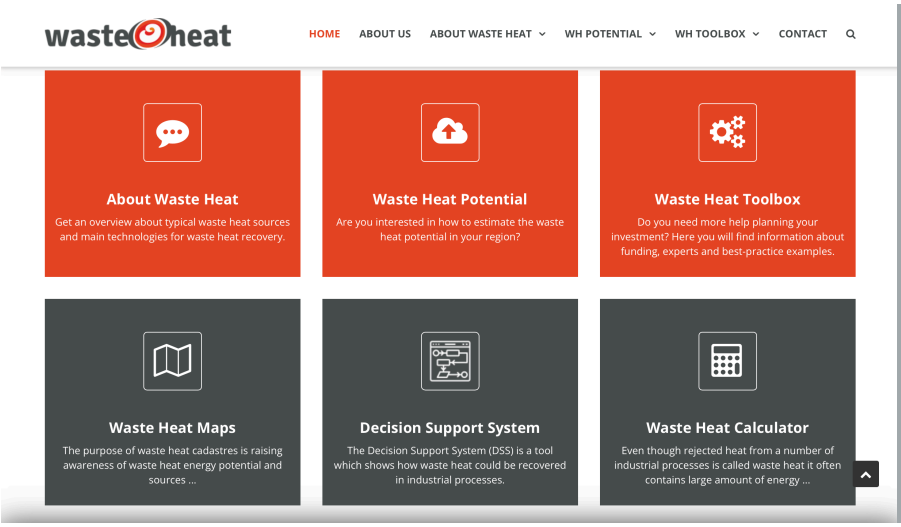
BACKGROUND INFORMATION FOR WORKSHOP FACILITATORS

Manual for the Estimation of Regional Waste Heat Potential



Good to Know:

- Activate companies and network with experts and energy consultants
- Visualizing potential and leveraging synergy effects is important
- Data and knowledge platforms serve as a basis for further research and development

TOOLBOX CATEGORIES

Determination of the national waste heat potential and provision through a digital cadastre or map in order to tap local efficiency opportunities

Country: Europe (Austria, Germany, Czech Republic, Poland, Italy)
Category: Technical
Media: Guide + Applications
Source: https://www.waste-heat.eu

Introduction:

The Waste Heat Manual provides a straightforward method for estimating regional waste heat potential, offering valuable insights for government stakeholders and the energy industry at the local level in Europe. By deriving conversion factors from leading studies and standardizing industry sector categorization across European countries, the manual simplifies the estimation process. With access to national and regional energy consumption statistics, users can accurately assess waste heat potential in their region, facilitating informed decision-making and investment in waste heat recovery projects. Additionally, the Waste Heat Toolbox offered on the page supports entrepreneurs and investors in exploring untapped waste heat potential, understanding technological aspects of recovery and navigating formal, administrative and financial considerations when starting a business based on waste heat. By leveraging waste heat as a renewable energy source, users can contribute to the heating transition while potentially improving financial returns and reducing environmental impact.

PROJECT OVERVIEW

Title: Waste Heat funded by the Interreg CENTRAL EUROPE Programme
Objective: The project aims to improve the governance of energy efficiency by focusing on field of waste heat utilization in Central Europe space and through increased exploitation of endogenous RES – waste heat.
Duration: 01/06/2016-31/05/2019
Partners:

- Thüringer Energie- und GreenTech-Agentur (ThEGA), Germany
- University of Jan Evangelista in Ústí nad Labem (UJEP), Czech Republic
- E-Zavod - Zavod za celovite razvojne rešitve, Slovenia
- Narodni centrum energetickych uspor, Czech Republic
- Poltegor Institut, Poland
- Technologie offensive Burgenland Gmbh, Austria
- Dravske elektrarne Maribor d.o.o., Slovenia
- Energy Institute Hrvoje Pozar, Croatia
- APE - Agenzia per l'Energia del Friuli Venezia Giulia, Italy

Approach:
The WasteHeat project involves the creation of digital waste heat cadastres in participating regions, utilizing GIS-based mapping to identify potential waste heat sources. Data is collected from industries via standardized surveys and existing databases. The project also developed a comprehensive Waste Heat Utilization Toolbox, which includes tools for decision-making, energy calculation and guidelines on business models and regulatory requirements. Eight pilot projects across partner regions demonstrate the practical application of these tools and methods, validating the project's approach and providing real-world insights.

