POCACITO

european post-carbon cities of tomorrow

Rostock Strategy Paper

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ROSTOCK AS A POST-CARBON CITY 2050 - STRATEGY DOCUMENT, ENGLISH SUMMARY

ECOLOGIC INSTITUT, Berlin, August 2016

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SUMMARY

This strategy paper aims to support the efforts undertaken by Rostock on its way to a post-carbon city in 2050. It presents the results of a participation process undertaken and the analyses of selected measures regarding their effectiveness to achieve a 2050 post-carbon city. Furthermore, in an excursus the measures that the EU and the national level – from the viewpoint of stakeholders in Rostock – can implement to support cities are summarised.

A key component of Rostock's climate protection activities is the so called 'Masterplan-process' (Masterplan 100% Klimaschutz), which was conducted in Rostock from 2012-16. The objective of the Masterplan is the reduction of energy demand by 50% by 2050 and of CO_2 emissions by 95% compared to 1990 levels. It includes measures in the public, private and household domain. The participation process conducted as part of the POCACITO process built on this masterplan process and on the goals and measures already set. In total four POCACITO workshops (WS) were held in Rostock between December 2014 and May 2016:

- **Visioning**: in the first WS a vision "Rostock 2050" was developed
- **Backcasting**: in the second WS the way to reach this vision was elaborated
- **Sensitivity**: in the third WS the measures to reach the vision were discussed in more depth
- **Next steps**: in the final WS the results of the POCACITO modelling exercise and the next steps of the Rostock post-carbon process were discussed.

The most important action fields identified were: economy/jobs, mobility, consumption and waste, quality of life for all, demographic change/old age poverty, affordable housing vs. public green space, energy sources/efficiency and connection to the surrounding region.

The main actors working towards these goals are the 'climate protection control centre' ('Klimaschutzsleitstelle') of the Agency for the Environment in Rostock and the energy alliance ('Energiebündnis'). In the alliance actors from the energy sector and energy consumers (e.g. the municipal utilities; WIRO, the biggest local residential building cooperative; RSAG, the local provider of public transport) cooperate to support the so called 'Energiewende' (energy transition).

The main tool for achieving the vision is the 'Masterplan 100%' which was further developed as part of the POCACITO participation process. Within the Masterplan almost 50 measures were set of which a number are already finalised, while the majority is ongoing. With regard to the action fields described above, broader goals have been set. The *economy/jobs* field shall be fostered with a focus

on the assembly sector and on the already strong economic sectors fisheries and harbour, tourism and agriculture as well as research and development. In order to reduce energy consumption of the *mobility* sector Rostock will become more compact and a city of short distances. Regarding *consumption and waste* a change in diets will be supported. Also a number of milestones on the way to a post-carbon city have been set.

The existing and planned measures have been modelled in the POCACITO project, using two modelling approaches. One approach focused on the city level. The other included the footprint of the inhabitants of Rostock, i.e. the emissions produced and energy used outside Rostock through the consumption generated in Rostock. The latter was calculated using a multi-regional input output model.

Two scenarios were calculated: one *business-as-usual 2050 scenario* (BAU), in which the running and agreed upon measures were included, and the existing trends extrapolated. The second scenario was a *post-carbon 2050 scenario* (PC2050), in which the indicators that have been developed in the participation process and the measures of the 'ambitious version' of the Masterplan were included and projected into the future. The most important results include the following:

In the BAU scenario most indicators show a positive trajectory. Nevertheless, energy consumption declines only marginally, due to a rising population and increased electricity consumption. The biggest reductions are achieved in the transport sector. In the PC2050 scenario the development is significantly better, despite an even bigger increase in population. Energy consumption in the PC2050 scenario is 22.2% lower than in the BAU scenario, in both scenarios most energy is consumed in heating. Greenhouse gas emissions are 693,000 tCO_2e in the BAU2050 scenario and 346,700 CO_2e in the PC2050 scenario. This corresponds to 3.22 tCO_2e and 1.58 tCO_2e per capita respectively. While in the city limits of Rostock great reductions can be achieved in the PC2050 scenario, calculations of the 'footprint' show a very different picture. Already today a major part of Rostock's emissions don't materialise within Rostock, but outside through consumption. This share is to rise considerably in the future: if the consumption of private households and the public sector is taken together, the emissions of Rostock are even expected to rise!

Drawing on these results the paper closes with the most relevant action fields to achieve a post-carbon Rostock 2050. Within the city limits of Rostock these are: heating (efficiency, renewable heat), electricity, transport (consequences of e-mobility) and realising a compact city.

As 90% of the environmental effects of Rostock are expected to materialise outside Rostock, consumption needs to be a major focus to truly achieve a post-carbon city. Important measures include: fostering the local economy and a circular economy, reducing the environmental effects of e-mobility and changing diets, and lowering the impact of food consumption and production.

ANNEX. STAKEHOLDERS : ROSTOCK

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