Energize vacant land

landscape regeneration in shrinking Kerkrade West

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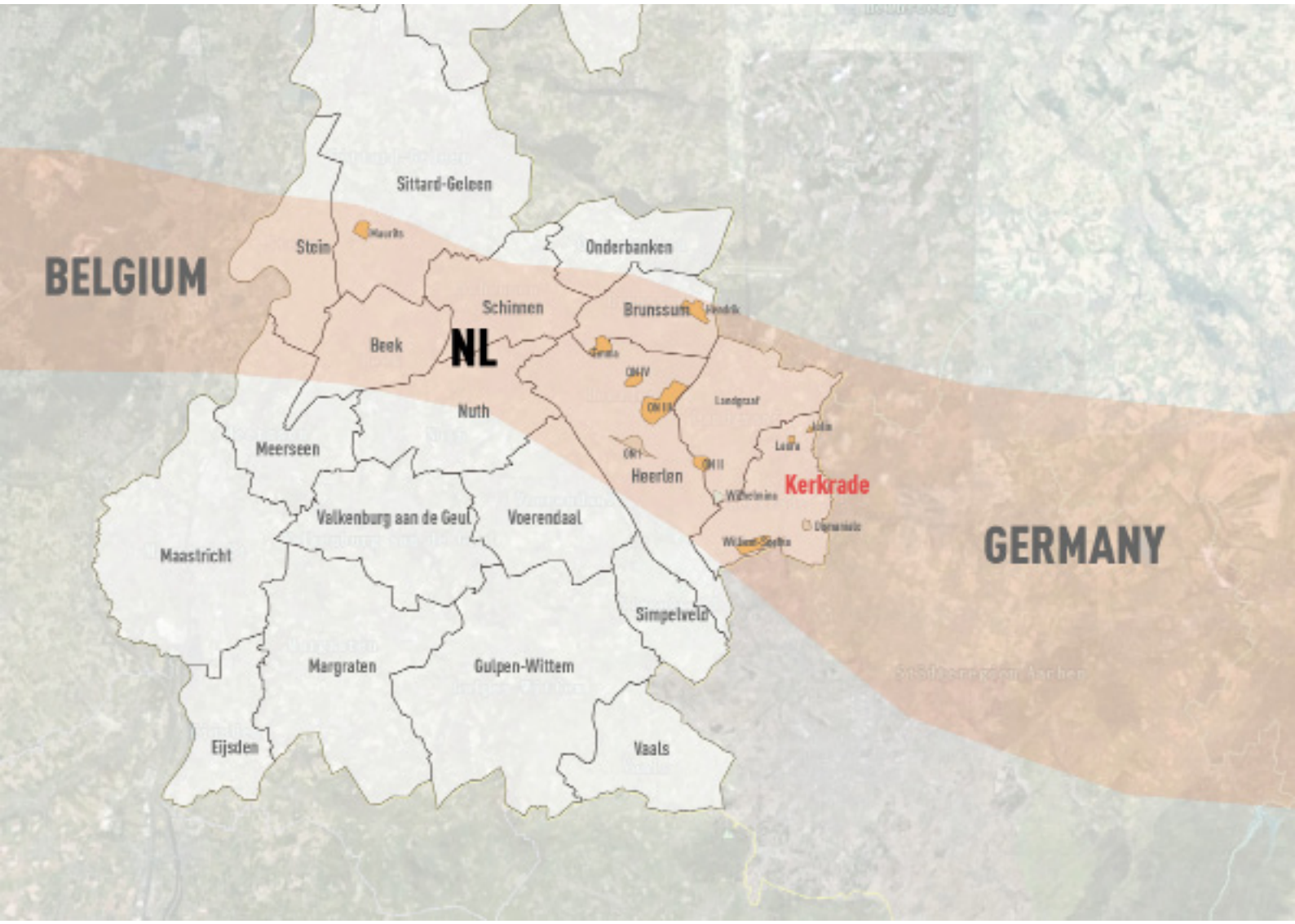


Green Metropolis

Green Metropolis is a project proposed by IBA, combining the most important post mine cities within three countries, Germany, Holland and Belgium.

In the region of Holland, the project hopes to cast a new vision of South Limburg, especially the Parkstad, where new urban development takes on in former industrial cities, together transforming their past mining image to a greener and more sustainable future.

Within this rigion, the research takes Kerkrade West as an experiment site, which is also one of the top five shrinking neighbourhood in Parkstad.

This city is located at the edge between Nl and Germany and has one of the oldest mines in South Limburg but also the most severe problems of shrinkage, unemployment and aging. Moreover it seems that shrinkage for most cities is in fact a result of rapid and unlimited development from the past decades. Different approaches on urban planning are demanded in order to regenerate these areas. Thus it's very important to think about how can this small city get recovered with limited investment, and to what kind of future can be expected and realized?

