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Federal Ministry
for the Environment, Nature Conservation
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based on a decision of the German Bundestag

Industrial Waste Heat Usage

German – Japanese Expert Workshop

19. – 22. April 2021

Organization: ECOS in cooperation with NEDO (New Energy and Industrial Technology Development Organization)

Language: German and Japanese (simultaneous interpretation)

Objective:

- to receive first-hand information on the general conditions, the state of the technology, the market situation and competitors and projects
- to identify cooperation and business opportunities in the field of industrial waste heat utilization
- Present innovative technologies and projects
- Explore funding opportunities for bilateral projects from the Japanese side (e.g., grants for equipment)
- To get feedback on opportunities for specific technologies in Japan and Germany
- The opportunity to network

Participants (among others):

- Producers and planners: of ORC system, heat transport systems (e.g., thermo-chemical), heat recovery, etc.
- Users: SME of the food industry (breweries, industrial bakeries, meat processing plants, etc.), metal production- and processing
- Societies: Heat Pump & Thermal Storage Technology Center of Japan, Japan Electro-Heat Center, Thermal Management Materials and Technology Research Association TherMAT, etc.
- Municipalities

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Program:

(state April 21, 2021)

Day	Time (CET)	Time (JST)	Program
Mon April 19, 2021	8:30-11:45	15:30-18:45	German-Japan expert workshop Part 1: Energy efficiency and industrial waste heat in Germany and Japan for CO2 reduction
	8:30	15:30	Opening Words: Peter Beck, ECOS GmbH
	8:35	15:35	Greeting addresses: Hisashi YOSHIOKA, Director General, Energy Conservation Department, NEDO; Ann-Sophie Weihe-Feijó, Division IK III 5 (Climate Protection and Energy Efficiency), Federal Ministry for the Environment, Nature Conservation and Nuclear Safety BMU
	Chair: Dr. Matthias Reckzúgel, Hochschule Osnabrück		
	8:45	15:45	Energy Efficiency in Japan Ryutaro NAKAYAMA, Assistant Director, Energy Efficiency Division, Agency for Natural Resources and Energy (ANRE) / Ministry of Economy, Trade and Industry (METI)
	9:00	16:00	Importance of industrial waste heat utilization for the implementation of climate protection goals in Germany Dr. Hartmut Versen, Division IIB2, Federal Ministry for Economic Affairs and Energy BMWi
	9:15	16:15	Q&A / Discussion
	9:45	16:45	Break
	10:05	17:05	Heat transition of the German industry – excess heat as an option for decarbonisation and flexibilization of energy supply in energy intensive industries Dr. Jan Steinbach, IREES GmbH - Institute for Resource Efficiency and Energy Strategies
	10:20	17:20	The Potential of Advanced Heat Technologies, Technology Developments for Utilizing Waste Heat in Japan Masanori KOBAYASHI, Director, Energy Conservation Technology Dept., NEDO

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	10:35	17:35	Waste heat in the municipal context: Successful examples of metropolitan and rural regions Patrick Hoffmann, IZES gGmbH
	10:50	17:50	Q&A / Discussion
	Chair: Patrick Hoffmann, IZES gGmbH		
	11:05	18:05	Open Roundtable Key Question: Which policies are needed to promote the increased use of waste heat in Germany and Japan for accelerated CO2 reduction? With introductory speech by Nobutaka TAKEO, Director General, of NEDO Representative Office in Europe
	11:45	18:45	End
Tue April 20, 2021	8:30-11:00	15:30-18:00	German-Japan expert workshop Part 2: Demand Side Heat Management
	8:30	15:30	Opening Words: Peter Beck, ECOS GmbH
	Chair: Masanori KOBAYASHI, NEDO		
	8:35	15:35	Implementation of Carbon Neutral --Electrification, Demand Side Heat Management-- Takashi YATABE Producer, Engineering Strategy unit, Engineering Management Office, Tokyo Electric Power Company Holdings, Inc.
	8:50	15:50	Q&A / Discussion
	9:05	16:05	Break
	9:15	16:15	Development of Adsorption Thermal Storage System Utilizing Low-temperature Waste Heat 【Including a video】 Dr. Masayuki TANINO, Principal Research Engineer, Research & Development Center, Takasago Thermal Engineering Co., Ltd.
	9:35	16:35	Q&A / Discussion
	9:50	16:50	Recent advance on high-temperature latent heat storage technology based on micro-encapsulated phase change material Dr. Takahiro NOMURA, Associate Prof., Faculty of Engineering, Hokkaido University
	10:05	17:05	Q&A / Discussion

