



Outline

German-Japanese expert workshop and excursions to projects in Germany on the **waste heat utilization**

February 27 – March 2, 2023

OBJECTIVES

Both Japan and Germany as fully industrialized countries are equally committed to achieve the goal of Greenhouse gas neutrality by 2050 / 2045 resp. However, this cannot be reached by substituting fossil fuels with renewable energies alone. "Efficiency First" is equally important.

Process heat is required in the industry for the generation of steam for drying processes, galvanizing, pasteurizing, distilling or thermal separation processes. A high proportion of the energy used is often lost as unused waste heat at different temperature levels. There is a large untapped potential for waste heat utilization not only in the industry but also in other areas such as data centers or municipal sewage systems. If this waste heat is made usable, a great deal of energy can be saved - not only in production itself: the waste heat can also be used in swimming pools, greenhouses, or buildings in the vicinity.

In a German-Japanese Workshop in combination with excursions to innovative waste heat utilization projects, we offer interested experts from industry (technology suppliers as well as users), academia or administration to

- exchange information on technologies and projects for the utilization of industrial waste heat (technological and systemic) in selected areas in Japan and Germany.
- get a first-hand impression of innovative technologies and concepts for waste heat utilization in Germany through site visits
- identify cooperation and business opportunities and initiate cooperation projects

Schedule and Contents

GENERAL INFORMATION

Title: Industrial waste heat utilization - opportunities for German-Japanese cooperation

Format: Face-to-face workshop (1 day) and excursions with site visits (2 days)

Location: Rhine-Ruhr area, as a number of waste heat projects in different application areas can be visited here without long transfers and North West Germany (Osnabrück region).

Venue for the workshop: Gas- und Wärme-Institut Essen e.V. (Hafenstraße 101, 45356 Essen)

Language: German and Japanese (workshop: simultaneous translation; excursion: consecutive translation)

Costs: Participation in the event is free of charge. Costs for joint transfers in Germany to the site visits are borne by the organizers. The participants will only bear the costs for accommodation and for travel to the workshop venue (Essen or Duisburg), as well as from the city of the final facility visit back home. All transfer costs in between as well as lunch will be covered by the organizer.

Participants (excursion):

- Japanese manufacturers/suppliers for waste heat utilization technologies
- Representatives of politics/administration
- Experts from research institutions in Japan
- Representatives of relevant associations in Japan
- Technology users from Japanese industry

Participants (Workshop):

- Manufacturers / technology suppliers for waste heat technologies from both countries.
- Users from German and Japanese industry
- Relevant associations in Germany/Japan
- Representatives of municipalities in Germany with related demonstration projects
- Administration/politics from both countries
- Research institutes from both countries

PRELIMINARY PROGRAM

February 26, 2023

Arrival in Germany – Transfer to Essen

February 27, 2023

German-Japanese Expert workshop on Waste Heat Utilization

Language: German-Japanese simultaneous translation

Venue: GWI-Gas- und Wärme-Institut Essen e.V. (Hafenstraße 101, 45356 Essen)

Guiding questions:

- How can waste heat from industrial plants be used efficiently as process heat or electricity?
- Which technologies are necessary?
- Which utilization possibilities and concepts exist?
- Which political framework conditions and instruments could support the dissemination of waste heat utilization?
- Where are approaches for bilateral cooperation and demonstration projects?

Preliminary Agenda

9:00 – 12.00

Welcome and Opening remarks

Session 1: Current Status and Outlook of Waste Heat Utilization in Germany and Japan

Introductory Lectures

- Waste heat utilization in Japan, current status and outlook
- Heat Transition in German Industry - Waste Heat Utilization as a Contribution to Decarbonization and Flexibilization in Industrial Energy Supply
- Innovative technologies for waste heat utilization in Japan; current status of developments and future prospects
- Initiatives for the promotion of waste heat usage in Germany (dena)

Panel discussion: political framework Japan and Germany for waste heat utilization

Participants: experts from policy, associations and industry

12:00 - 13:00 Lunch

13:00 - 13:50

Session 2: Waste heat utilization in the food industry

- Waste heat utilization in the food-industry, - example projects, framework conditions, core ideas - Examples Germany
- Waste heat utilization in the food-industry, - example projects, framework conditions, core ideas - Examples Japan
- Q&A, discussion on cooperation opportunities

13:50 – 14:30

Session 3: Waste heat utilization in other sectors

- Clean power from waste heat in energy-intensive industries
- Waste heat utilization for cooling new development of absorption chillers from Japan
- Q&A, discussion

14:30 - 15:00 Break

15:00 – 16:00

Session 4: Infrastructure for waste heat utilization

- Infrastructure for waste heat utilization in Germany: current status and challenges
- Infrastructure for waste heat utilization in Japan: current status and challenges
- Waste Heat in the Heating Network: Advantages and Challenges (example from Germany)
- Heating and cooling networks – (example from Japan)

Panel discussion: efficient district heating and cooling networks of the future

Participants from policy, academia, associations or industry

16:00 – 17:00

Closing Panel Discussion: Waste Heat Utilisation – New Chances for Cooperations between Japan and Germany

February 28, 2023

Excursion

Language: German-Japanese consecutive translation

Visiting program in the Rhine-Ruhr area e.g.:

Duisburg Waste heat recovery from steel production at thyssenkrupp AG

Marl Bidirectional heat distribution system at evonic industries AG in Marl (use of waste heat from mainly petrochemical processes and provision of process and heating energy)

Dortmund Use of waste heat from the production of KG Deutsche Gasrußwerke for the district heating network of Dortmunder Energie- und Wasserversorgung GmbH (DEW21)

Transfer to Osnabrueck

March 1, 2023

Excursion

Language: German-Japanese consecutive translation

Visiting program in Osnabrueck region:

Georgsmarienhütte Visit to Georgsmarienhütte GmbH steelworks, waste heat utilization within the company and in the heat network of Stadtwerke Georgsmarienhütte

Osterkappeln-Venne Visit of a heat supply of the Venner Energie eG in the district Venne of the municipality Osterkappeln via waste heat of a wafer factory

March 2, 2023

Return to Japan

Or participate in the site visits of the H₂ mission

Contact for Registration

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Registration Deadline: 27.01.2023

Overview – combined schedule of waste heat utilization mission and H₂ mission in Germany

Date	Program waste heat usage mission	Location	program H₂ mission	Location
Sun. Feb 26, 2023	Departure from Japan Arrival in Germany Transfer to Essen	Essen	<i>(option: arrive 1 day earlier)</i>	
Mon. Feb 27, 2023	German-Japanese expert workshop on waste heat utilization	Essen	departure from Japan arrival in Berlin <i>(or participate in waste heat utilization workshop)</i>	Berlin
Tue. Feb 28, 2023	Site visits (waste heat) in Rhine-Ruhr region	Duisburg, Marl / Dortmund	H₂ Working Group Meeting of the German-Japanese Energy Partnership	Berlin
Wed. March 1, 2023	Site visits (waste heat) in Osnabrueck Region	Osnabrueck	H ₂ project site visits	tbd
Thu. March 2, 2023	Return to Japan <i>(or participate in the site visits of the H₂ mission)</i>		H ₂ projects site visits	tbd
Fri. March 3, 2023			H ₂ projects site visits	tbd
Sat March 4, 2023			Return to Japan	