TOOL EVALUATION

How To Use

1. Access the Cadastre:
- Navigate to the digital waste heat cadastre to find potential waste heat sources in your area using its GIS-based map.

2. Evaluate Feasibility:
- Use the Waste Heat Utilization Toolbox to assess the feasibility of recovery, including estimating energy savings and reviewing economic and technical considerations.

3. Explore Business Models and Funding:
- The toolbox provides information on business models and funding opportunities for planning your project.

4. Review Regulatory Requirements:
- Check guidelines on permits and policies for waste heat recovery to ensure compliance with EU and national regulations.

5. Implement and Monitor:
- Follow the manual's step-by-step guidance for project implementation, from assessment to monitoring and optimization.

Key Benefits

- Useful roadmap as orientation for systematic identification and visualization of potentials as well as networking platform for stakeholders
- A regional GIS based waste heat cadastre helps to make the main waste heat sources visible and a map shows relevant waste heat sources and identifies chances.
- Waste heat cadastres enable better understanding and awareness of the energy potential and are a useful tool to drive support mechanisms for better energy utilization.
- The only data required for the estimation are the official energy statistics for industry sectors of the region of interest and specified conversion factors.

Cost Aspects

- The Toolbox and Manual are freely accessible online, reducing costs for stakeholders.
- Costs for mapping and data collection may vary by region.
- Feasibility studies identified about 34 Million EUR of viable investments in waste heat projects, that could provide over 100 new jobs in the market.

Evaluation

- **Challenges:** Collaboration with companies may be challenging due to their reluctance to share sensitive information. Effective communication, highlighting potential efficiency gains and demonstrating a strong commitment to data security can help overcome these challenges.
- **Success Factors:** Data availability and standardization, as well as leveraging efficiency gains by making potentials visible.

MORE INFORMATION FOR WORKSHOP PREPARATION

Contact: info@waste-heat.eu, Project coordinator: Nina Taylor nina@ezavod.si, Phone: + 386 2 749 32 26

Willingness to engage in dialogue or workshop participation: Short interaction with Nina Taylor, who forwarded our request.

Possible support within REDI4heat: EIHP has been involved in developing tools in the project.

Similar Approaches in the Toolbox: **Waste Heat Calculator** and **Emb3rs - Heat and Cold matching Platform**

Further information on topic (with focus on target countries):

Greek and Portugal (CRES and ADENE involved):
The EMB3Rs project (2023) aims to recycle industrial waste heat to raise energy efficiency, cut carbon emissions and end fuel poverty.
The EMB3RS platform comprises five key modules: the Core Functionalities Module quantifies energy flows and costs for heat/cold recovery; the Geographical Information System Module analyzes network solutions and heat/cold losses; the Techno-Economic Optimization Module identifies the most cost-effective technology combinations for energy transfer; the Market Module simulates market dynamics and evaluates economic indicators; and the Business Model Module assesses financial viability and ownership structures for district heating and cooling systems using excess heat. It also provides a case studies from different target countries.

Germany: A waste heat platform was introduced in June 2024.
From 01.01.2025, a reporting obligation for waste heat quantities is to be implemented for companies, which is thus to be carried out via the platform. "The platform for waste heat creates an overview of commercial waste heat potential in Germany for the first time. The aim is to make this waste heat usable and thus further increase energy efficiency in Germany. To this end, the waste heat data of companies with a total final energy consumption of more than 2.5 gigawatt hours per year will be made available on a public platform and made visible to local companies.“
Source: https://www.bfee-online.de/BfEE/DE/Effizienzpolitik/Plattform_fuer_Abwaerme/plattform_fuer_abwaerme_node.html