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	Chair: Masanori KOBAYASHI, NEDO		
	10:20	17:20	Open Roundtable Key Question: Thermal Storage for Demand Side Waste Heat Management, mobile and stationary, which materials are already available today?
	11:00	18:00	End
Wed April 21, 2021	8:30-11:25	15:30-18:25	German-Japan expert workshop Part 3: Project examples (Germany and Japan)
	8:30	15:30	Opening Words: Peter Beck, ECOS GmbH
	Chair: Dr. Jan Steinbach, IREES GmbH		
	8:35	15:35	Potential and Use of Industrial Waste Heat in North Rhine Westphalia – Provision of information in the provincial heat cadaster Nils Dering, State Agency for Nature, Environment and Consumer Protection (LANUV NRW)
	8:50	15:50	Q&A / Discussion
	9:05	16:05	Thermal management R&D project for industrial waste heat usage in Japan Dr. Haruhiko OBARA, Vice-President, Director-General, Department of Energy and Environment, National Institute of Advanced Industrial Science and Technology (AIST)
	9:20	16:20	Q&A / Discussion
	9:35	16:35	MosEN - Modelling of local cross-sectoral energy systems Prof. Matthias Reckzuegel, University of Applied Sciences Osnabrueck / Energy Competence Center 'Science to Business'
	9:50	16:50	Q&A / Discussion
	10:05	17:05	Break
	10:15	17:15	Heat Recovery with Thermoelectric Modules – New Production Process for the Production of TEG and applications Yikalo Teclé, Evonik Operations GmbH
	10:30	17:30	Q&A / Discussion
	Chair: Dr. Matthias Reckzuegel, Hochschule Osnabrück		
	10:45	17:45	Open Roundtable

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			Key Question: How can a circular economy for waste heat utilization be realized?
	11:25	18:25	End
Thu April 22, 2021	8:30-12:20	15:30-19:20	German-Japan expert workshop Part 4: Industrial heat pumps for waste heat utilization
	8:30	15:30	Opening Words: Peter Beck, ECOS GmbH
	Chair: Tetsushiro IWATSUBO, NEDO		
	8:35	15:35	Closing energy cycles with heat pumps Thomas Nowak, Secretary General, European Heat Pump Association (AISBL)
	8:50	15:50	Q&A / Discussion
	9:00	16:00	Heat pump technologies & Case studies in Japan Koki WATANABE, Deputy Director, Business Coordination Department and International & Technical Research Department, Heat Pump & Thermal Storage Technology Center of Japan
	9:15	16:15	Q&A / Discussion
	9:25	16:25	High efficient industrial heat pump utilizing waste heat 【Video】 <Provided by Japan Electro-Heat Center>
	9:35	16:35	Q&A / Discussion
	9:45	16:45	Break
	10:05	17:05	Heat transition with energy from waste water - The underestimated potential in the sewer Rouven Zeus, UHRIG Energie GmbH
	10:20	17:20	Q&A / Discussion
	10:30	17:30	Heat re-use from data Centers- challenges and opportunities Dr. Birger Ober, Sustainable Digital Infrastructure Alliance
	10:45	17:45	Q&A / Discussion
	10:55	17:55	Implementations and case studies of novel heat driven chillers developed in a NEDO project Tatsuo Fujii, Chief Engineer, Johnson Controls Building Efficiency Japan
11:10	18:10	Q&A / Discussion	

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Chair: Tetsushiro IWATSUBO, NEDO		
11:20	18:20	Open Roundtable Key Question: Industrial Heat Pumps – the key for using low-temperature waste heat?
11:50	18:50	Closing words, Masanori KOBAYASHI, NEDO
12:00	19:00	End