

Green Metropolis

Parkstad

Kerkrade West

RESEARCH&METHODOLOGY

Starting Point

Research on shrinking city

Process design

ANALYSIS

Problem statement Possibility assessment

Conclusion

STRATEGY

Bottom up! Case reference

Toolbox

PROCESS PLANNING

Process planning Roles of the up and the bottom Main street as backbone

DESIGN EXPERIMENT

Site choice

Willem-Sophia Mine **Central Heilust**

CONCLUSION

Result assumption

Influence

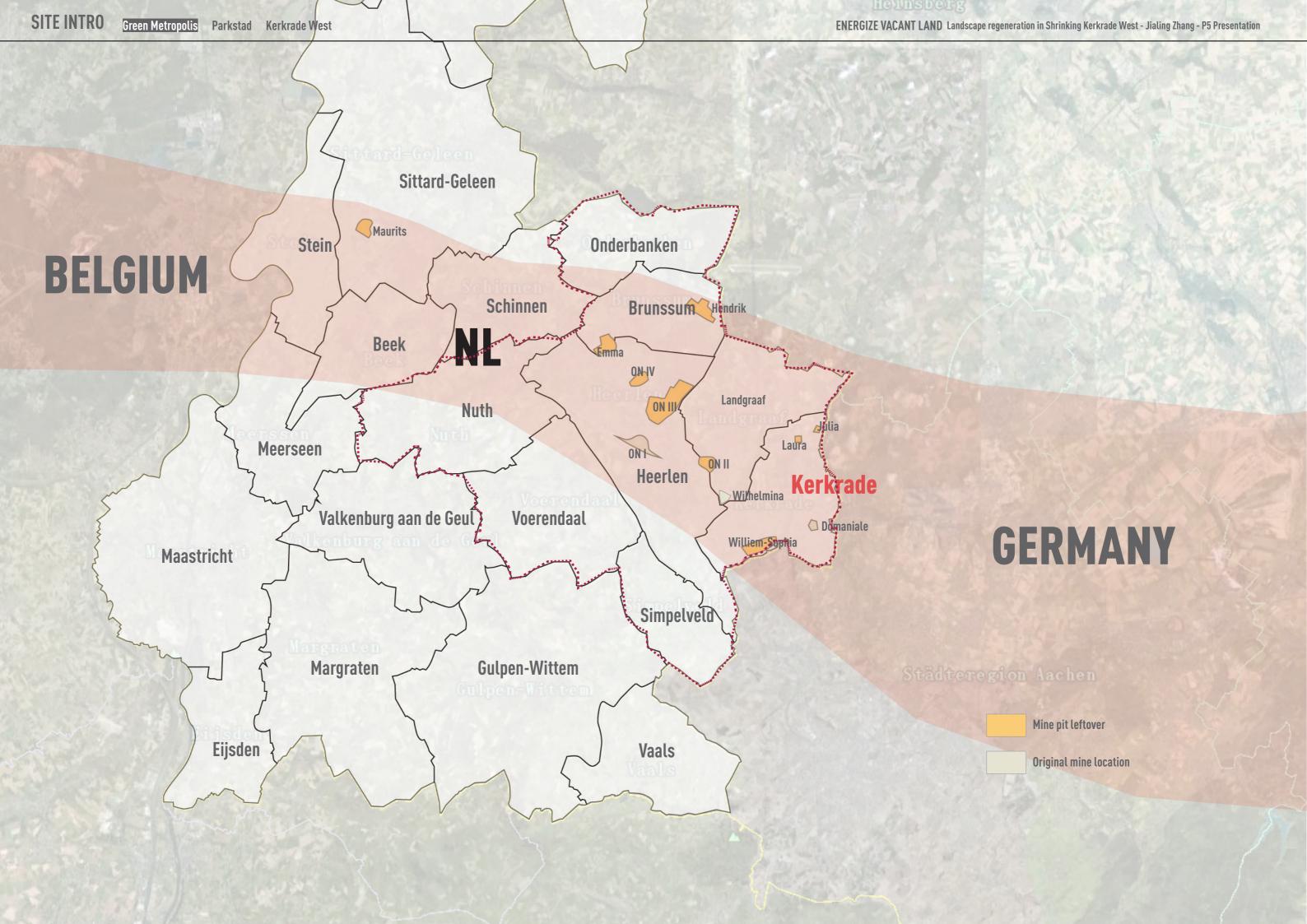
CONTENT

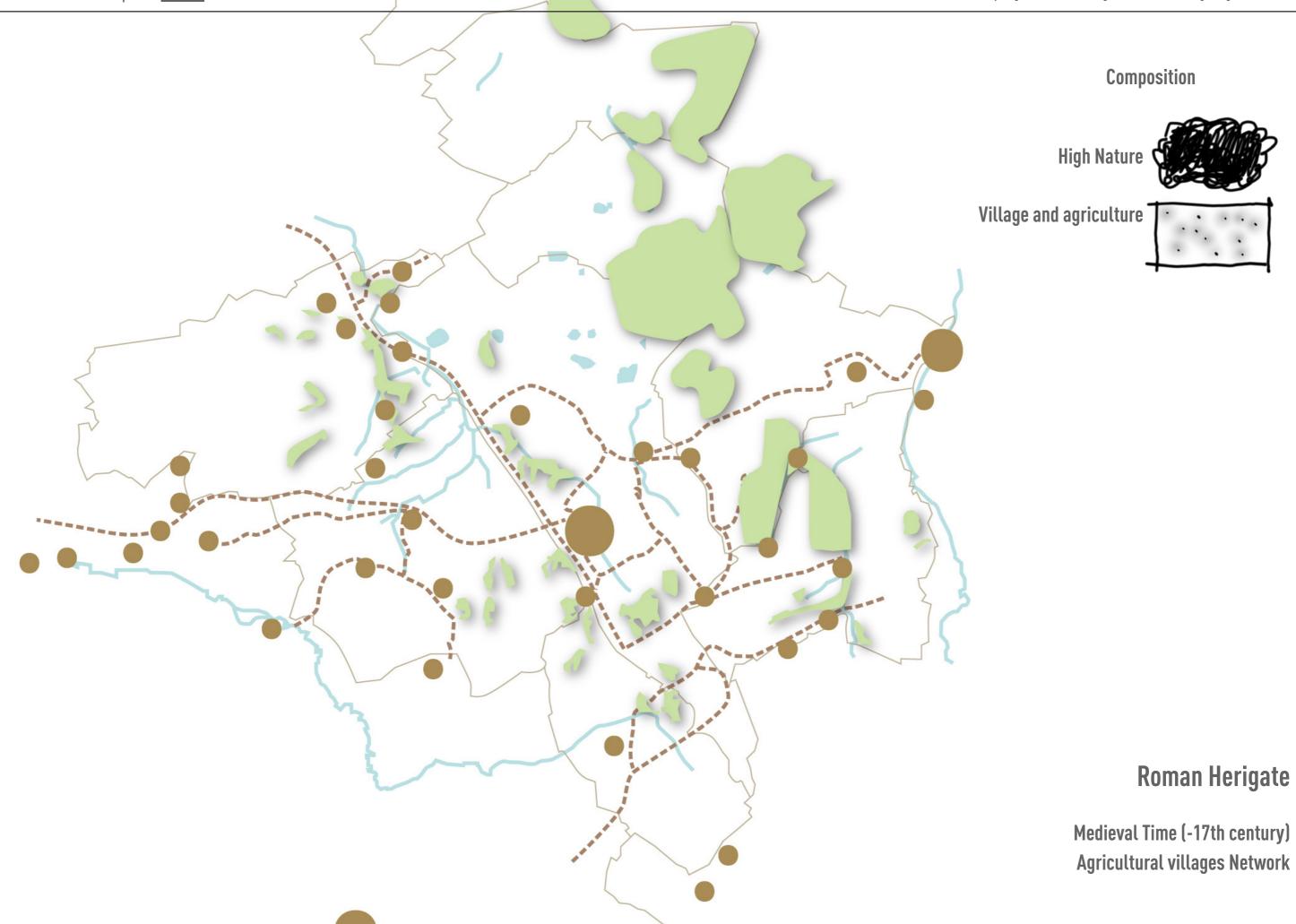
Green Metropolis

Parkstad

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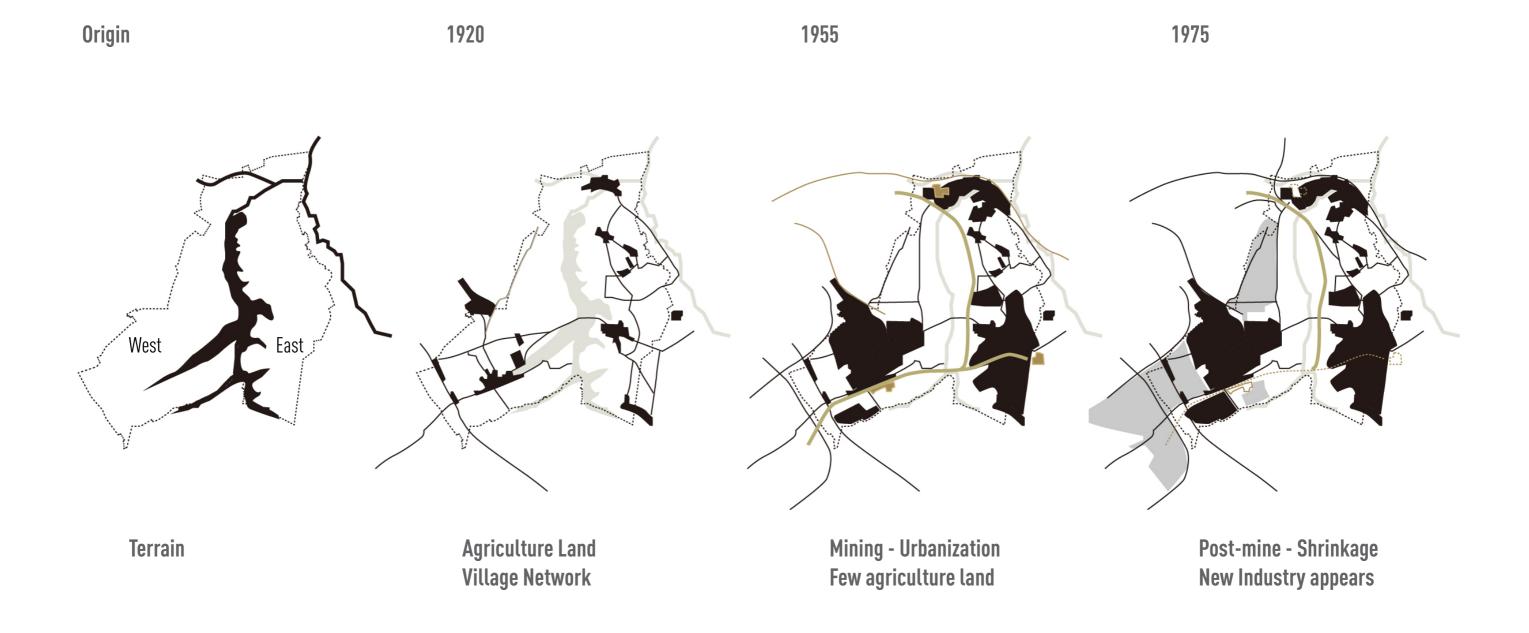


Shrinking

De-Industrial period (1970s-) **Decline of mine**

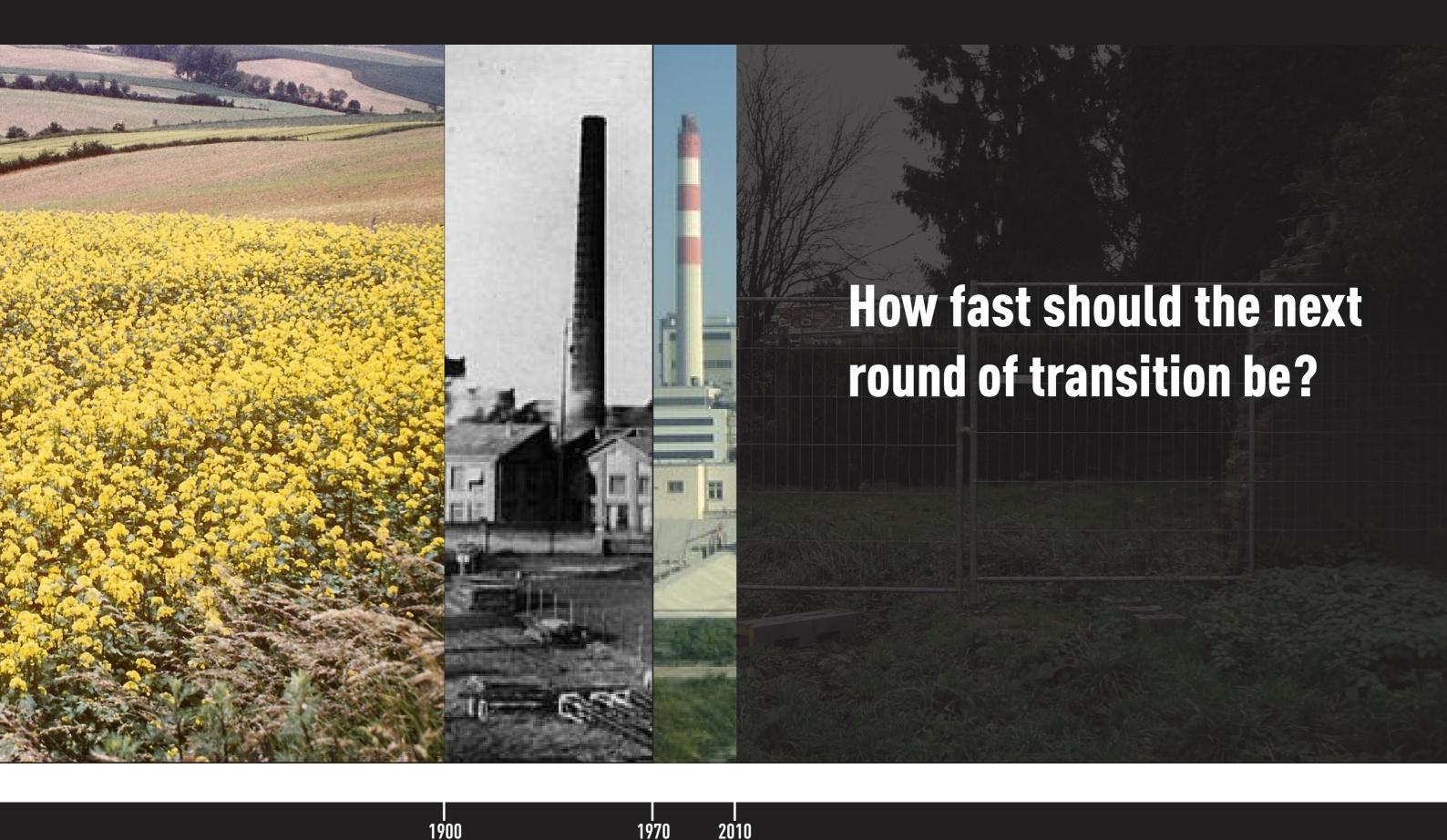
Reference image from IBA project





MINE caused formation and shrinkage ...





