



Enhancing Communities – Saerbeck Climate Community

A town on the way to a climate-friendly future

Award-Winning Project

Saerbeck Climate Community

The town of Saerbeck in the Münsterland region is taking climate protection and the production of renewable energy to a new level. The local Bioenergy Park generates power from wind, solar energy and biogas and is home to a large composting facility which recovers energy and material from organic waste. In addition to this, there are solar installations on private roofs, a central heating station behind glass, a renewable heating network for public buildings such as kindergartens, schools and churches, as well as an energy experience trail and an extracurricular learning site – a highly diverse range of projects.

Over **400** photovoltaic systems

have been installed on the roofs of private homes.

350 % of the community's own energy needs

are made through renewable energies.

29 MWh capacity

is achieved by the new Bioenergy Park.

7 wind turbines

belonging to local investors generate power.

2 biogas plants

produce electricity and heat.



Community effort to transform the energy system

In 2008, 7,200 inhabitants of Saerbeck came together to promote climate protection and to become energy self-sufficient by 2030. Actually a great deal: there is produced much more renewable electricity than is consumed locally. The next steps are the transformation of the local heating system (CHP model community) and the implementation of a climate-friendly mobility. The key to success: Energy transition and climate protection are a common task of the whole city.

150 individual measures have been developed, seven fields of action points have been identified and three lead projects are driven forward. "Saerbecker Sonnenseite" ("Saerbeck's Sunny Side"), "Saerbecker Einsichten" ("Saerbeck Insights") and "Steinfurter Stoffströme" ("Steinfurt Material Flows") already cover 350 per cent of the municipality's own power requirements. Many citizens have invested in the local systems, ensuring a high level of local added value. Climate education projects in schools and kindergartens, plus regular energy meetings teach young and old about climate protection, secure jobs and the level of participation of the people of Saerbeck.



“For us, Fukushima was grist to the mill. At that time, Germany’s decision to phase out nuclear power set the course for renewable energies to not only replace all fossil fuels, but nuclear energy, too. This was not only thought but really done in Saerbeck.”

Wilfried Roos,
Mayor of Saerbeck Climate Community

Renewables instead of munitions

Within the context of the key project “Steinfurt Material Flows”, the Saerbeck community has been working since 2011 to transform a 222-acres former ammunition camp munitions depot into a bioenergy park – offering all forms of renewable energies. Six megawatts of photovoltaic modules have been installed on bunker roofs. Seven wind turbines support the feed-in of electricity. A biogas plant has been included in the mix, which is supplied with renewable raw materials by a cooperation formed by seventeen farmers from Saerbeck and the surrounding area.

The composting facility is a particular highlight. It is also sited on the bioenergy park and is one of the most advanced organic waste processing plants in Europe, generating energy and making compost from the region’s household waste. Since January 2014, approximately 45,000 tonnes of organic waste from the Steinfurt district have been utilised to recover energy and materials every year.

Future energies made transparent

Anyone who wants to better understand energy efficiency, the saving of resources and renewable energy can get an interesting introduction to these issues through the flagship project, “Saerbeck Insights”. For example, behind a glass facade on the ground floor of the former high school, the Climate Community’s transparent central heating system operates two large wooden pellet plants boilers, which supply heat to all of the public buildings in the school and sports complex. The parish church is also connected to the 1.4-kilometre local heating network. Thus, the community not only saves energy and carbon dioxide, but also makes significant cost savings.

The Saerbeck energy experience path is also highly informative. People can walk along the local heating network and, at various stops along the way, they can gather information about renewable energy, energy savings and climate-friendly mobility, etc. The energy experience trail is the cornerstone project of a four-stage educational programme on climate policies that extends from kindergartens and schools into adult education and universities. At the bioenergy park, there is a research base belonging to Münster University of Applied Sciences, as well as an extracurricular learning site – “Saerbecker Energiewelten” (“Saerbeck Energy Worlds”).



On the Sunny Side

“Saerbeck’s Sunny Side” is another key project in the switching to renewable energy sources. It was launched in 2009, and, other things, has resulted in more than 400 photovoltaic installations on the roofs of private homes, agricultural holdings and commercial establishments. The roots were laid as a school project of the local comprehensive school. The pupils were investigating which roofs were suitable for solar panels in terms of their orientation and pitch, and conducted a survey of every household in Saerbeck. Today, all

solar cells deliver 9.9 megawatt peak of extra power to the bioenergy park. Further steps are planned to keep Saerbeck on the sunny side. For example, several electricity storage projects are expected to provide information on how Saerbeck will be able to store the power generated in a most efficient way. Power-to-gas technology is also being researched.

“Local climate protection in Saerbeck creates genuine added value for all of us. And this is the best motivation for actively driving this issue forward in a sustainable way.”

Guido Wallraven,
Project Manager, Saerbeck Climate Community



Climate protection as an engine for business and jobs

The Saerbeck Climate Community shows how the transformation of the energy system can be driven forward while demonstrating how climate-friendly local development can be achieved at the same time. This great commitment to climate protection is also rewarded with local added value. Several companies have been established at the new bioenergy park since 2011 and all capital investments were realised using local financial resources. Around 50 new jobs have been created, including 35 positions for handicapped people with disabilities. The town’s climate protection measures are also

opening up new economic opportunities and strengthening the community’s independence. The rental income from the Bioenergy Park, additional business tax revenues and, last but not least, the revenue from the Bioenergy Park’s own wind turbine make a substantial contribution to this. The electricity produced at the biogas plant is delivered to the households in Saerbeck. One thing is certain: Saerbeck is leading by example with its exceptional overall performance. More than 50,000 visitors from all over the world have already shown their interest.

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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.