POZNAŃ THE ISSUE OF AIR QUALITY, AND DISTRICT HEATING: HOW IT STARTED...

Taking stock of the problem

Air quality is a general issue in Poland, mainly due to the high exploitation of coal. Finding low-emission sources is a priority to improve the situation and accompany the decarbonisation of the energy system of the country. The city of Poznań is much aware of the situation and implemented various projects, hand in hand with external stakeholders, to try and tackle this issue. It started early with Keep Warmth, a project run together by the city and Veolia. The aim of the project was to draw attention to heat losses in buildings that cause emission of pollutants into the environment and entail unnecessary costs for the residents. To do so, free thermal imaging tests of 455 single-family houses and 25 tenement houses throughout Poznań were carried out. Willing to go further in terms of energy efficiency and air quality improvement, the city multiplied projects directly tackling the issue of efficient building and decarbonised heat. One of the most emblematic one is the Kawka project.

The partnership with Veolia

The will to go further in terms of programmes and projects led the city of Poznań and Veolia to for a long-term partnership in the form of a project team: Green Poznań Project. Veolia has been operating the district network in Poznań since 2002. It supplies around 60% of the city's inhabitants, as well as industries, public institutions, shopping centres and services.

Through this partnership, the city of Poznań and Veolia aimed at designing an energy transition and clean air strategy. One of the key priorities was to facilitate the connection to district heating networks and transform the existing network, shortening the connection period.

SINGLE FAMILY BUILDINGS	1%
MULTI-FAMILY BUILDINGS	56%
PUBLIC FACILITIES	18%
COMMERCIAL SERVICES AND COMMERCE	20%
INDUSTRY	5%

... HOW IT IS GOING

The Kawka project as a trigger

Implemented in 2015-2017, the Kawka programme aimed at co-financing the elimination of onerous furnaces and boilers fired with coal and replacing them with lower-emission systems. It focused on the Old Town (concerning only the very centre of the city) and Chwaliszewo, northern Wilda and Lazarus, the three areas with the highest concentration of air pollutants. In Poznan, air quality problems are more frequent than the norms and are due to the combustion of solid fuels (coal, wood, or briquettes) in home stoves, boilers or low-efficiency fireplaces that reach not very high combustion temperature. Most of those emissions derive from individual heating systems of buildings based on solid fuels, which in Poland account for as much as 91% of all causes of exceedances of particulate matters.

One of the identified solutions included the development and modernisation of the district heating system of the city. As part of the programme, educational activities were also conducted to encourage the residents to participate in it and inform them about the problem of emission of air pollutants and the ways to reduce it.

Observed results

During the three years of the programme, an increased numbers of buildings were connected to the district heating network and an increased number of individual boilers were replaced:

	2015	2016	2017
BUILDINGS CONNECTED TO DH	4	5	29
BOILERS REPLACED	42	120	550

The city has also been showing the way, having connected around 30 public buildings to the district heating network and having them supplied by waste heat from one Volkswagen plant.

This increase of connection to the network also allowed a 9% reduction in heating costs for the network's users.

As many as 508 coal- and wood-fired furnaces were eliminated, and solid fuel burning was reduced by 1,171 metric tons. 257 furnaces were replaced with system heat, 226 ones with gas heating and 25 ones with electric heating. This also led to a consistent reduction of emissions of particulate matters.

Seeing the success of the first Kawka project, the city of Poznań, together with Veolia, decided to have a second round on the period 2018-2020, to connect 8 new buildings to the district heating system.

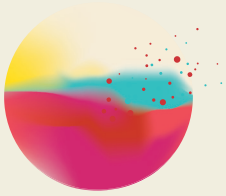
A holistic approach of decarbonisation: why does it matter?

» The upcoming revision of the Energy Efficiency Directive (EED) aims at a yearly increase of the share of renewables and waste heat in heating and cooling by 2.3% percentage points, as well as in district heating networks.

» The same directive also plans to have a new definition of efficient district heating, which sees an increasing importance of the role of waste heat recovery, especially from renewable sources.

» Decarbonisation is more than about fighting climate change. It is also a matter of public health. Increasing air quality reduces diseases and chronic sickness from citizens, improving the general quality of life but also triggering public savings.

So, embrace the example of Poznań and start embracing a holistic approach of decarbonisation!



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