Research & Methodology

Starting Point

Research on shrinking city

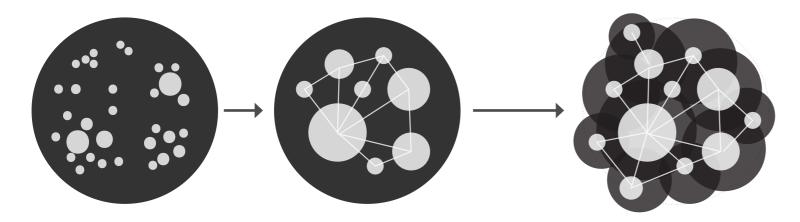
Process design





1900 2010 1970

Spatial strategy

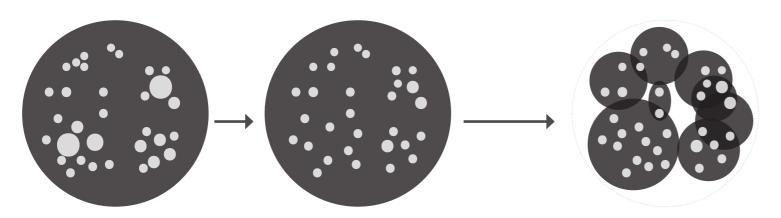


Fascination Image

Urban Islands: Plan for **Growth**

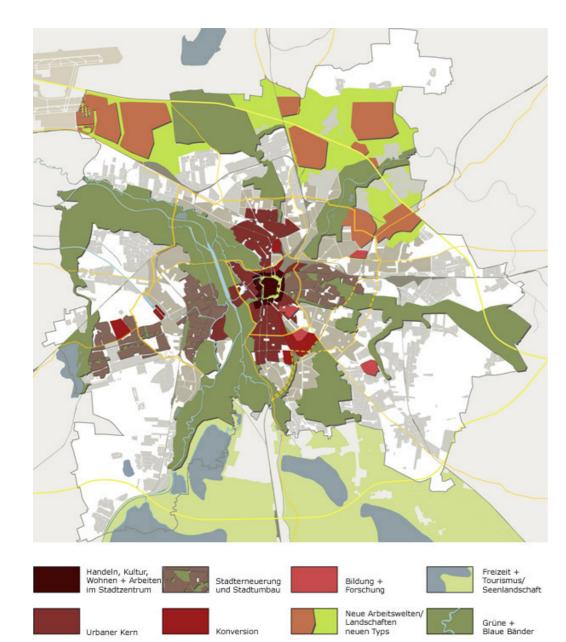
Another round of urbanization?





De-densification: Plan for Shrinkage

City shrinks to a right size. Living quality > Population. Landscape takes over!



2006	2007	2008	2009	2010
506 578	510 512	515 469	518 862	522 883
254 017	247 282	250 018	251 748	253 533
261 561	263 230	265 451	267 114	269 350
474 597	477 724	481 941	486 564	492 686
226 368	228 329	230 729	233 397	236 809
248 229	249 395	251 212	253 167	255 877
31 981	32 788	33 528	32 298	30 197
18 649	18 953	19 289	18 351	16 724
13 332	13 835	14 239	13 947	13 473
	506 578 254 017 261 561 474 597 226 368 248 229 31 981 18 649	506 578 510 512 254 017 247 282 261 561 263 230 474 597 477 724 226 368 228 329 248 229 249 395 31 981 32 788 18 649 18 953	506 578 510 512 515 469 254 017 247 282 250 018 261 561 263 230 265 451 474 597 477 724 481 941 226 368 228 329 230 729 248 229 249 395 251 212 31 981 32 788 33 528 18 649 18 953 19 289	506 578 510 512 515 469 518 862 254 017 247 282 250 018 251 748 261 561 263 230 265 451 267 114 474 597 477 724 481 941 486 564 226 368 228 329 230 729 233 397 248 229 249 395 251 212 253 167 31 981 32 788 33 528 32 298 18 649 18 953 19 289 18 351





Shrinkage becomes Potential! Landscape

as approach!





Reference case

Sell the land

the former infrusture kept as a strong image and place essence very low price lent to youth who would like to have a career

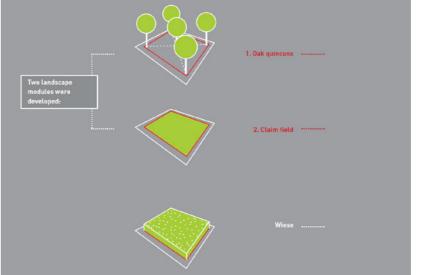
Hofpleinlijn - Rotterdam

One book teaches everything

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

public participation to ture vacant land into gardens

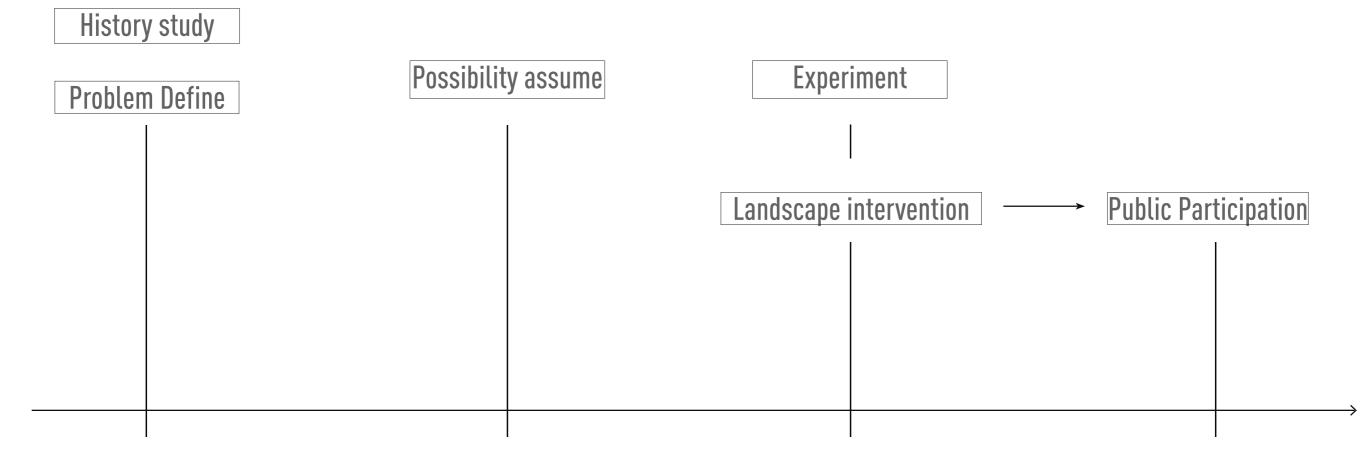
Vacant-land use Pattern book - Detroit



Landscape takes over

whenever a house breaks down, landscape appears red to make the existance of a lost building

Pixelation - "Stadtumbau Dessau" planning workshop



Landscape shows a continuous social process

Stir the process of change

Research of the Landscape approach process

Analysis

Problem statement

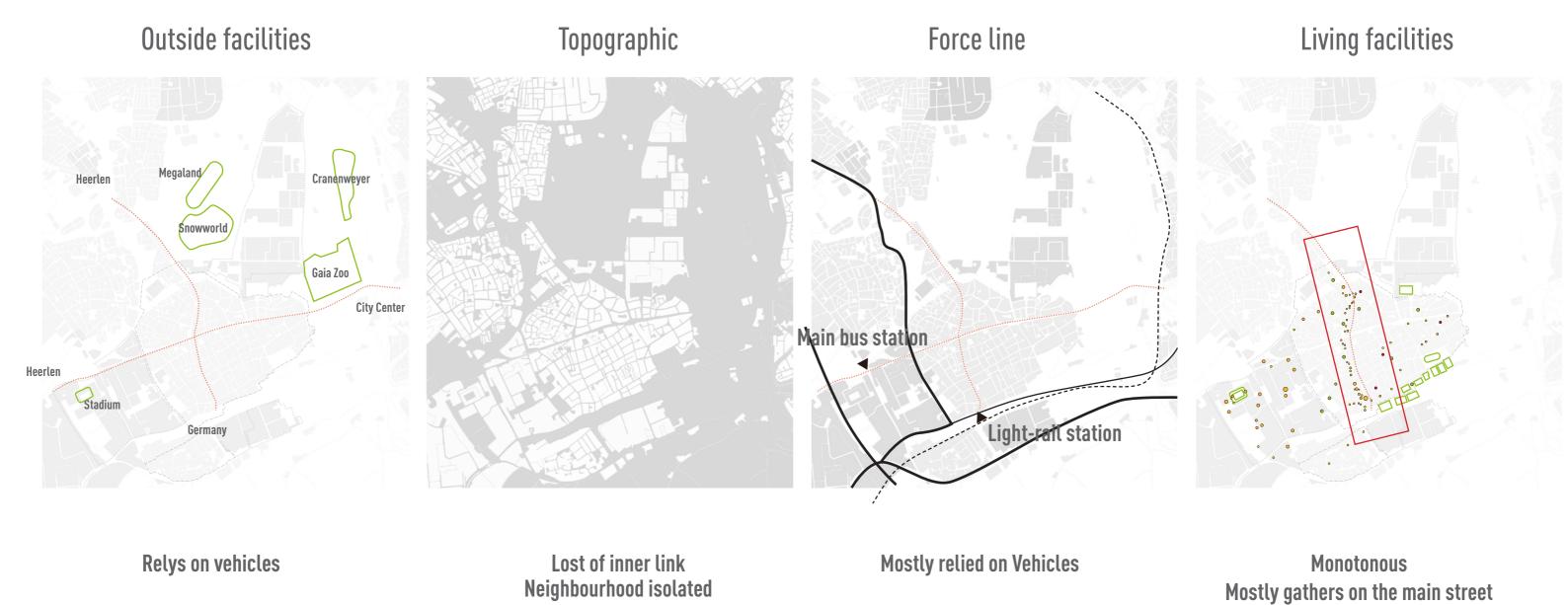
Possibility assessment

Conclusion



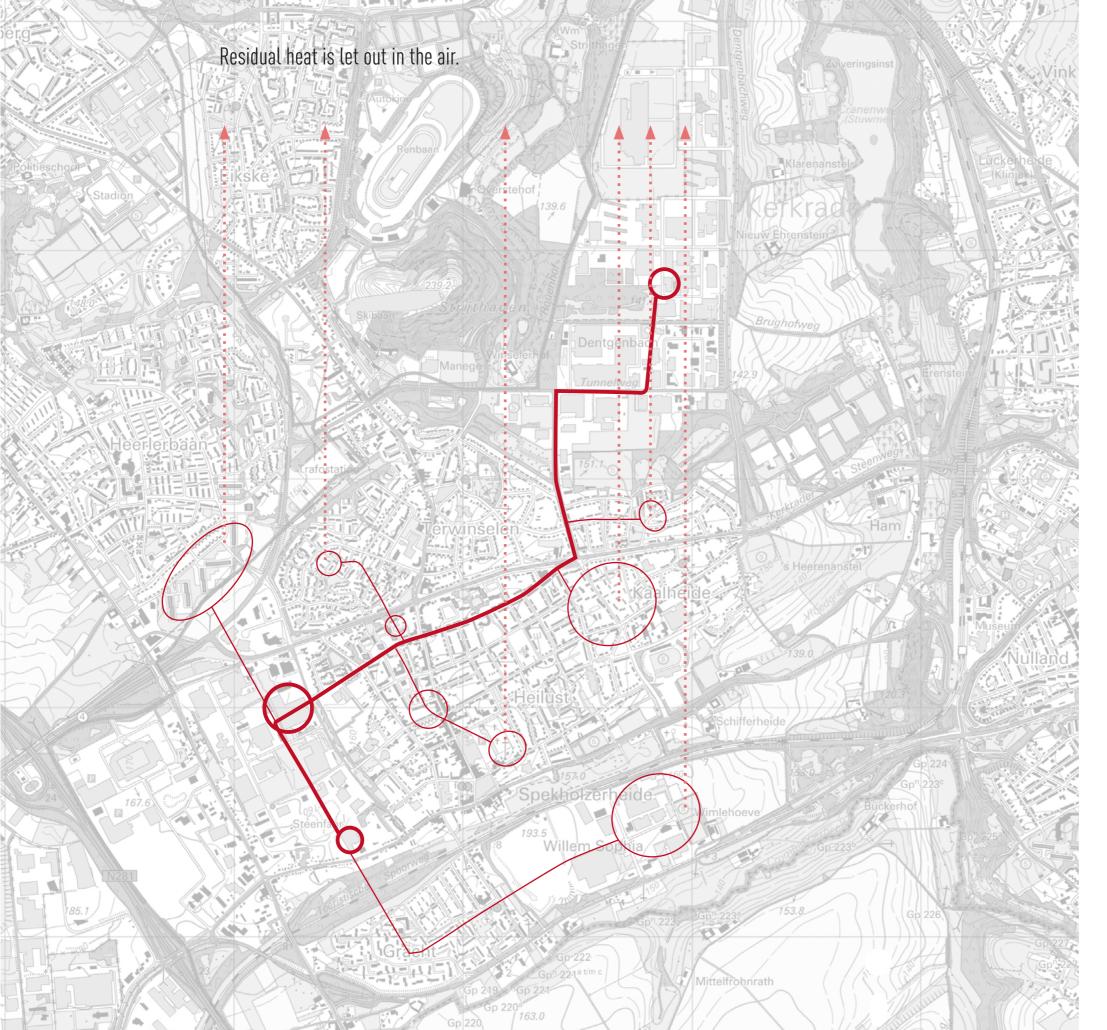






Heating as a big problem

Current business



Heating Grid

Not only demands a lot of heat, but also waste a lot.