Landscape as social process

For most cities that are seeking for ways of development, there still are cities suffering population decline, which may even lead to economic loss and environmental deterioration. What strategies can be applied to renovate the urban space in these shrinking cities, how and what kind of role can landscape architects play in this specific situation are what I'd like to study in this project.

Through a variety of researches, it can be drawn that it's very hard to see population recovery in a short-time urban planning, mostly due to the investment pressure and political difficulties. In the research of Just Hollander on shrinking cities, it is described that,

'Fuhrich and Kaltenbrunner (2005) advocate intellectual and political honesty about German shrinking cities, arguing that few are likely to see large-scale growth anytime soon—a point true of almost all shrinking cities. Leipzig was one of the first cities to undergo the painful process of moving from planning for growth toward planning for shrinkage (Glock, 2005). In fact it may be easier to carry out these green urbanism strategies in shrinking cities with more available vacant land and less development pressure (Hollander, 2009). '

The most practical problems that need to be faced are the limitation of financial and political support. Thus how can cities get recovered with limited investment and can develop at an easier pace is the starting point for a landscape approach. According to what is stated above, landscape can really be an instrument to help a city grow at an easier pace. Besides, shrinkage for most cities is in fact resulted from fast and over development in the past few decades. As a result, how come are we going to repeat the history again? Thus, my research really forcus on the understanding of a city's development and how can landscape design integrate with this process.

In other words, Landscape should grow together with the urbanization. They should be effected with each other. In the case of Kerkrade West, how to transform the city from mining city to a sustainable city under limited condition will be shown as an example. Under this notion, the research will start with the study of spatial strategy for shrinking cities and related energy study (according to the regional scenerio and the local energy potential) based on the point view that landscape as social process (respect for the historical context in Kerkrade). During the whole procedure, from the point view of landscape architect, landscape as social process is the start point for all research.

Reference case

the former infrusture kept as a strong image and place essence

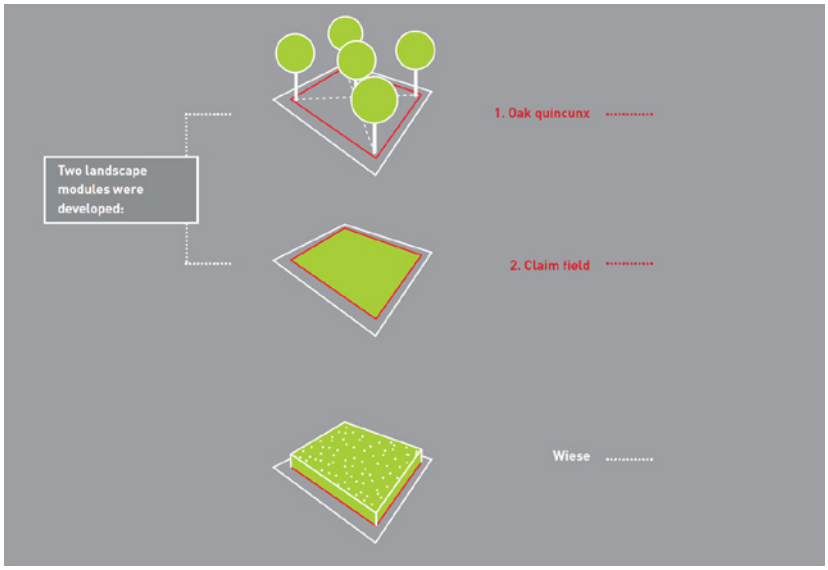
very low price lent to youth who would like to have a career

Hofpleinlijn - Rotterdam

landscape designers work on a book to show how gardens can be operated at very low price

public participation to turn vacant land into gardens

Vacant-land use Pattern book - Detroit



whenever a house breaks down, landscape appears

red to make the existance of a lost building

Pixelation - “Stadtumbau Dessau” planning workshop

Unknown result...

Accordingly, the strategy is mainly to call for the public participation by transferring the property owner from public to private. Thus the land can be operated by certain group of people. Thus, the target constomer needs to be studied. Toolbox and policies need to be made for existing citizen and entrepreneur or new out-comers to customize their property.

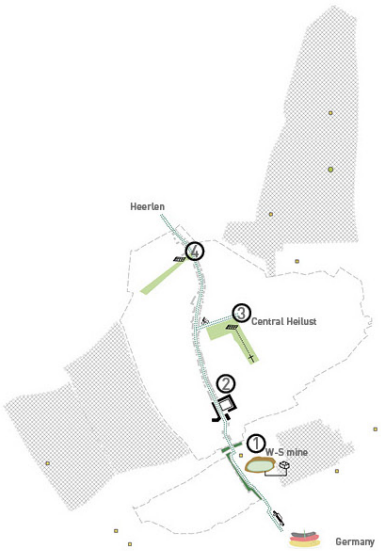
Ahthough the tricky of the project is that the outcome is hard to be estimated, however such uncertainty should not be the reason for not doing anything, neither for everything. As long as we pay for the patience, the outcome will show spontaneously.

