. Please indicate your participation at the workshop registration.

## Recommended Accommodations

Premium class:

Hotel Pullman Stuttgart Fontana

<http://www.pullmanhotels.com/gb/hotel-5425-pullman-stuttgart-fontana/index.shtml>

5 min metro ride plus 10 min walk

Business class:

Commundo Tagungshotel Stuttgart

<https://www.commundo-tagungshotels.de/standorte/stuttgart.html> (in German only)

10 min walk

Römerhof Vaihingen

<http://www.roemerhof-kulinarium.de/roemerhof> (in German only)

15 min walk

Many other hotels can be found in the city centre of Stuttgart. From there, it takes about 15 min metro ride plus 10 min walk to reach the DLR-Campus.

For any other information about the city, please see <https://www.stuttgart-tourist.de>