Problem list

- 1. Heating demand
- 2. Isolation
- 3. Inner unaccessible
- 4. Monotonous function
- 5. Identity loss

Landscape approach **Shrinking as opportunity**

STRATEGY

BOTTOM UP!

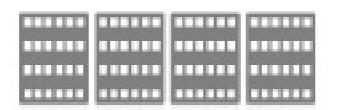
Case Reference

Toolbox

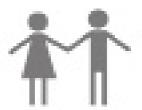




Output



Benefits



Input



Vacant land distribution



Property shifting

Parblic welfare





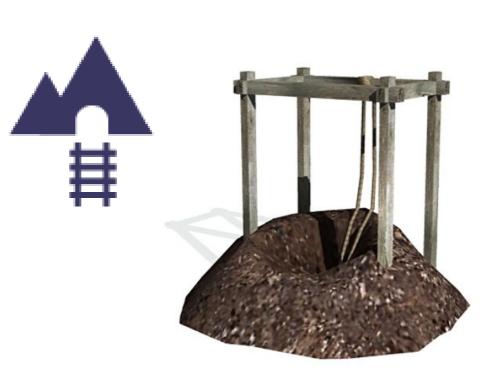


Two strategies in one

Top Down



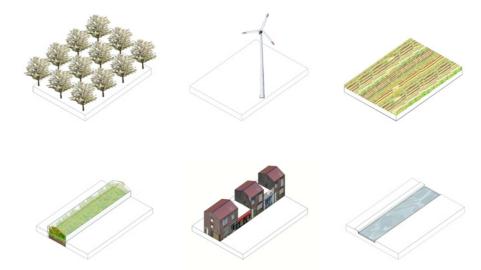
History calls for new image!



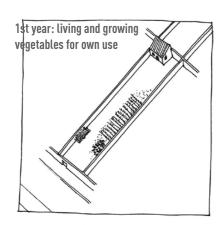
Bottom up



Public Participation



Urbanisation in El Alto, Bolivia



3rd year: opening a shop at the

15th year: exstention of work space, bigger house

street side of the plot

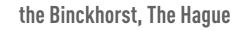
Change from public space to private property

Land Distribution



Urban Acupuncture

Little intervention by cooperating with local entrepreneur



Strategy for the Ca**Urhahn: Urbane Design** improve the transformation, by increasing accessibility of a promenade, adding life on water, by densifying, and by adding housing.

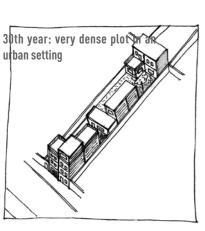






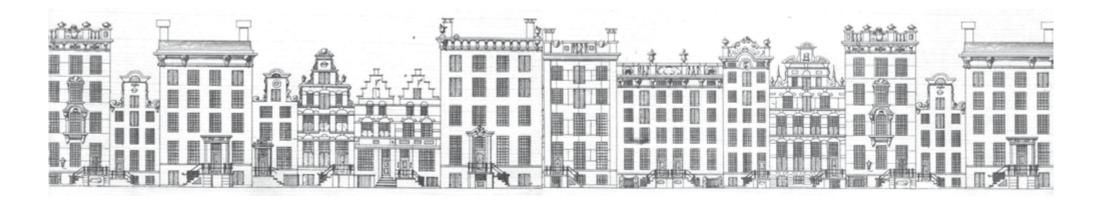




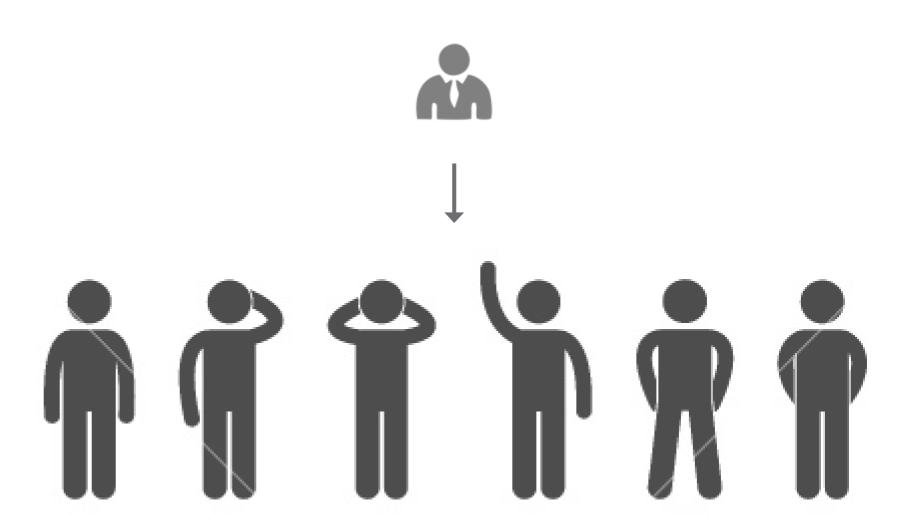








Mostly relys on BOTTOMS UP!

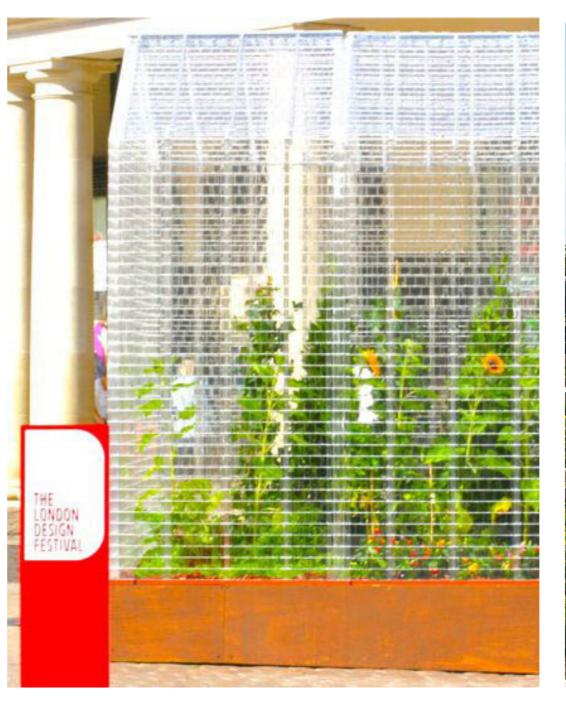


Back to productive landscape!









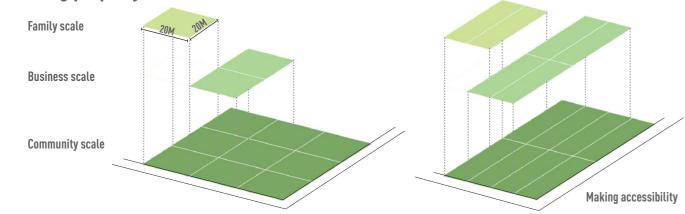


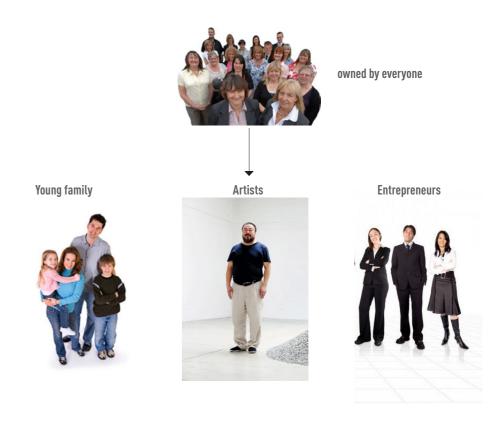
Role of Designer

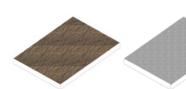
Inspire End users' Fantacy Control on the end product **FREEDOM** Private house/garden Working places Taking possession of left-over spaces **CONTROL** Reprogramming community centers

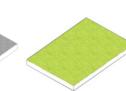
Toolbox







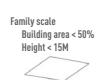












Building Guideline



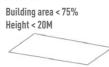










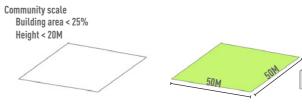














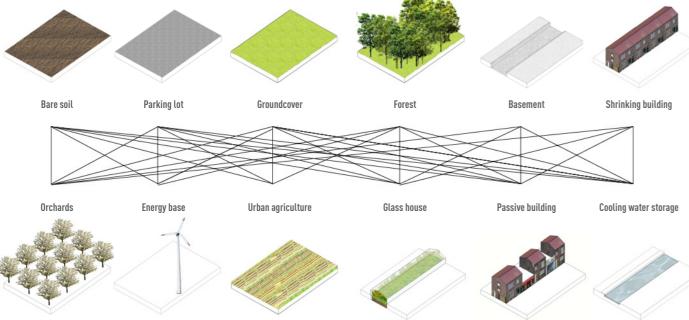




1 Shifting property

2 Guideline

Landscape intervention



SITE INTRO

PROCESS PLANNING

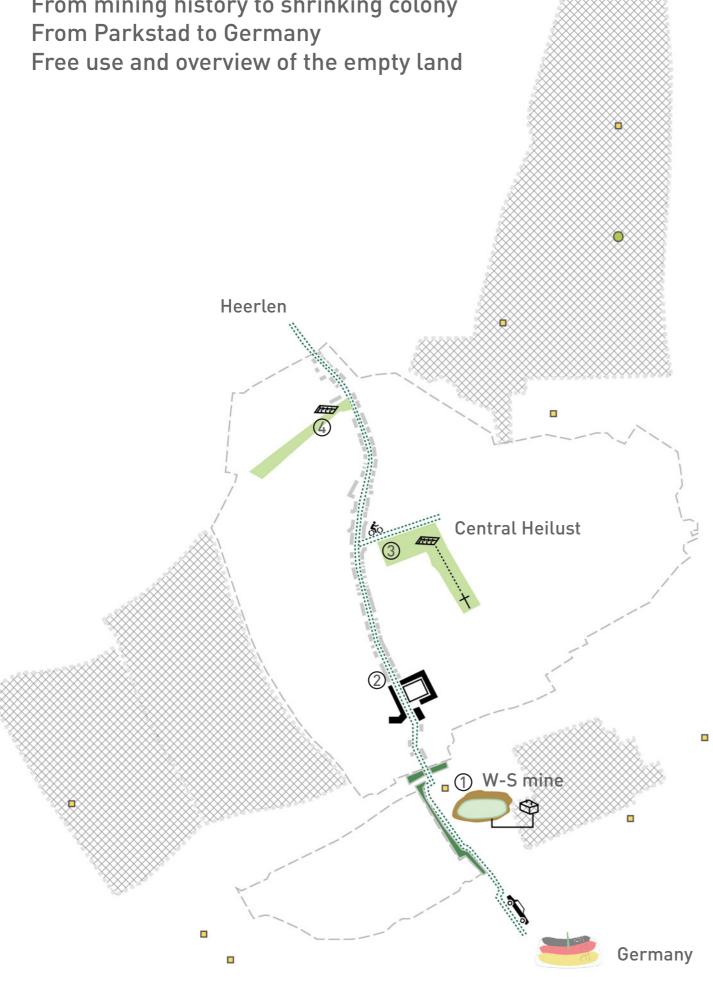
Process planning

Roles of the up and the bottom

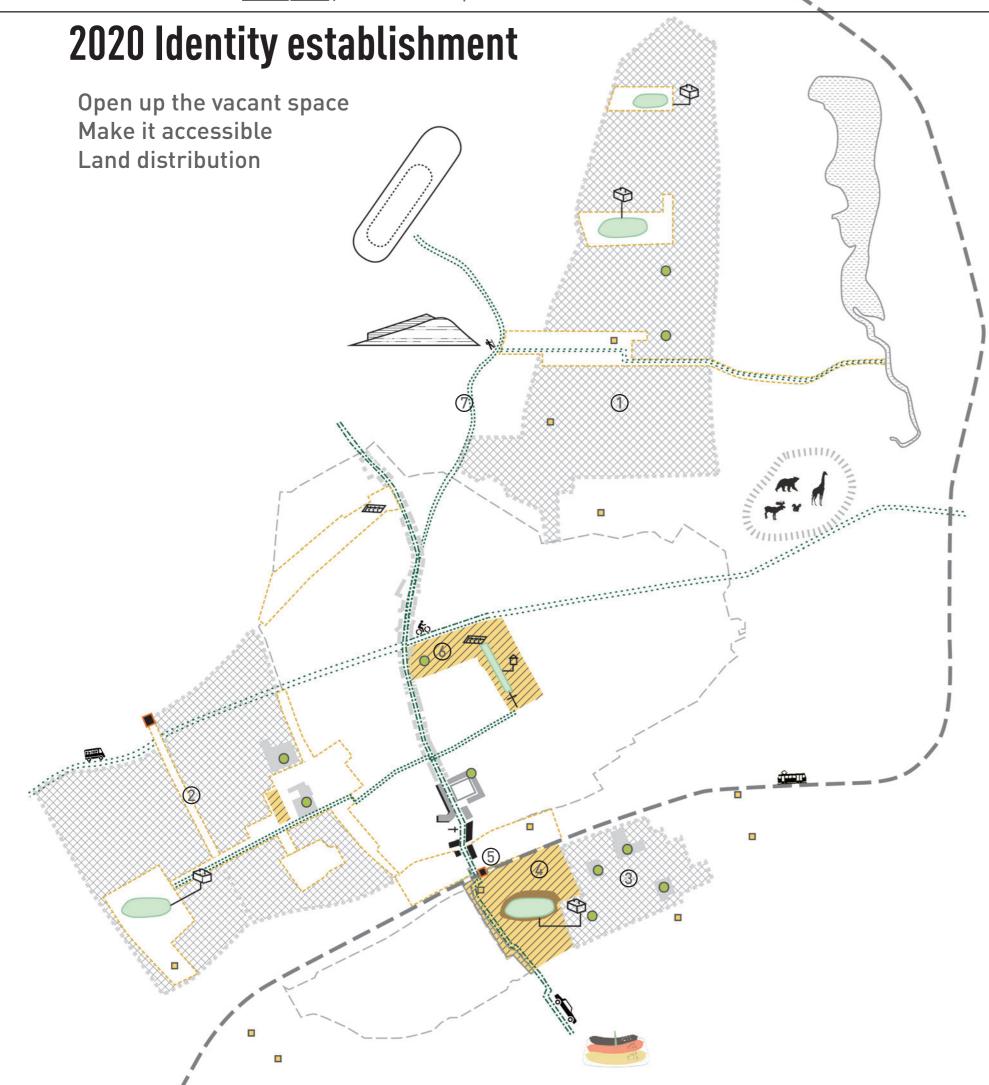
Main street as backbone

How to apply the strategy in to a process planning?

