

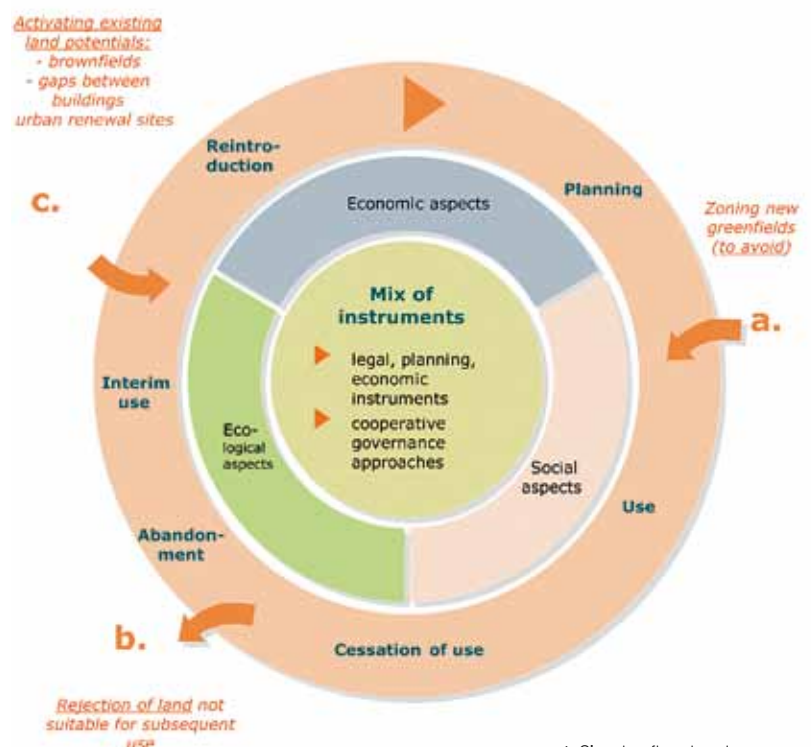
CIRCULAR FLOW LAND USE MANAGEMENT

Anna Starzewska-Sikorska, Jirina Bergatt Jackson, Maic Verbuecheln, Thomas Preuss and Uwe Ferber set out a better approach to regeneration

BACKGROUND

A transition to a green economy demands more sustainable urban land use to limit, among other things, land take and soil sealing by development, as set out by the European Environment Agency's *Roadmap to a Resource Efficient Europe* (COM 2011/571). For decades urban land take in Central and Eastern European (CEE) countries has been rising. Over the last 20 years these regions have been faced with fundamental political and structural changes. The transformation from a socialist to a market economy has left these countries with an exceptionally large burden of dispersed land use patterns. During the transition process, CEE industries rapidly became redundant, unable to compete in terms of efficiency and the marketability of their product ranges. Restructuring and the decline of industries in turn has caused a dramatic increase in the number of brownfield sites. The problem of industrial land inherited from the socialist era is common across cities in the CEE countries and it has started to be seen both as a barrier and an opportunity for further spatial development of these cities and regions.

However, economic growth and the build-up of new infrastructure in post-socialist countries have happened mostly in an unsustainable manner leading to enormous land consumption. This demands better land management, governance skills and a change of land use behaviour in CEE countries. The EU funded project *Circular Flow*



Land Use Management (CircUse) has proposed an approach which supports sustainable urban development and provides examples from CEE countries of how to implement a new land use management approach.

↑ Circular flow land use management: the phases, potentials and instruments. Source: Federal Office for Building and Regional Planning (BBR) (Ed.) (2006): *Perspektive Flächenkreislaufwirtschaft*

MICRO-REGION TRNAVA



THE PRINCIPLES

Circular flow land use management focuses on the potential of developing existing buildings of interest and reusing brownfield sites. The entire lifecycle of a site, from planning to occupation, cessation of use, abandonment, interim use and reintroduction into the economic cycle lies at the heart of this idea. In an ideal scenario, this vision would be accomplished when only land which is currently in use is used for new settlement initiatives. Nevertheless, including small areas of previously unused land for development is not categorically ruled out. Circular flow land use management is an open system: abandoned land without the potential for re-use drops out of the

development cycle, and therefore is no longer included in settlement statistics.

