

EMPOWER

Energy Monitoring/Energy Poverty

Good Practice

Smart Invent Application

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On line Peer Review

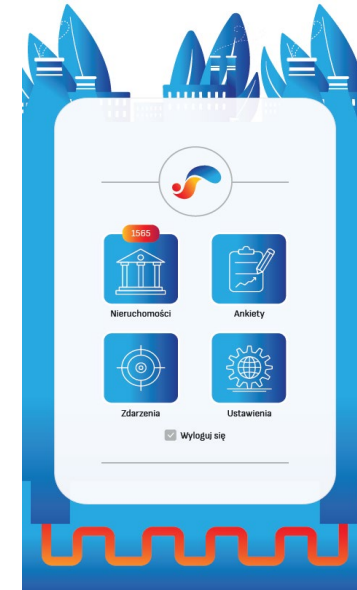
Good Practice Description

Collecting information on the type and quality of domestic heat sources and status of buildings through SMART INVENT APPLICATION to help municipalities implement the activities. The system works on the basis of:

- *web application (through which residents can complete surveys)*
- *central application (main database with the ability to process generate reports and manage the system)*
- *mobile application (currently only for field inventory mainly intended for interviewers may be extended for residents use)*

The application, based on the uploaded address database from the municipalities cities, as well as surveys supplemented by residents, updates the data itself and generates all reports in reference to used heating sources, fuels and also building status (thermomodernisation etc.).

In the future the functionalities may be extended in terms of emission inventory and air quality sensors



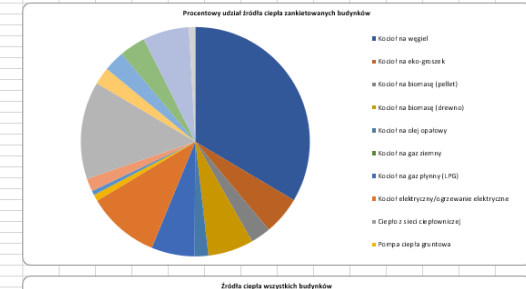
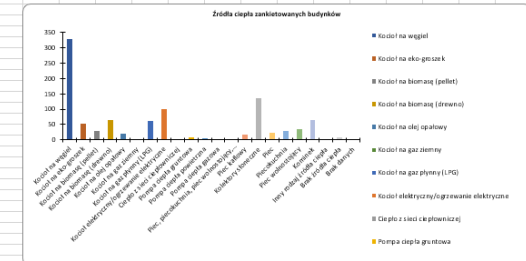
EMPOWER
More carbon reduction by dynamically monitoring energy
efficiency

Benefits of Good Practice

- getting to know the current state of individual heat sources
- finding the areas with the greatest need of intervention
- identifying energy poor households

Źródła ciepła zamkniętych budynków										
Rodzaj źródła ciepła	Źródło #1								Suma	Udział procentowy
	Źródło #1	Źródło #2	Źródło #3	Źródło #4	Źródło #5	Źródło #6	Źródło #7	Źródło #8		
Kocioł na węgiel	113	11	1	0	0	0	0	0	125	11,0%
Kocioł na olej opałowy	11	0	0	0	0	0	0	0	11	1,0%
Kocioł na biomasa (pellet)	14	0	0	0	0	0	0	0	14	1,3%
Kocioł na biomasa (drewno)	41	0	0	0	0	0	0	0	41	3,7%
Kocioł na olej opałowy	14	0	0	0	0	0	0	0	14	1,3%
Kocioł na gaz ziemny	0	0	0	0	0	0	0	0	0	0,0%
Kocioł na gaz płynny (LPG)	17	0	0	0	0	0	0	0	17	1,5%
Kocioł elektryczny/ogrzewanie elektryczne	14	17	1	0	0	0	0	0	32	2,9%
Ciepło z sieci ciepłowniczej	0	0	0	0	0	0	0	0	0	0,0%
Pompa ciepła gruntowa	0	0	0	0	0	0	0	0	0	0,0%
Pompa ciepła powietrzna	0	0	0	0	0	0	0	0	0	0,0%
Pompa ciepła geotermiczna	0	0	0	0	0	0	0	0	0	0,0%
Piec, piekarnik, piec wodorotlenkowy, kominek (węglowod.)	0	0	0	0	0	0	0	0	0	0,0%
Piec kaflowy	11	0	0	0	0	0	0	0	11	1,0%
Kolektory słoneczne	10	11	1	0	0	0	0	0	22	2,0%
Piec	0	0	0	0	0	0	0	0	0	0,0%
Piekarnik	0	0	0	0	0	0	0	0	0	0,0%
Piec wodorotlenkowy	24	10	1	0	0	0	0	0	35	3,2%
Komin	44	21	4	0	0	0	0	0	69	6,3%
Inny rodzaj źródła ciepła	0	0	0	0	0	0	0	0	0	0,0%
Brak danych	0	0	0	0	0	0	0	0	0	0,0%
Suma	0	0	0	0	0	0	0	0	182	16,6%