From mining history to shrinking colony



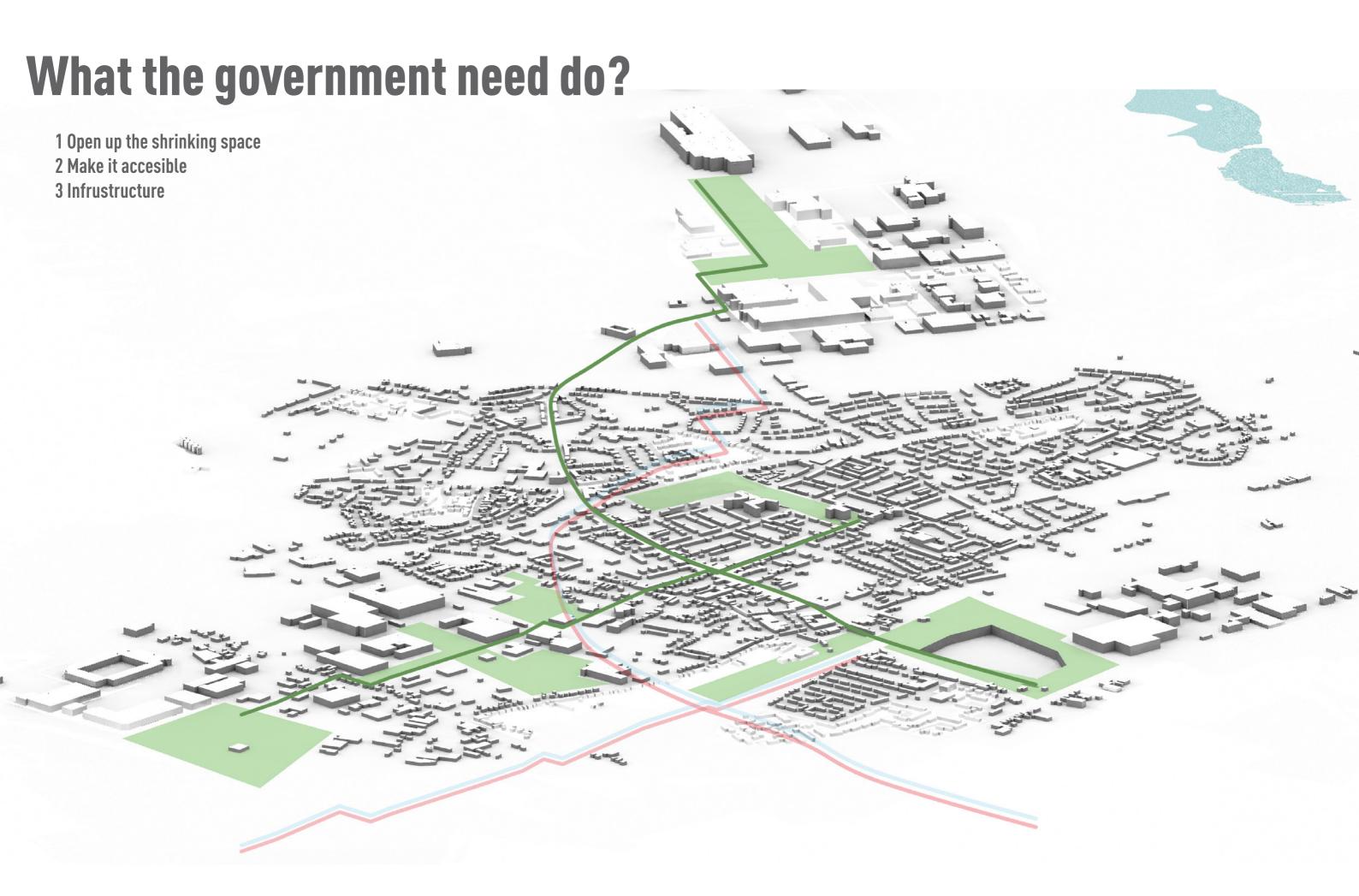
- Industrial land
- Vacant space
- Sustainable road construction
- Government's plan on building
- Basement / Foundation of vacant buildings
- Cooing ponds for industry buildings
- Sustainable business
- Wind turbines
- 1 Waste Mine pit (recovery stage)
- 2 Building for temporary exhibition (photos of old heilust or paintings)
- 3 Memorial place of shrinkage (Free use)
- 4 Vacant space in neighbourhood.



- Industrial land
- Vacant space
- Sustainable road construction
- Government's plan on building
- Basement / Foundation of vacant buildings
- Cooing ponds for industry buildings
- Sustainable business
- Wind turbines
- Church
- Cooling ponds for neighbourhood
- Light Railway
- Shrinking Land for sale
- **Business Park** 1
- 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)
- Walking path to outside recreation area (with rain drainage system)

- Industrial land
- ///// Vacant space
- Sustainable road construction
- Government's plan on building
- Basement / Foundation of vacant buildings
- Cooing ponds for industry buildings
- Sustainable business
- Wind turbines
- † Church
- 全 Cooling ponds for neighbourhood
- — Light Railway
- Public space
- Participation space
- 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

Process planning



What the government need do?



Cooperating with potential group. STAGE IS OFFERED!

Roles of the up and the bottom

Citizens

Process planning



Artists



Youth



Entrepreneurs







Record the shrinking process.

hopes to make a change in the neighbourhood





The drawing of the Old Heilust, created by painter and illustrator Show Willemsen from Heerlen.



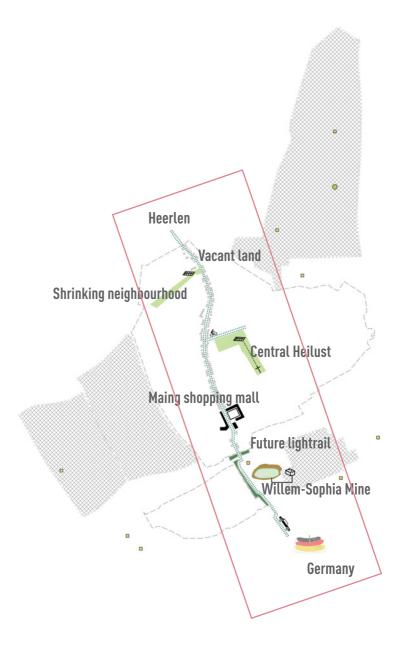
Who wants to start up a career or wants to build their own house.



Who wants to start up a career or wants to build their own house.



Cooperation with various groups of different initiated people Main shopping street as backbone!



legaland'

Germany



Vacant space into productive landscape (working with residents or neighbourhood)

Process planning





Shrinking building transform into studio (working with young people who hopes to start with a career)



Exhibition plaza (working with residents and artists)



Post-mine landscape (working with local entrepreneur)



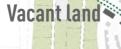
Vacant space into productive landscape (working with residents or neighbourhood)



Central Heilust



Shrinking building









Master Plan of the main street

Problem zone becoming Display zone!



SITE INTRO

DESIGN EXPERIMENT

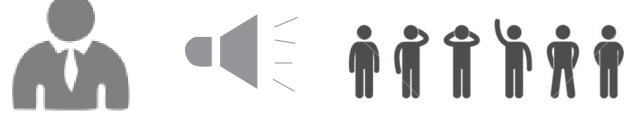
Site choice

Willem-Sophia Mine

Central Heilust

Two guidelines











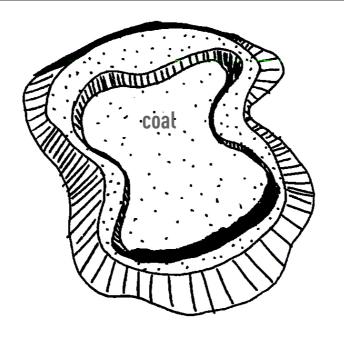




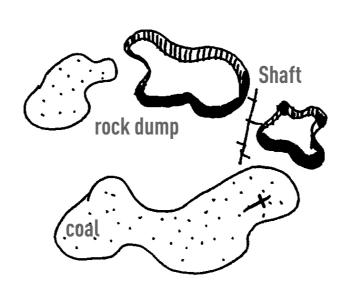




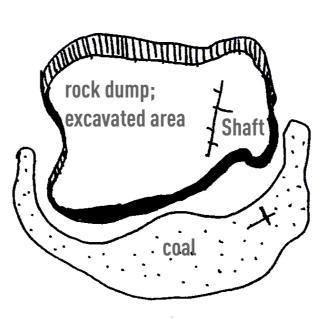




1970 Coal remain



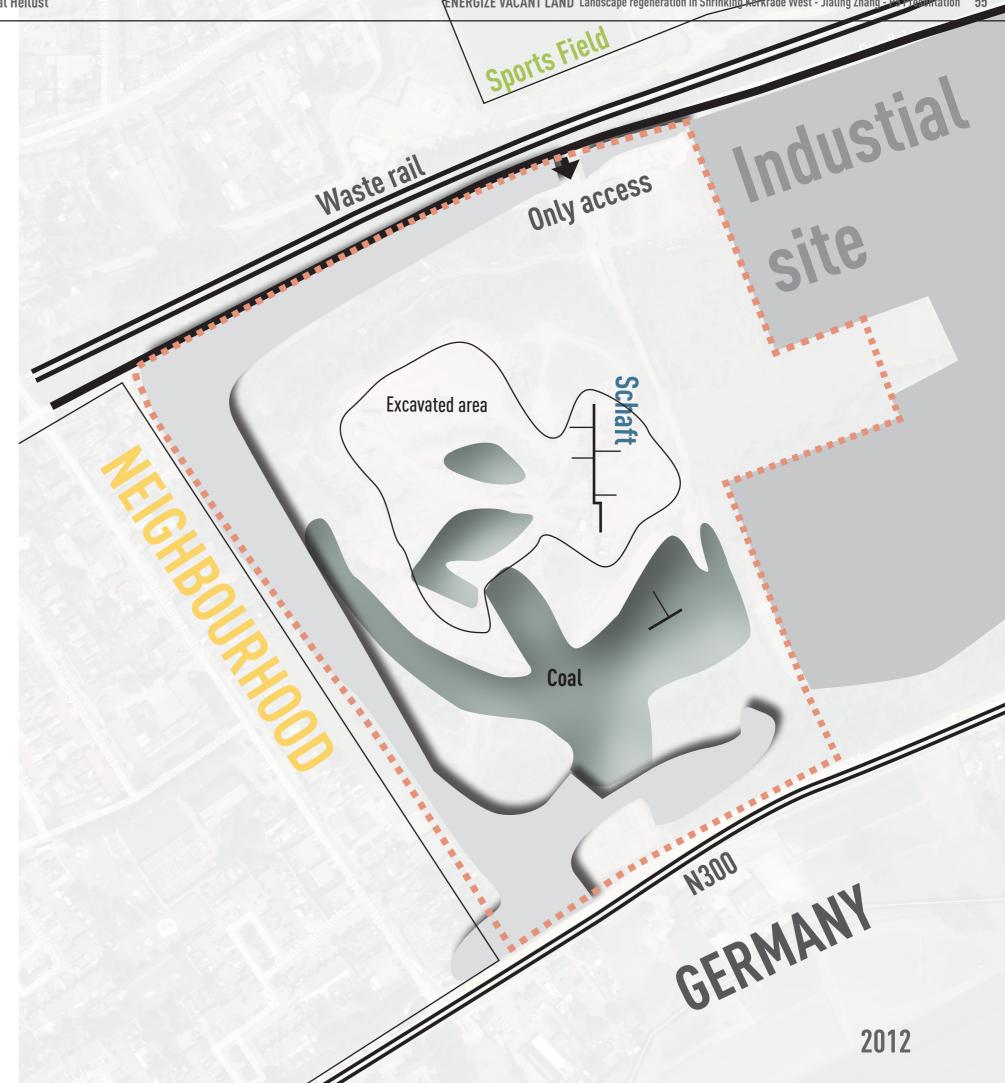
2009 Remain of Rock dump (red) & Coal (Black)



