

US city planners can learn lessons from the successes of Malmö's eco-districts

With the decline and demise of manufacturing industries in many areas across the US, city planners now have an opportunity to introduce policies to make cities more sustainable. [Joan Fitzgerald](#) looks at lessons in sustainability from the Swedish city of Malmö which used its industrial decline in the 1990s as an opportunity to create an eco-district. She writes that through a participatory planning process city planners were able to test the effectiveness of green technologies while building the social infrastructure of neighborhoods. She argues that much of the city's success is a story of effective urban planning and these lessons can be applied anywhere.



About 70 percent of greenhouse gas emissions are produced in cities. The assumption that follows is that municipal action can play a big role in reducing emissions. In fact, dramatic reductions in emissions require policies at the national level—carbon tax, efficiency standards, etc. Yet municipal policy does have a major role to play. One instructive example is Malmö, Sweden, which has been quite successful in achieving aggressive climate action goals. While there are many differences in city powers and funding, planners in US cities can learn a lot from Malmö's experience.

Malmö (population 300,000) is recognized as one of the world's most sustainable cities—quite a transformation for a city that lost one third of its jobs in the late 1980s and early 1990s. Malmö's transition began in 1996 when then mayor Ilmar Reepalu bought a 175-hectare abandoned industrial area from the retreating industries with a vision of creating an eco-district — one that would integrate sustainability strategies being applied throughout the city. The vision was to make Western Harbour a model for the rest of the city and “an internationally leading example of environmental adaptation of a densely built urban environment.”

An opportunity to realize this goal emerged when Malmö was selected as the site the *European Housing Exhibition: the Bo01 City of Tomorrow* and the creation of the neighborhood called Bo01. The eco-district was developed in the context of ambitious citywide sustainability plans with the goal of becoming climate-neutral by 2020 and to run entirely on renewable energy by 2030.

With a blank slate—a restored brownfield site—planners could integrate all aspects of its sustainability approach in the eco-district. Transportation measures privilege bikes and walking, while private car travel is made less convenient. Many streets are designated as taxi, bus and bicycle only, resulting in nearly 40 percent of commuting being made by bike, using Malmö's 420 kilometers of bike paths.

Energy efficiency and renewable energy are key aspects of Western Harbour. City planners set a goal of a total energy consumption rate of 105 kilowatt hour per square meter per year for construction of 450 apartments—about half of typical Malmö housing but below Sweden's then standard of 110 kWh per square meter for new construction.



Malmö B001 neighborhood Credit: [free range jace](#) (Flickr, [CC-BY-NC-SA-2.0](#))

With these goals in mind, planners invited architects, developers and construction companies to submit plans to develop the parcels. City planners from relevant departments frequently met with the architects, developers, and construction companies to discuss how to achieve the goals. They mutually established building standards for materials, energy, systems technology and green space.

The goal for Bo01 to be powered completely by renewable energy was achieved, but energy efficiency standards were not. So the city instituted a participatory planning process, the *Building and Living Dialogue*, which engaged city representatives, property developers, architects and construction firms in a mandatory series of meetings on energy efficiency, renewable energy, green space planning, safety and affordability for planning the second phase of Western Harbour, *Flagghusen* (Bo02). Participants toured the best performing buildings in Bo01 and studied passive buildings. In addition to testing new approaches in construction and building systems, the Dialogue required competitors to work cooperatively.

City planners wanted to ensure that the energy efficiency goal in Bo02 was actually achieved, so the standard was raised to 120-kilowatt hours per square meter and a better monitoring system was implemented to ensure all buildings reached this goal. The goal was surpassed and two buildings even reached passive house standard (about 55-kilowatt hours per square meter per year). Buoyed by their success in Bo02, participants agreed to further increase standards in the third phase, *Fullriggaren* (Bo03)

But to really claim success, the city planning team knew that the same ambitious goals had to work for redeveloping existing neighborhoods, particularly lower income neighbourhoods. So, similar strategies are being applied in *Rosengård*, a social housing complex in a predominately immigrant with considerable social conflict. Here, Malmö aims to demonstrate how to redevelop a troubled neighborhood with a focus on environmental technology and increased social and economic integration with the rest of the city.

Malmö has applied the eco-district concepts in several neighborhoods and uses each as an opportunity to test new systems. In Augustenborg, the city tested green stormwater infrastructure and established an institute to study green roofs. *Sege Park*, a housing/ industrial district, has become Malmö's test bed for renewable energy, with the goal that all of its power will be produced from renewable sources. It is home to Scandinavia's largest solar photovoltaic

array – a 1,250-meter installation on a hospital roof. This bold installation draws attention and creates dialogue on renewable energy. A small 25kW wind turbine tested in Sege Park is now used in other parts of Malmö. In each case, city planners have demonstrated the effectiveness of green technologies while building the social infrastructure of neighborhoods.

There are many factors behind Malmö's success—the fact that the city owns most of the land means that it has considerable power in imposing standards on developers. And Swedish cities benefit from considerable national and EU funding to support climate action. In most countries, cities have less fiscal and policy autonomy. Even so, much of the city's success is a story of effective urban planning and these lessons can be applied anywhere.

Malmö teaches us that experimentation is key to innovation in planning. Deputy Mayor Anders Rubin comments, “We don't allow anyone not to innovate and we don't say we haven't done this before. Experimentation is essential to our progress.” He credits hiring young innovative thinkers and promoting knowledge sharing among all city departments as critical to the city's ability to achieve its high goals. Experimentation is done in the context of inter-departmental dialogue and working across departmental silos, as well as with private sector actors.

Learning across departments has been formalized. Project managers from environment and planning departments meet every four to six weeks to discuss how to work together and reflect on ongoing projects. This group began informally and became official in 2012 as a way to ensure that obstacles to cooperation are addressed and good practices become institutionalized.

Malmö deserves its reputation for sustainability planning. But climate action is not all under a city's control. Per capita GHG emissions have declined to 3.4 tons per year (compared to Sweden: 5.6 and USA: 17.6 tons in 2010). While some of this is due to city action, the decline of the shipbuilding industry has also had a significant impact on reducing Malmö's emissions – perhaps even more than its sustainability planning. And emissions are rising due to the opening of E-ON's natural gas fired CHP plant in 2009, increasing Malmö's emissions for the first time in over a decade and demonstrating the role that industry still plays influencing Malmö's emission reduction efforts. It seems that even with the most aggressive sustainability planning, progress is two steps forward, one step backwards.

*This article is based on the paper ‘[Eco-districts: Can they accelerate urban climate planning?](#)’ in *Environment and Planning C: Government and Policy*, coauthored with [Jennifer Lenhart](#) of Wageningen University.*

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Joan Fitzgerald is a Professor in the School of Public Policy and Urban Affairs at Northeastern University. Her research focuses on urban climate governance and the connections between urban sustainability and economic development and innovation. Her third book, [Emerald Cities: Urban Sustainability and Economic Development](#) (Oxford Univ. Press), examines how cities are creating economic development opportunities in several green sectors and discusses the state and national policy needed to support these efforts. Emerald Cities builds on her 2002 book, *Economic Revitalization: Strategies and Cases for City and Suburb* (Sage), which identifies strategies for incorporating sustainability and social justice goals into urban economic development planning. In 2012 she published a three-volume anthology, *Cities and Sustainability*.



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