Źródła ciepła wszystkich budynków										
Rodzaj źródła ciepła	Źródło #1								Suma	Udział procentowy
	Źródło #1	Źródło #2	Źródło #3	Źródło #4	Źródło #5	Źródło #6	Źródło #7	Źródło #8		
Kocioł na węgiel	113	11	1	0	0	0	0	0	125	10,8%
Kocioł na olej opałowy	11	0	0	0	0	0	0	0	11	1,0%
Kocioł na biomasa (pellet)	14	0	0	0	0	0	0	0	14	1,2%
Kocioł na biomasa (drewno)	41	0	0	0	0	0	0	0	41	3,7%
Kocioł na olej opałowy	14	0	0	0	0	0	0	0	14	1,3%
Kocioł na gaz ziemny	0	0	0	0	0	0	0	0	0	0,0%
Kocioł na gaz płynny (LPG)	17	0	0	0	0	0	0	0	17	1,5%
Kocioł elektryczny/ogrzewanie elektryczne	14	17	1	0	0	0	0	0	32	2,9%
Ciepło z sieci ciepłowniczej	0	0	0	0	0	0	0	0	0	0,0%
Pompa ciepła gruntowa	0	0	0	0	0	0	0	0	0	0,0%
Pompa ciepła powietrzna	0	0	0	0	0	0	0	0	0	0,0%
Pompa ciepła geotermiczna	0	0	0	0	0	0	0	0	0	0,0%
Piec, piekarnik, piec wodorotlenkowy, kominek (węglowod.)	0	0	0	0	0	0	0	0	0	0,0%
Piec kaflowy	11	0	0	0	0	0	0	0	11	1,0%
Kolektory słoneczne	10	11	1	0	0	0	0	0	22	2,0%
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Komin	44	21	4	0	0	0	0	0	69	6,3%
Inny rodzaj źródła ciepła	0	0	0	0	0	0	0	0	0	0,0%
Brak danych	0	0	0	0	0	0	0	0	0	0,0%
Suma	0	0	0	0	0	0	0	0	1 123	100,0%



How transferable/replicable is the Good Practice

- The solution is very transferable and easy to use and implement in different areas
- It can be used in municipalities, small and big cities
- Depending on changes in regulations, it will be possible to adapt the applications to the current framework
- App can be extended with additional functionalities



Thank You – Any Questions

On line Peer Review

EMPOWER + Good Practice Register Form

Exchange of experiences dedicated to the identification and analysis of good practices
Responsible partner: Rose Power, Southern Regional Assembly (PP3) & Lena Eckerberg, Energy Agency of Southeast Sweden (PP6)

PROJECT PARTNER:	MAZOVIA ENERGY AGENCY (MAE)
CONTACT PERSON:	ŻANETA LATAROWSKA z.latarowska@mae.com.pl