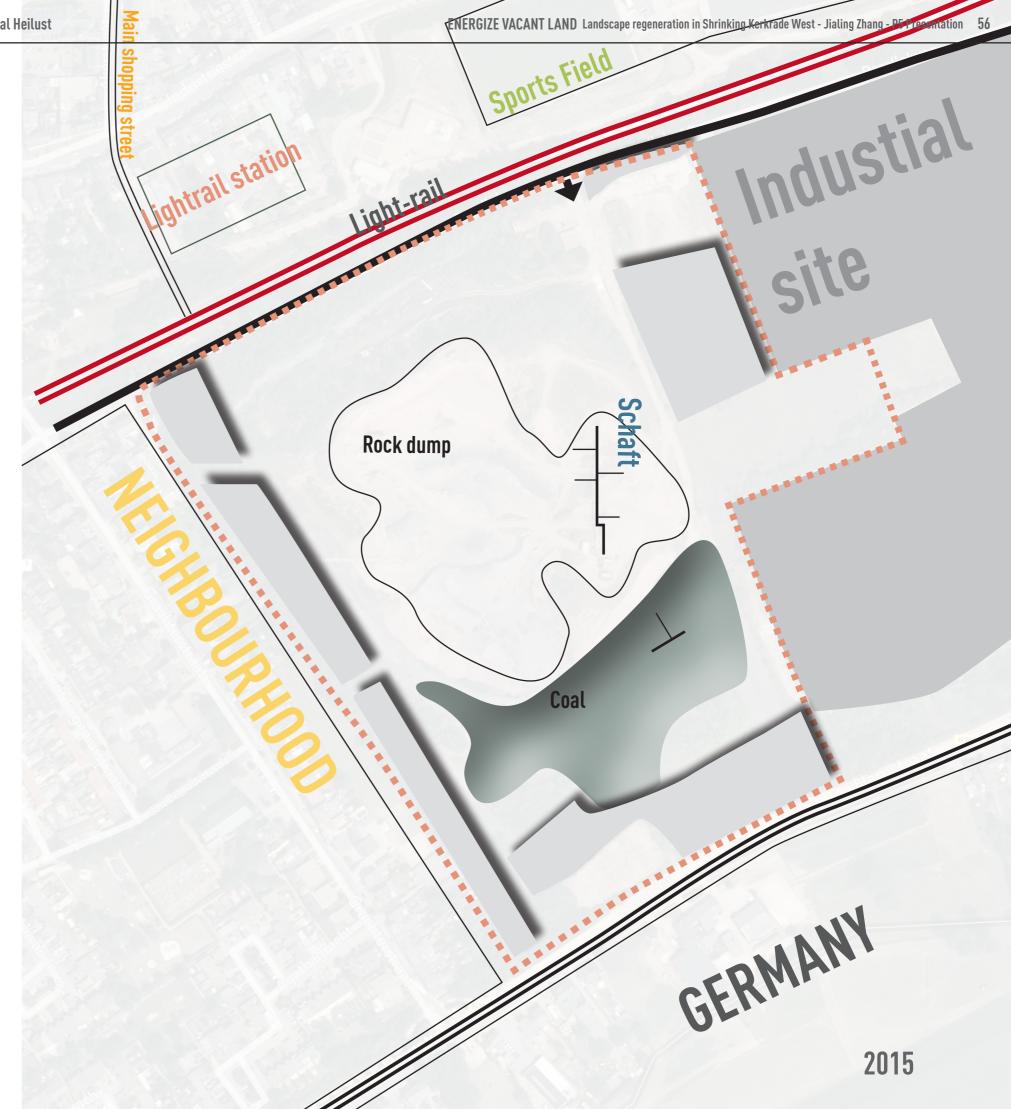
2020 Remain of Rock dump (red) & Coal (Black)

Transformation

1 Public forbidden land



1 Public forbidden land 2 Visible 3 Soil Reused



2 Visible 3 Soil reused 4 Soil moved **5** Accessible



- 1 Unaccessible
- 2 Visible
- 3 Soil reused
- 4 Soil moved
- **5 Accessible**
- **6 Intervention**
- 7 Land sale