PILOT PROJECTS

Four pilot regions in former socialist countries, among others, have implemented the idea of circular flow land use management using specialised action plans at local or regional levels. The pilot regions are: Trnava in Slovakia, Usti in the Czech Republic, Piekary in Poland, and Freiberg in former East Germany. The results of such action plans can also help Western European countries which in many regions are confronted with economic restructuring processes and huge underused areas e.g. new brownfield sites. The examples show organisational solutions like using local operators land use management, compensation planting for re-greening 'brownfields', brownfield land reuse management plans on micro-regional level, how to combine ERDF funds with national funds, and the development of action plans.

MICRO-REGION TRNAVA (SLOVAKIA)

The municipality of Trnava, with 66,000 inhabitants, is located 40 km east of Bratislava. The Trnava micro-region with 87,000 inhabitants consists of the City of Trnava and twelve other municipalities. During the last decade the region has undergone very dynamic economic development. After the demise of socialism, Western European and Asian companies have invested in new production plants, e.g. the car company PSA (France) or Samsung (South Korea). All these companies have built up their production lines on greenfield sites, which are attractive because of their location along newly built highways and motorway feeders with public investment. Furthermore employees' wages are lower than in Western countries. However, while this has created thousands of new jobs, it has exhausted the capacity of social infrastructure, housing and leisure facilities, as well as creating a shortage of available land for other development in Trnava. This in turn has generated a major population flow towards the suburbs.

The action plan for implementing circular flow land use management in the Trnava micro-region includes the following steps: an inventory of specific information available; a regional workshop with stakeholders; the identification of potential for underused areas and development of a joint strategy; and information dissemination and support for developers.

The delivery of the action plan will be based on an agreement between the City of Trnava and participating municipalities in the suburban micro-region. The main coordination instruments include:

- regular coordination meetings and workshops
- the creation of a strategic development document on the re-use of available underused or abandoned land and properties, and
- a website providing up-to-date information regarding these areas.

The Trnava micro-region has the potential to gain a competitive advantage from the development of networking and inter-communal cooperation. It presents a shift from a competitive to a collaborative strategy across the whole region.

↑ The municipalities of the Micro-Region Trnava. Source: City of Trnava

↑↑ A proposed development study along the river Elbe in Usti nad Labem. Source: The Usti region

REVITALISATION OF BROWNFIELD SITES IN USTI (CZECH REPUBLIC)

The City of Usti, with about 94,000 inhabitants, became heavily industrialised in the 19th century. Industries such as mining and chemicals were the city's economic assets. Since 1990, the economic and social restructuring of the city has created industrial and other brownfield sites (about 12 per cent of the city built up area) in a mixed urban context. In parallel, the Usti region has seen a great increase in urbanised land, which does not reflect population development trends.

The objective of the pilot project in the Usti region was to look more closely at the revitalisation of the brownfield areas of Krásné Brezno and Neštémice. These sites are partially affected by the flood plain of the River Elbe and are frequently bisected by the international rail track running from Berlin to Prague and Vienna. The aim of the pilot project is to improve these districts of the city by identifying and reducing development risks, and making the location more friendly, clean and green. Improvements considered for these areas have several objectives. Firstly they aim to support local entrepreneurial activities, secondly to improve the overall image of the place (one of the gateways to the Czech Republic), and thirdly to change local people's perceptions of the whole area. Considering that this is a large site of approximately 140 hectares with many owners (one of three such sites in Ústí), and that for many years the economic performance of the Ústí region has been in decline, the measures considered to achieve these objectives have to be long term and realistic, and they need to be supported by appropriate organisational structures. For this reason as a first step, an urban concept for the area's potential was drawn up. The next steps are being taken by the City of Ústí which started to prepare a new strategic development document in spring 2013.

REVITALISATION OF BROWNFIELD SITES IN PIEKARY ŚLĄSKIE (POLAND)

Piekary Śląskie is a town in the Katowice agglomeration of Poland, with a population of over 58,000 people. It has a rich industrial past as a centre of mining and metallurgic activities. The population of Piekary Śląskie has been decreasing steadily, and the sustainable development of the town is connected with the redevelopment of brownfield sites located in the Brzeziny Śląskie district.