TEMPLATE

GOOD PRACTICE <i>Please provide a title</i>	Inventory of heat sources in the Mazovia Voivodeship - Smart Invent app				
Field: please tick those that is relevant					
1 Energy monitoring		2 Energy Poverty		3 Both	X
Location	Mazovia Voivodeship, several locations				
	All buildings in municipality – public and private Identification of identification of buildings and areas with the highest energy poverty rate				
Good practices categories: please tick those that are relevant					
1 Good measurement devices (hardware)	X	5 Good data (energy and/or energy poverty and/or energy consumption) collection or identification system			X
2 Good software and smart software	X	6 Good energy and/or energy poverty indicators and/or ergonomomy			X
3 Good behavioural change initiative	X	7 Good data analysing system			X
4 Good organisation and management	X	8 Good use of data			X
		9 Good replication and easily transferred to other regions			X
		10 Quantify Good results to date e.g. emission reductions, number of users, number of units installed, number of participants, amount of funding influenced etc.			7 municipalities, one city, almost 22 000 buildings covered
Short description <i>Please describe the main components or parts of the practice. Please describe your good practice in a way that other partners will be able to understand your good practice .Please provide a link to the good practice website if available</i>	<p><i>In Poland As much as 76 % of the heat is generated in individual heating systems. Only the remaining 24 % is produced in district heating systems. Solid fuels dominate in heat production in Poland Polish households burn 87 of the coal allocated to all households in the EU. The greatest amount of heat is produced in individual households One of the main barriers to clean heating is not only the lack of a comprehensive strategy for this area, but most of all the lack of commonly available data describing the condition of this sector. There is a lack of data on the state of energy efficiency of buildings, individual heat sources, energy poverty and many others.</i></p> <p><i>With the MAZOVIAN ANTI-SMOG RESOLUTION that states that From January 1, 2023, it is not allowed to use boilers for coal or wood that do not meet the</i></p>				



requirements for classes 3, 4, 5 according to PN-EN-303-5-2012 and from January 1, 2028 coal or wood-fired class 3 or 4 boilers according to PN-EN-303-5-2012 standard must not be used. The Management Board of the Mazovian Voivodeship approved the implementation of the "Mazovian Instrument for Air Protection Support (MIWOP)". The aim of the program is to improve the living conditions of the inhabitants of Mazovia by improving air quality and supporting municipalities in the implementation of the anti-smog resolution in Mazovia. Municipalities and cities can apply for funds for an inventory of heat sources. Collecting information on the type and quality of domestic heat sources will be the first stage of preparing a project and receiving funds for the replacement of heating devices and thermal modernization of buildings for interested persons.

Mazovia Energy Agency invented SMART INVENT APPLICATION to help municipalities implement the activities. The system works on the basis of

- web application

(through which residents can complete surveys)

- central application

(main database with the ability to process generate reports and manage the system)

- mobile application

(intended for mobile devices such as smartphone tablet, currently only for field inventory mainly intended for interviewers may be extended for residents use)

The application, based on the uploaded address database from the municipalities cities and TERYT data, as well as surveys supplemented by residents, updates the data itself and generates all reports currently resulting from the MIWOP guidelines, in the future the functionalities may be extended in terms of emission inventory and compatibility with quality sensors air

The application was already tested successfully in 7 Mazovian municipalities and in one city.

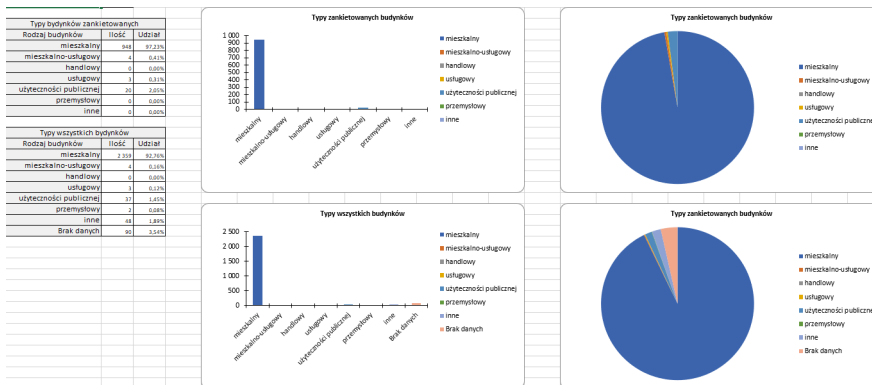
Picture or Website link
if applicable



Central app



Mobile app



Reports

