



Enhancing Communities – InnovationCity Ruhr

A model district spreads its wings

Award-Winning Project

InnovationCity Ruhr

Within the context of InnovationCity Ruhr, climate protection ideas and solutions for living, working, energy, mobility and urban development are being tested and implemented in real life. Thanks to around 300 individual measures – from giving buildings energy-efficiency upgrades, to a carbon-neutral filling station – the pilot area of Bottrop, with its 70,000 inhabitants, is being transformed into a model district for energy efficiency in Germany. And it is now expanding beyond Bottrop's borders, too.

70,000 Bottrop residents
are getting involved in climate protection.

6,086 ac of urban space
are being transformed.

50 % cut in greenhouse
gas emissions
expected in Bottrop by 2020.

38 % of greenhouse
gas emissions
are already guaranteed to be
saved by 2020.

20 additional districts
are to be given access to
Bottrop's expertise.

Around **16** % of all privately-
owned residential
buildings
have already undergone
energy-efficiency upgrades.



City's climate-friendly transformation

70,000 inhabitants and more than 100 partners from business, research and development are helping to implement measures intended to redevelop Bottrop on a climate-friendly basis and enhance quality of life in the city. The objective: to cut greenhouse gas emissions by half by 2020 – in comparison to 2010.

The city is implementing a great many measures to reduce CO₂ emissions. The primary focus is on giving existing private and commercial buildings energy-efficiency upgrades. This affects more than 14,000 buildings. There are also initiatives to green roofs and building frontages, use rainwater efficiently and create air corridors to prevent heat islands. All of these measures together support climate protection and structural change in the urban environment. By the half-way point in 2015, the measures already carried out and secured had reduced CO₂ emissions by around 38 per cent. This corresponds to approximately 100,000 tonnes of CO₂.



“As a result of our wide-ranging mobilisation measures, we have achieved an average energy-efficiency upgrade rate of over 3 per cent a year. The national average is only 0.8 per cent. We want to share this success. Therefore, we are passing our knowledge on through the ‘InnovationCity roll-out.’”

Burkhard Drescher,
Managing Director of Innovation City Management GmbH

Built on good foundations

Since 2010, Innovation City Management GmbH has been working in the 6,086-acres project area to reduce greenhouse gas emissions in the fields of living, working, energy, mobility and city, and to improve the quality of life in Bottrop’s neighbourhoods. At the heart of the project is a ten-year master plan – a long-term approach that provides security to the people who live in the city and to the investors and other companies involved in the InnovationCity Ruhr project.

The quality of the data is particularly revealing. The technical condition of many buildings and their equipment was surveyed in detail and the associated energy consumption data was gathered, while at the same time information about the social characteristics of the district was collected. This has meant that the measures needed to perform the energy-efficiency upgrades can be implemented in a very selective and, therefore, very efficient manner.

Achieving more together

The project team includes experts from different fields and works closely with the relevant stakeholders and interest groups. 62 companies, 27 local craftsman’s workshops, energy consultants and architects, the local savings bank and credit union, universities and research institutions are involved. And this is paying off.

Planned interventions are scientifically monitored and evaluated in the field. This allows the manufacturers involved to adapt and develop their products, thus opening up new markets for the future. Recommended actions and experiences derived from this not only benefit the project, but are also compiled in an innovation handbook and made available to the general public. In addition to this, the team behind InnovationCity has established the “InnovationCity roll-out” to pass its methods and knowledge on to 20 other districts in 17 cities in the Ruhr region.



Many steps towards one goal

The main driving force behind the climate-friendly urban redevelopment in Bottrop is, and will continue to be, the local population. The locals are benefiting in many ways and are actively participating in the research work. 100 homeowners, for example, allowed small cogeneration, or CHP, plants to be installed in their homes. With an efficiency rate of over 90 per cent, this is currently the most efficient form of heating technology available for residential buildings, as it simultaneously produces electricity. Other buildings were converted

into "energy plus" houses with photovoltaic facades and SmartHome systems. But the residents of Bottrop are not just active in the field of building efficiency. The city also boasts a carbon-neutral filling station. Municipal and social institutions have been given free electrically operated scooters for business journeys within the city area. And in one heavily congested area of the city centre, special paving stones use a photocatalytic process to reduce nitrous oxide pollution.



"The new technologies offer a win-win situation. As installation technicians, we can install new heating systems for customers, the customers save money through energy-saving systems and, at the same time, the objective of Innovation City, namely to reduce CO₂ emissions, can be achieved."

Dirk Smit,
Owner of Wilhelm Smit GmbH Heizungsbau San. Installation

A successful model with a bright future

Long before the project is due to finish, it is already showing how much can be achieved in climate protection when stakeholders from business, science, civil society, politics and administration really work hand in hand. The subject has become firmly rooted in the minds of everyone involved – and the 50 per cent reduction in greenhouse gas emissions planned for the model city of Bottrop will be achieved well before 2020. It was for good reason that an announcement was made at ExpoReal in Munich that the concept is to

be rolled out to a further 20 municipalities, thanks to the European Regional Development Fund (ERDF). Following the positive results from Bottrop, the project "InnovationCity Essen|Elting district" was launched back in April 2015. It aims to carry out a comprehensive and sustainable district development in cooperation with companies, private individuals, the city and Innovation City Management GmbH. In the future, many other cities will be able to learn and benefit from this successful model.

Expo Fortschrittmotor
Klimaschutz GmbH

Munscheidstraße 14
45886 Gelsenkirchen
Germany
+49 209-408599-0
post@klimaexpo.nrw
www.klimaexpo.nrw/en

Innovation City Management GmbH

Südring-Center-Promenade 3
46242 Bottrop
Germany
+ 49 2041-705000
info@icruhr.de
www.icruhr.de



On behalf of the state government, KlimaExpo.NRW presents North Rhine-Westphalia's technological, economic and scientific potential for climate protection and adaptation to the impacts of climate change. The initiative is both a showcase and a laboratory of ideas for the state of NRW. Every year, KlimaExpo.NRW presents awards to three projects in four thematic fields, which illustrate climate protection as an engine for progress particularly well.



Rethinking Energy

New ideas are constantly emerging from business, research, municipalities and civil society on how we can fundamentally change our energy systems to be climate-friendly – and how the transformation of the energy system can succeed.



Saving Resources

NRW aims to lower resource consumption and reduce emissions – through new materials, innovative technologies, greater productivity and the promotion of sustainable consumption patterns.



Enhancing Communities

Metropolitan regions shaped by industry, urban districts and rural areas make NRW the ideal showplace for climate-friendly redevelopment of urban infrastructure, reorganising the relationships between cities and rural areas and implementing measures for adapting to climate change.



Shaping Mobility

Passenger and freight transport should be efficient and climate-friendly. NRW is addressing this challenge with the development of alternative drives and fuels, and by testing and establishing sustainable mobility concepts.