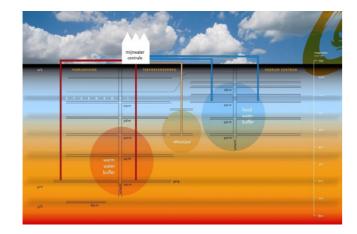
Soil Landscape



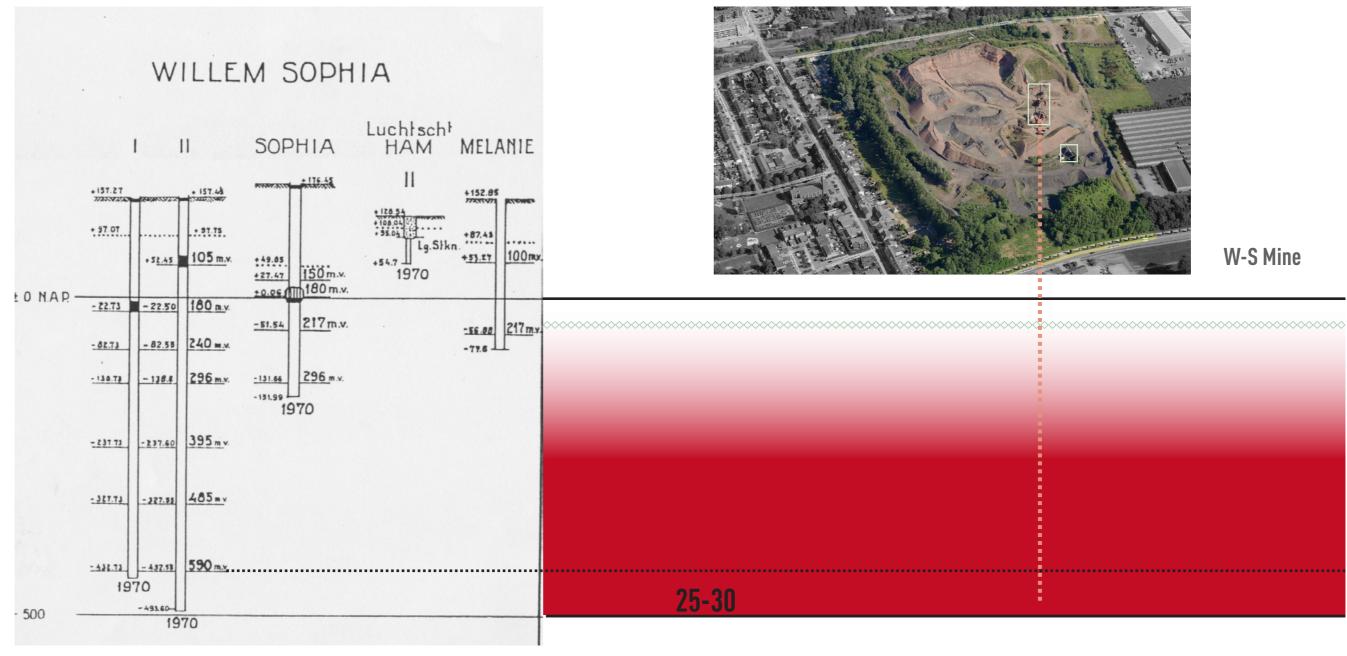
Central Heilust

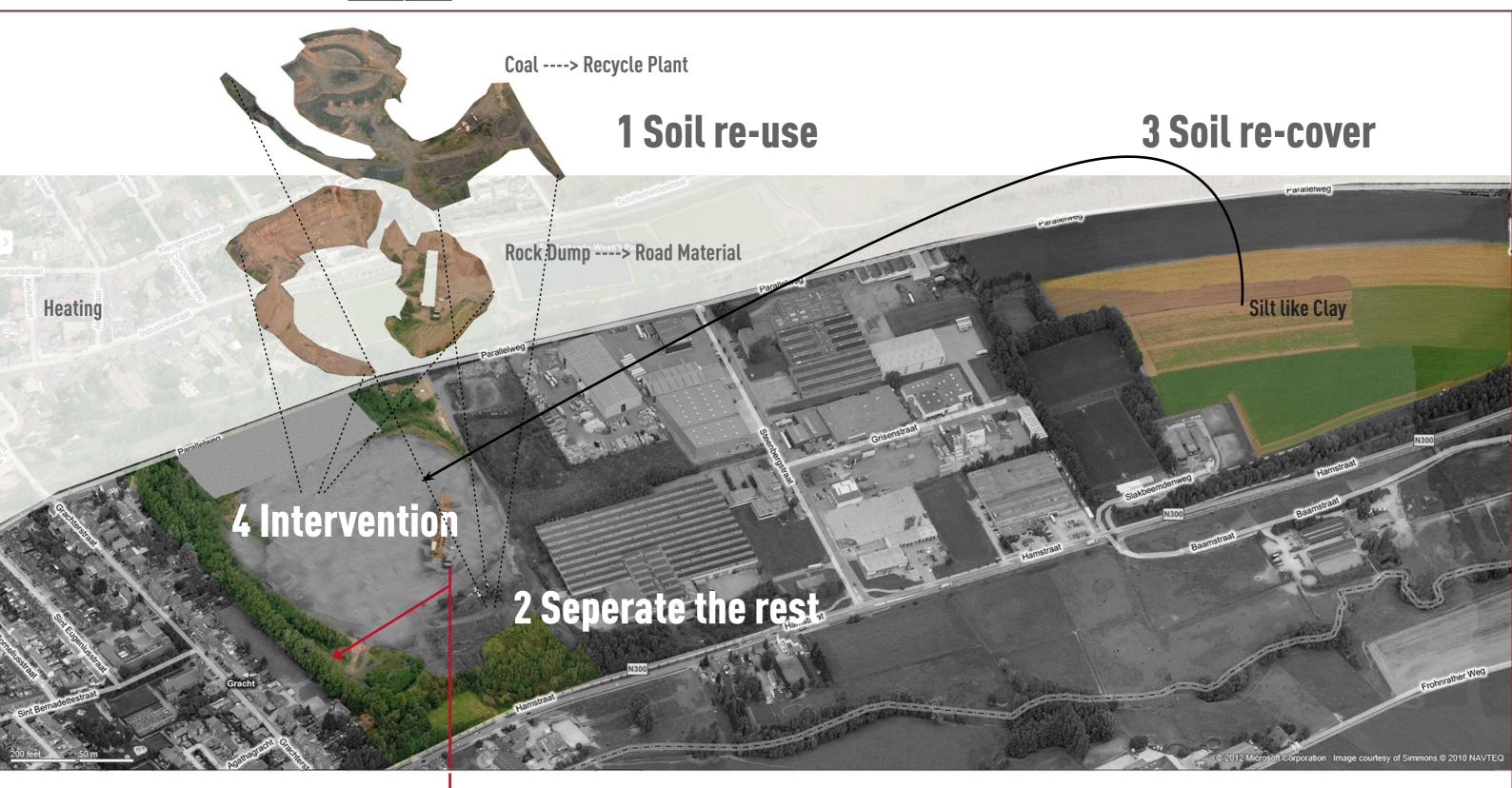
Energy Potential in Kerkrade West

Willem-Sophia Mine



Mine water project





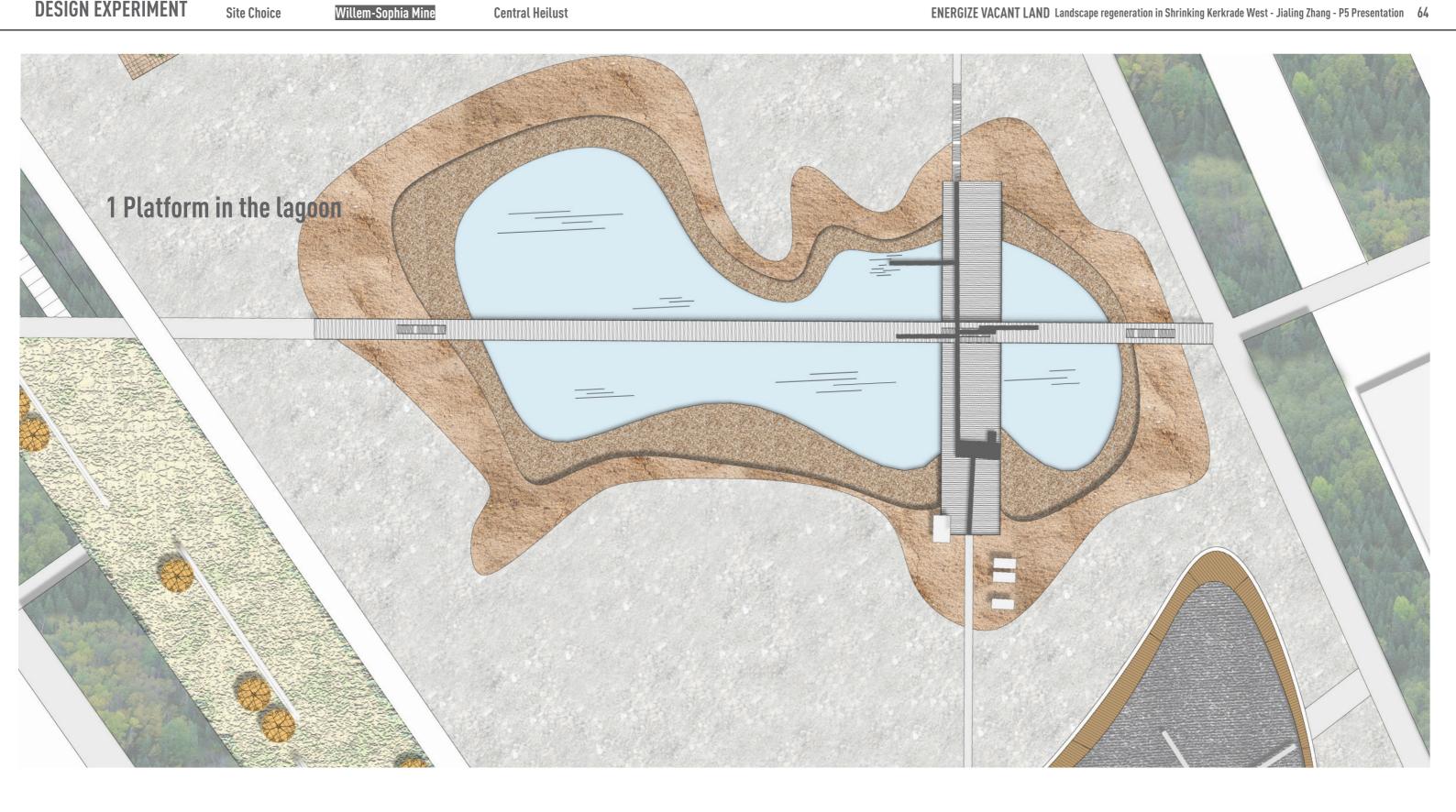
5 Mine water

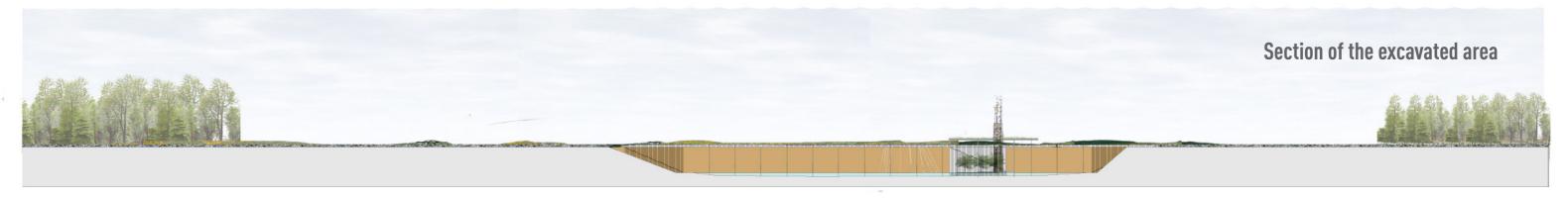
30 degree



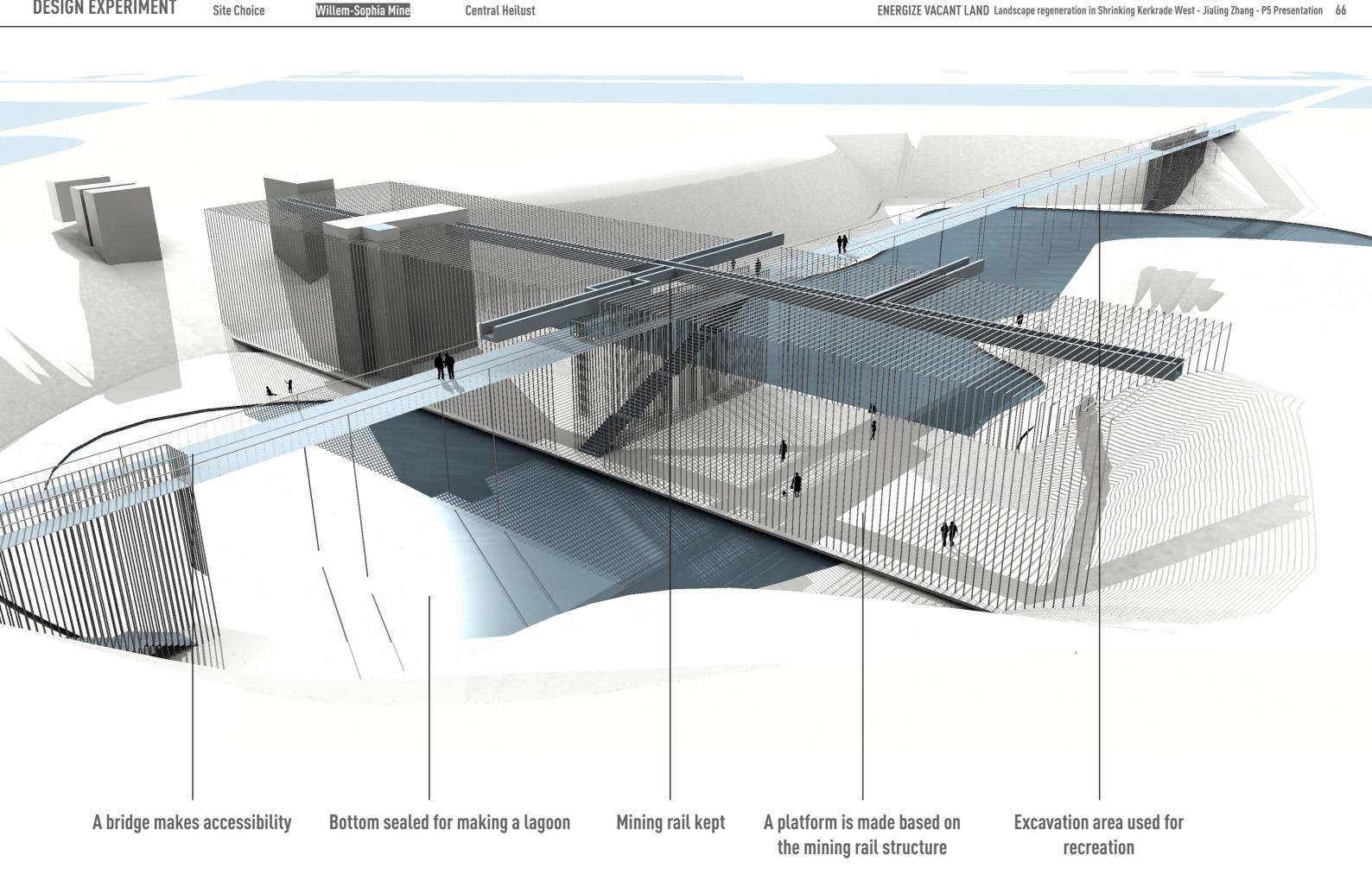


Participation area



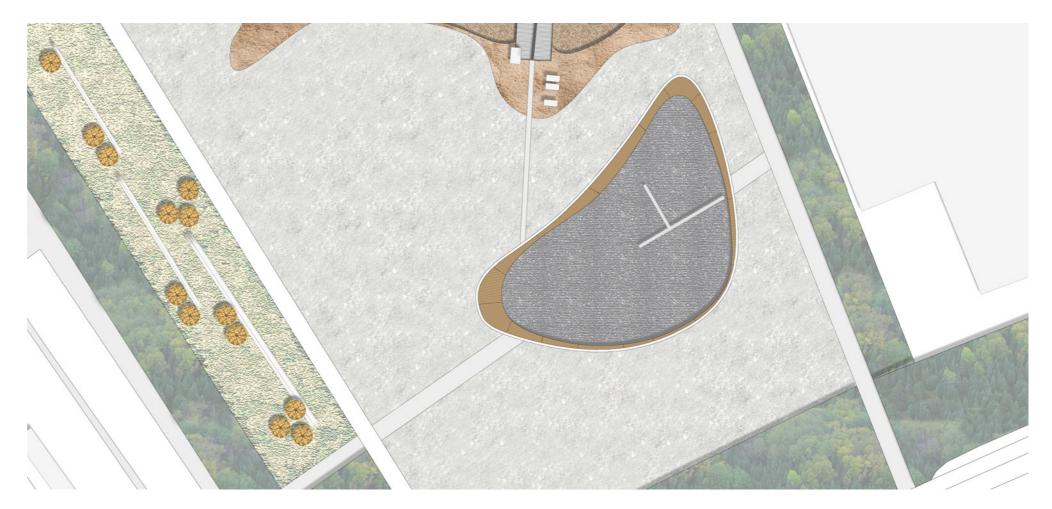


Birdeye view



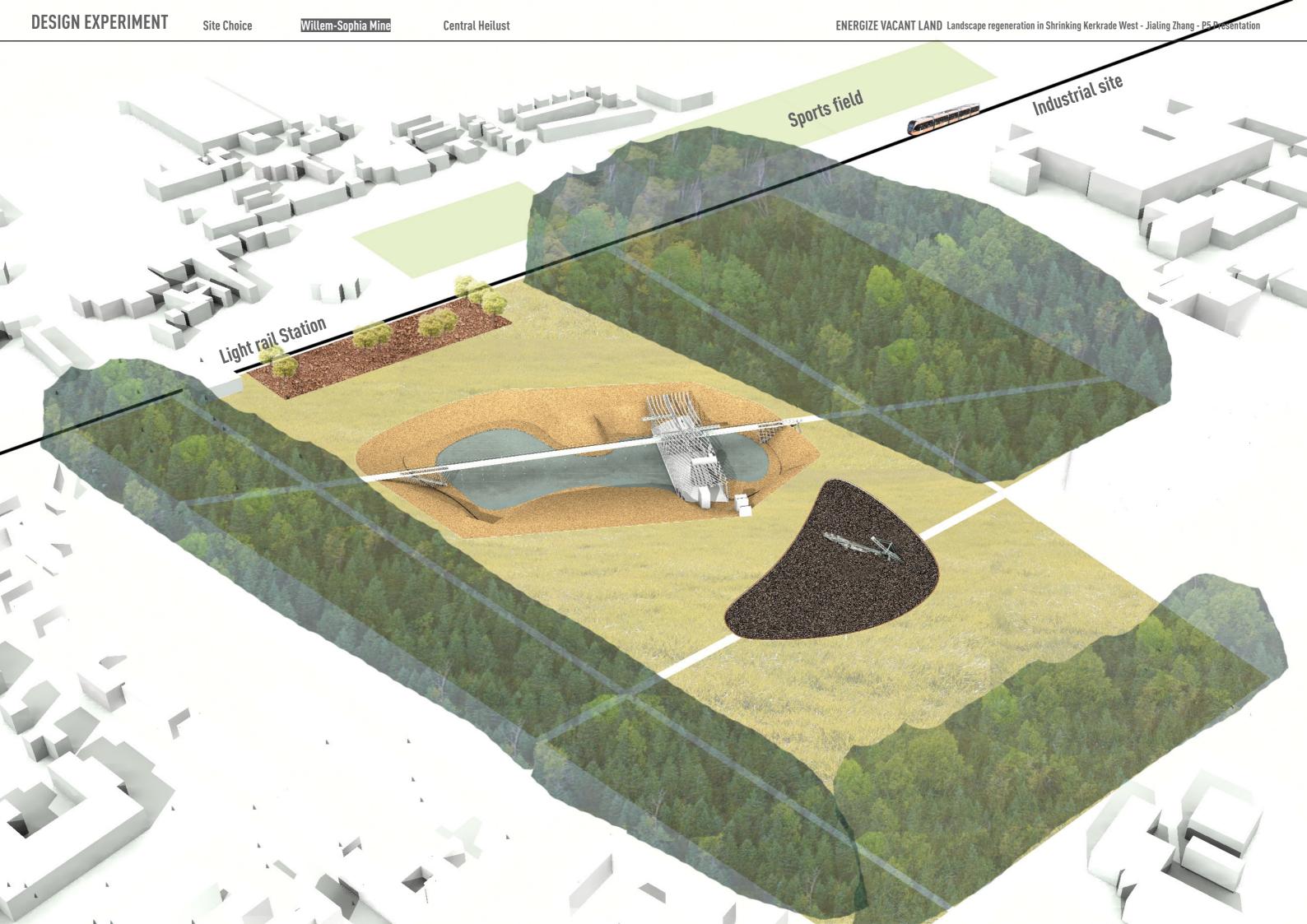
Excavation area for recreational use

Function of the inner space can be decided by public participation

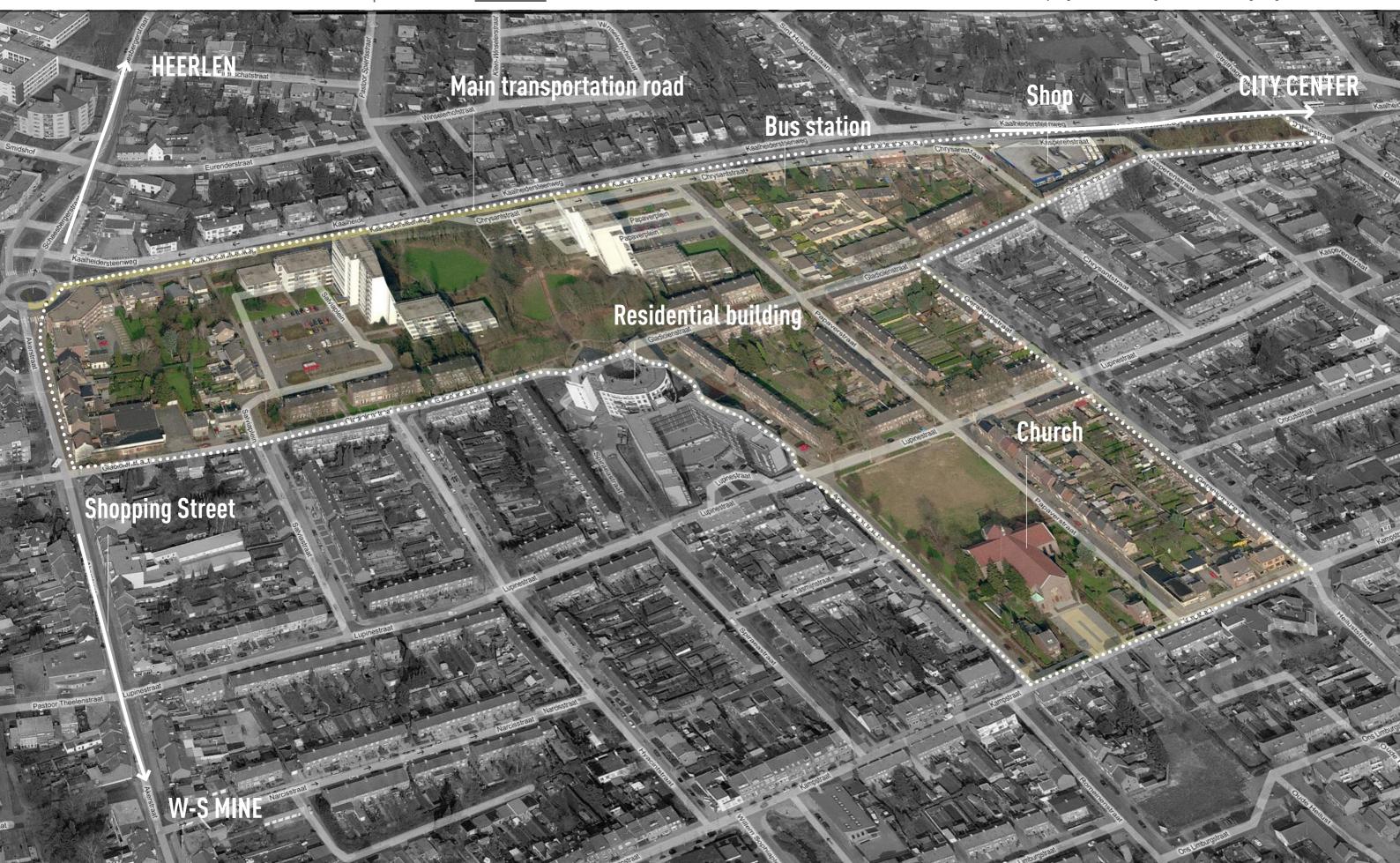




Coal storage



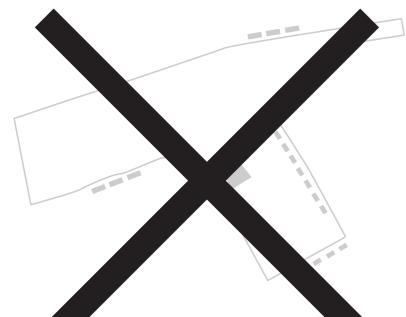




Bottom up! Making the city little by little.