As the case of Franzosisches Viertel in Tubingen, Germany, the government don't want to develop monotonous low-rise buildings, which leads to the idea of public participation. The first building took 10 years to complete, but the rest process gradually gather momentum and the district mostly attracts young families who don't want to live in apartment.

Therefore, it can be expected that as long as we make all the gestures and care for the patience, progress will follow!

2015 Emptiness calls for awareness

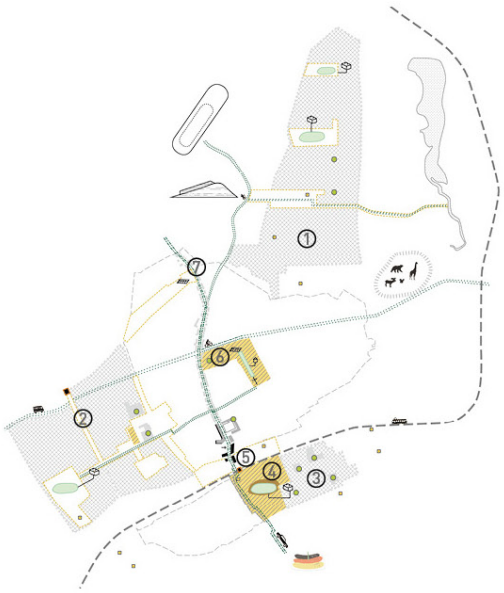
From mining history to shrinking colony
From Parkstad to Germany
Free use and overview of the empty land



① Business Park
② Recycling business
③ Green energy company
④ Post mine into green energy park
⑤ Light rail
⑥ Central Heilust park
(as show case for the operation of shrinking area)
⑦ Walking path to outside recreation area
(with rain drainage system)

2020 Energy as Identity again

Open up the vacant space
Make it accessible
Little programme added



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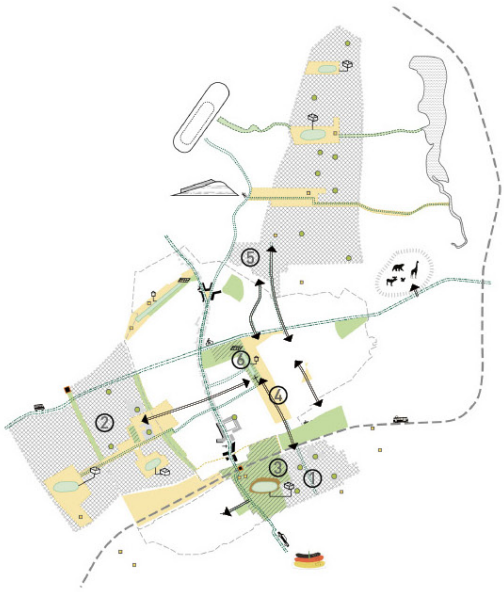
2025 Spontaneous city

Land sale
Public parcitipation!
Neighbourhood & business grow together!



① Green energy business
② Recycling business
③ Green energy experimental lab
④ Green connection
⑤ Productive park in business area
⑥ Productive landscape in neighbourhood

Accordingly, in the case of Kerkrade west, though money may be limited and government's burden may be heavy, with the initiative from citizens, the city still can have a prospective future. What the government needs to do is very simple.

1 Open up the shrinking space
2 Make it accesible and available
3 Infrustructure
4 Guideline & Policy making

Willem-Sophia Mine

Instead of creating a new image for Kerkrade West, the project will take place under the existing situation and re-image the post-mine landscape. Thus firstly, the transformation of the mining site is studied to draw a proper way of intervention later.

Soil type

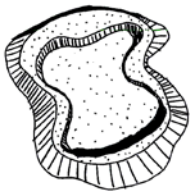
Clay (Original)

Coal

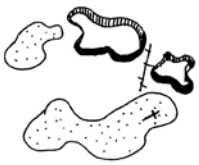
Excatated area

Rock Dump (Existing)

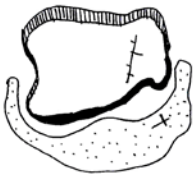
Transformation after the closure of mine



Coal remains in the site



Black soil is the coal that are still used in recycle plant
Red soil is the one that were burnt innerly these years,
so now it has no carbon dioxide inside



Rock dump is re-used in road construction.
All the waste in the site is gradually re-using now, which makes soil gradually disappearing and the shaft turns out.
We can assume that later only small amout of rock dump and coal will remain in the site.

According to the historical transformation, it can be concluded that the soil of rock dump and residual coal will mostly be reused and gradually fading in the site, while the clay underneath will turn out.