The tasks for brownfield site redevelopment and marketing have been assigned to the Industrial and Technological Park EkoPark Ltd – established by the city council and a group called Orzel Biały in 2007. In particular, the EkoPark is responsible for the management of sites formerly used for mining activities by preparing ground conditions and infrastructure systems for the sale of these areas for industrial and business purposes. In the CircUse project EkoPark Ltd has been chosen as a model structure for the implementation of the circular land use management concept on areas located in the Brzeziny district in Piekary. At the same time, one of the post-industrial sites in the district (an area of 14 ha) has become a place for investing in re-greening, with tree and shrub planting. The innovative idea of this investment was to combine two functions on a site located between a residential



area and an industrial area. Adjacent to the residential area, a recreation park was established and the remaining land adjacent to the industrial site was designated for buffer planting.

Another innovative concept was connected to ensuring the sustainability of further re-greening and maintenance of the investment area. It was a financial instrument based on using the obligation of compensation planting imposed by Polish law on anyone who removes trees (Nature Protection Law 2004). According to this obligation compensation planting is controlled by the city and directed to the investment site. It means that in practice in each case of compensation planting, the city council indicates the CircUse project investment as a place to fulfil this obligation.

MASTERPLAN FOR A BROWNFIELD SITE REDEVELOPMENT IN FREIBERG (GERMANY)

The city of Freiberg with 40,000 inhabitants and located in the former German Democratic Republic (GDR) is characterised by a medieval historic centre and encompasses industrial urban areas with underground mining. The industrial areas of the city have generally been successfully restructured since 1990. The number of inhabitants of the city is shrinking, but Freiberg has a function as a regional centre with a university and research facilities, and modern technologies, specifically solar panel production, have been established there.

Freiberg intends to pursue inner city development and revitalise large urban brownfield areas for industrial and commercial uses. The main targets include the implementation of the CircUse data management tool to support efficient municipal land management and the implementation of a pilot project. This pilot project concerns the redevelopment of the former porcelain factory Porzelline, which covers more than 4.5 hectares of which about a quarter (11,000 m²) is developed.

In the former GDR era, Porzelline was side-lined, and the site was used for mining before it was reused by Porzelline. A masterplan is to be implemented by local stakeholders under the lead of the development agency SAXONIA GmbH, which also owns the pilot site and is responsible for its development. SAXONIA is partly owned by the City of Freiberg and Middle-Saxonia County, therefore

↑ The former porcelain factory Porzelline in Freiberg. Source: Rene Otparlik

close co-operation with the council is guaranteed. The pilot focuses on safety measures on the site and preparing funding for site development to commence. Before that, the demolition of smaller buildings from GDR times was undertaken using ERDF funds. The main historical buildings of the site will be maintained and refurbished. Ideas were discussed for re-using the buildings for the university or a student hall and part of the action plan is the search for developers for the site.

CONCLUSIONS

In CEE countries there is a strong need to implement a sustainable land use management approach to secure their development potential for housing, industrial and commercial purposes, and to reduce the medium and long term costs of settlement development. CEE regions and cities have taken the first steps towards realising sustainable land use. The implementation of sustainable land use management requires effective co-operation by stakeholders from national, regional, and local levels in order to properly embed the process of circular flow land use management in terms of the concept, organisation and practice. Therefore the existing framework and mosaic of instruments or tools to steer land use have to be applied in a systematic manner. Furthermore there is a need for economic incentives to stimulate stakeholders and decision-makers into reducing land take and strengthening

inner urban development. However, structural funding can be a problem as it is orientated towards economic not spatial goals, often fostering the use of greenfield sites for development. There is currently no 'one size fits all solution' to stop this, but different approaches do exist, such as the introduction of national targets for land consumption or a reorientation of ERDF funding with a focus on more inner urban development issues.

According to the circular flow land use management principle, the development of brownfield sites is not the only solution. There are more options, like a green use in place of complete abandonment or an interim use. Planning alone is not sufficient and management is necessary to prevent speculation, to apply the 'polluter pays' principle and to allocate subsidies reasonably. For the implementation of such solutions support by ERDF funds are available, as in Saxony. Urban design strategies can make brownfield sites more attractive, as demonstrated by the International Building Exhibition (IBA) at Emscher Park or Fürst Pückler Land (both in Germany), as well as in the Nord-Pas-de-Calais (France). ●

SOURCES

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