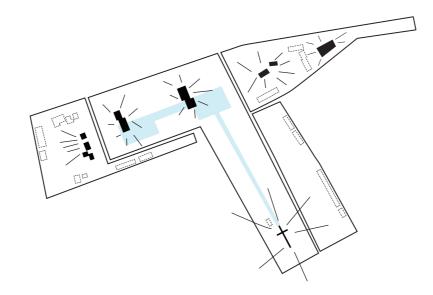
Experiments on possibilities

Living (original plan)



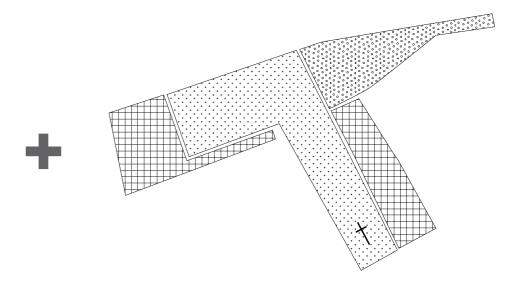
type of passive house and neighb Investment mostly goes to the estate business and the massive building with multi-function

New Business / Public use



Possible business: green energy studio / Culture or art business Investment mostly goes to the conservation and reconstruction several buildings in the middle kept while others showing the history of the land

Empty lands with new function

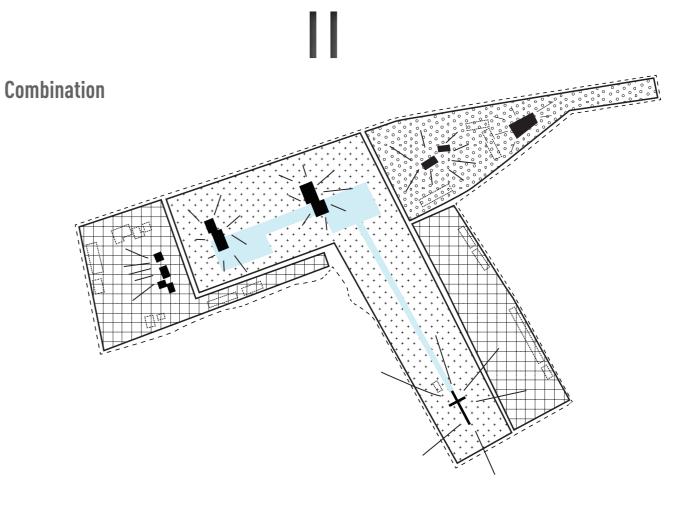


Landscape showing the process of the city development Working landscape with multi-functions instead of doing nothing focusing on meditaion (identity seeking) --> Identity --> Regeneration

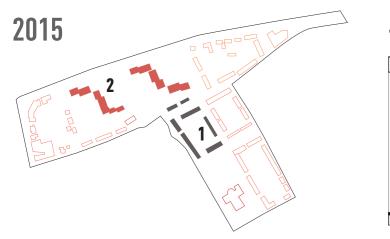
New housing & massive building rely on the government investment which works as initial project.

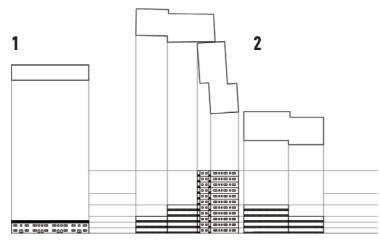
New business and conservation of the housing can be conducted by the neighbourhood or individual after initial projects.

Landscape conbines everything and will show the difference.

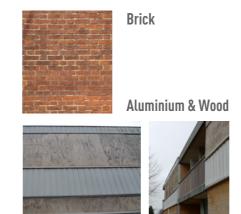


Shrinking Process & building investigation





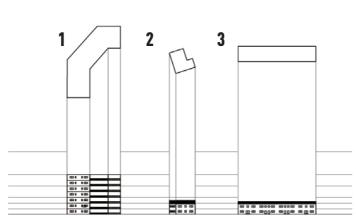
Central Heilust



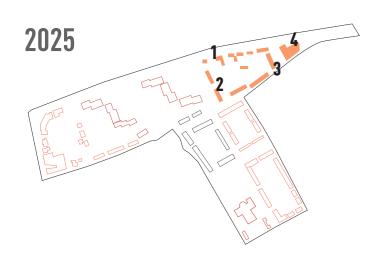


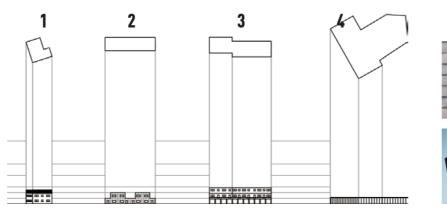






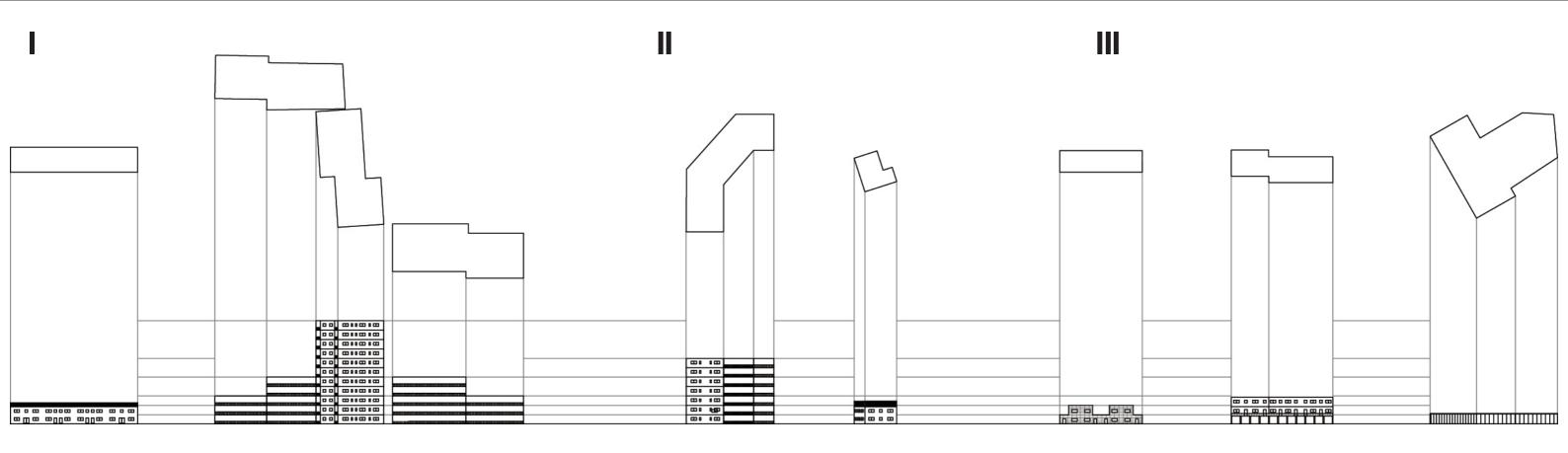












Awareness Identity Participation

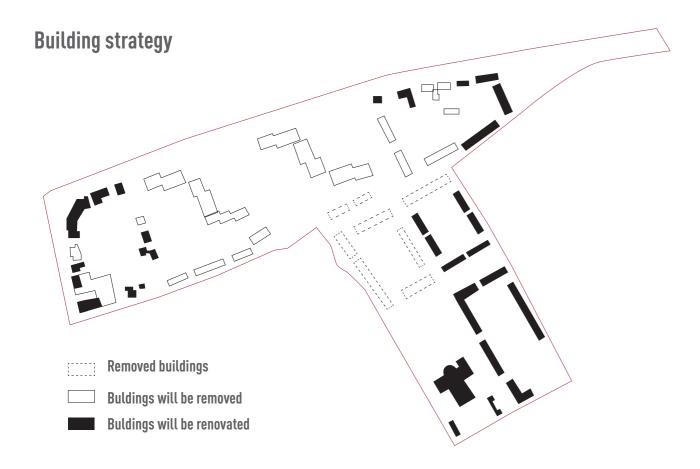








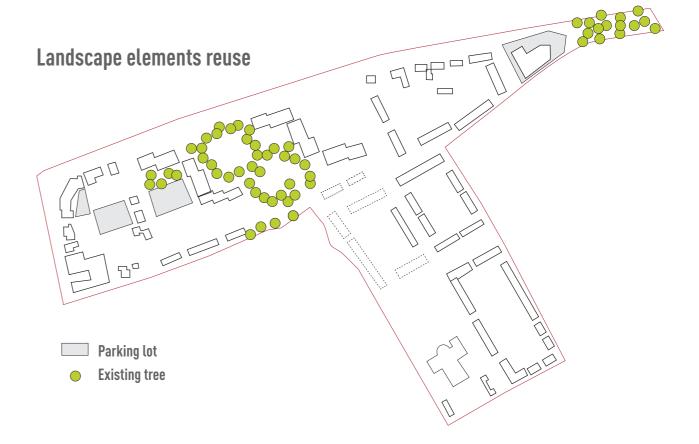




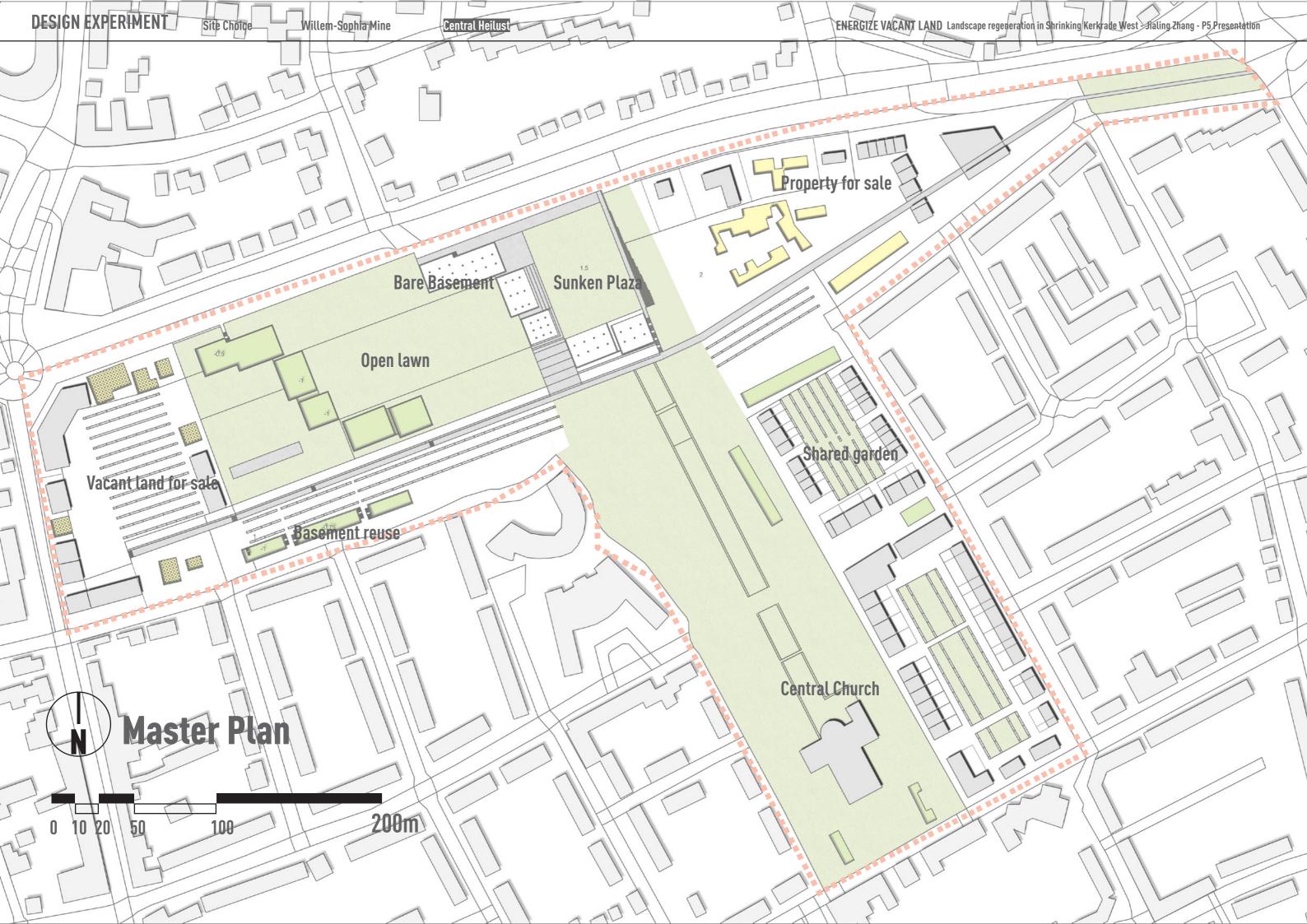
Willem-Sophia Mine

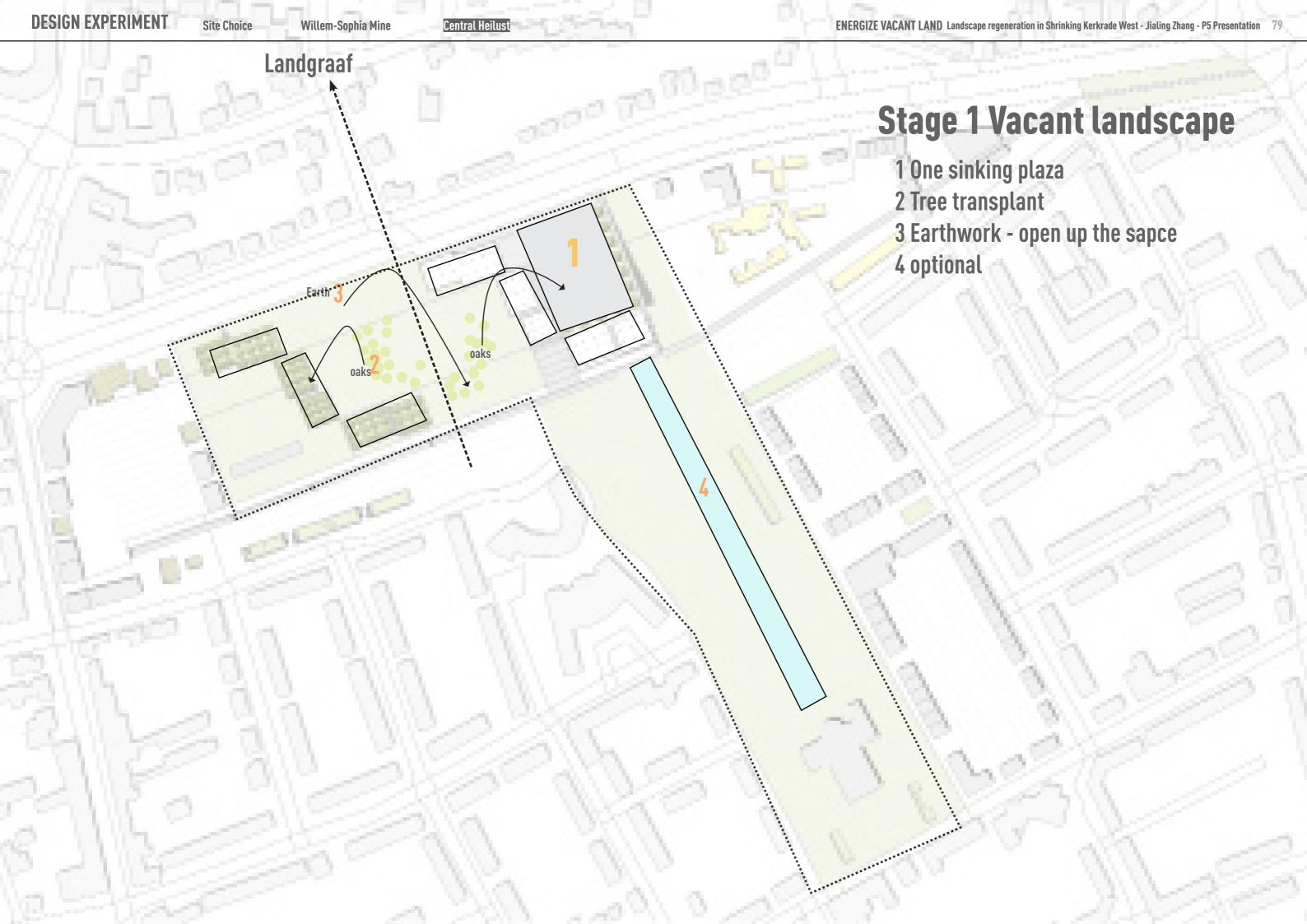






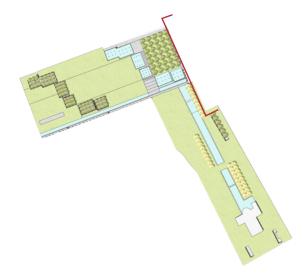
Conclusion





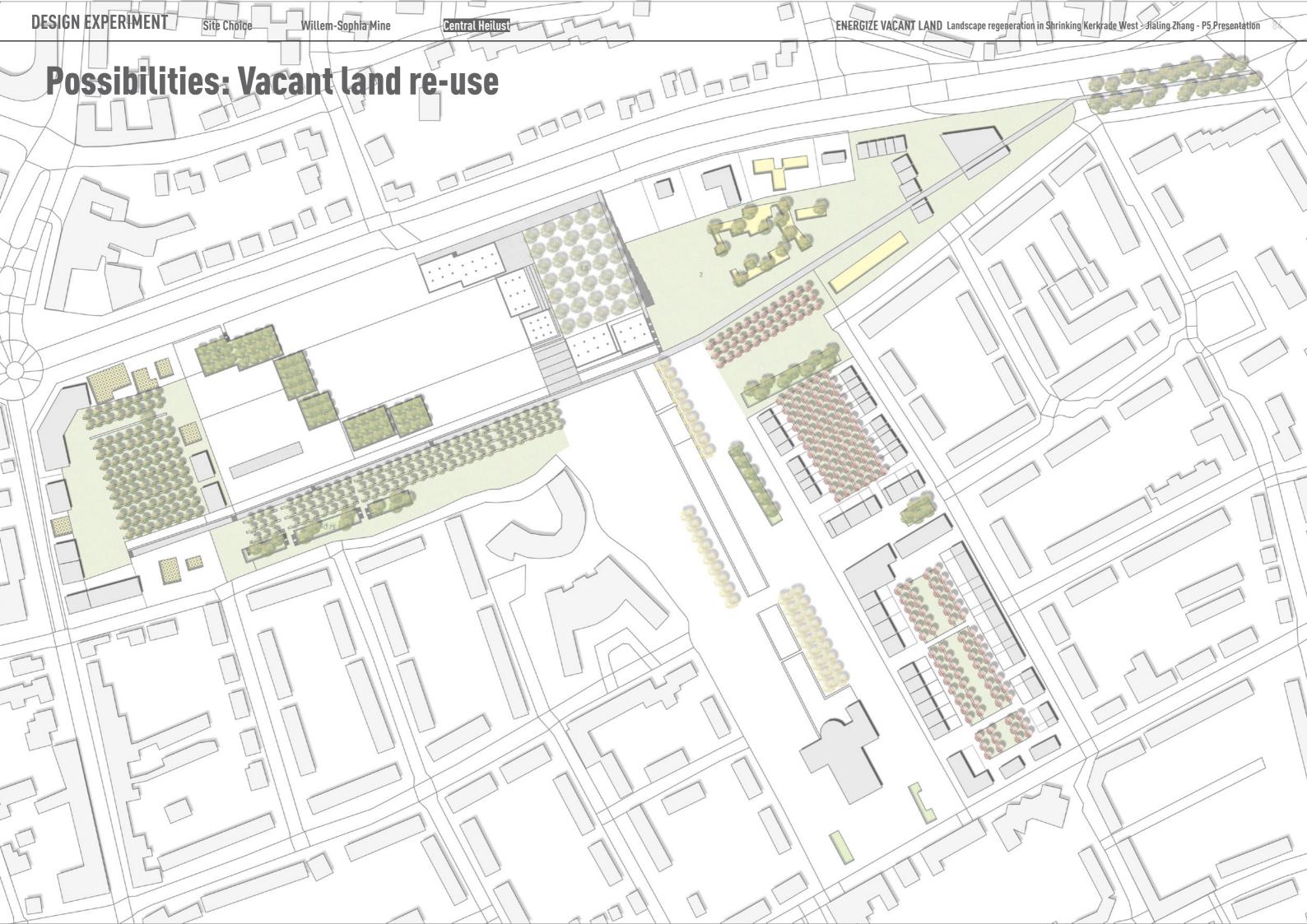


Residential area is seperated with the public space by height differences.





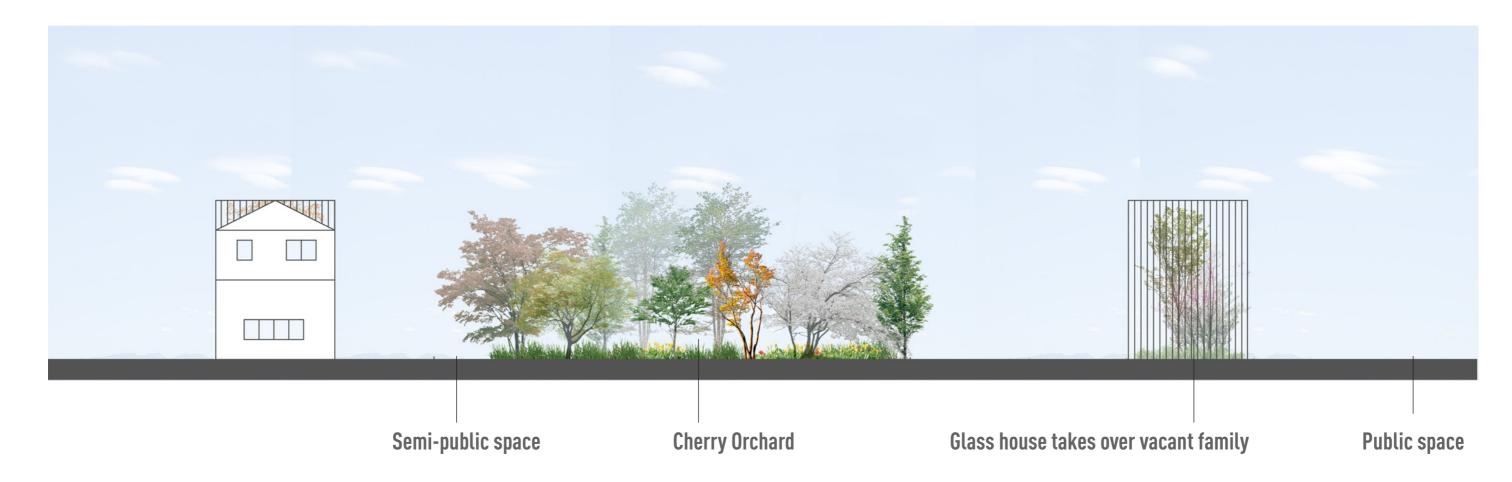


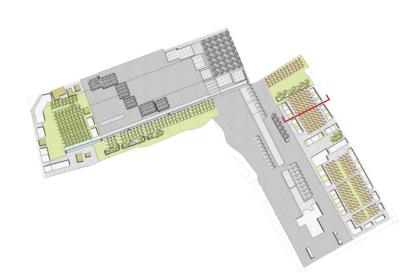




Orchards

Section 2-2



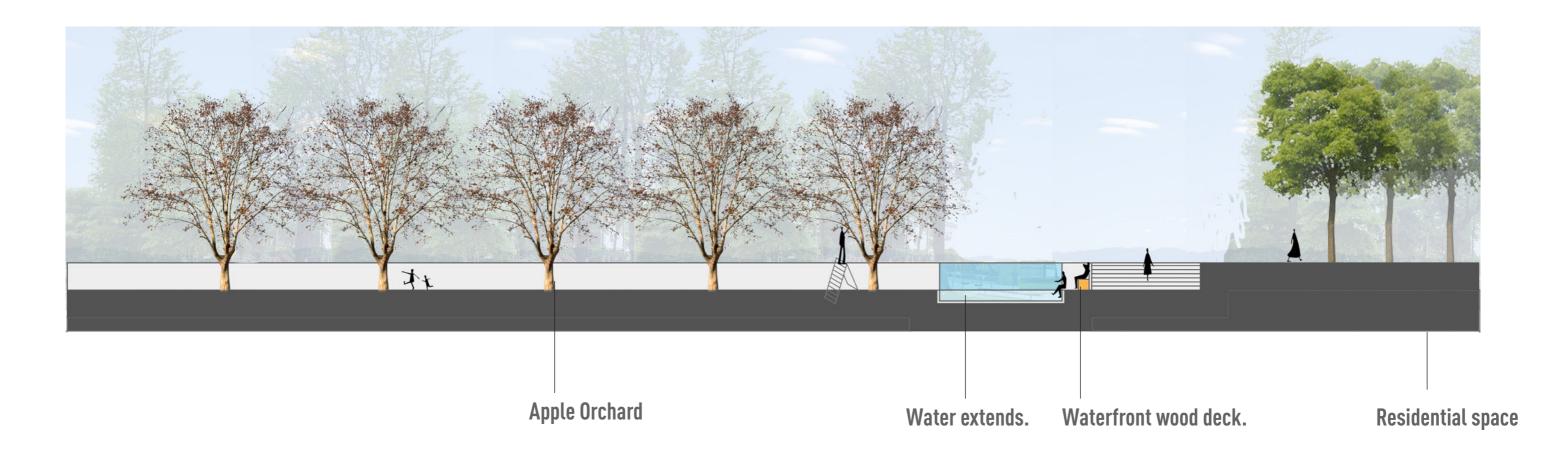


Vacant flat becomes private gardens; Community shares the outside garden. Private garden turns into semi-private orchards.



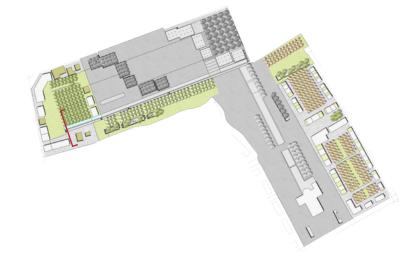
Water

Section 3-3



Productive landscape takes over vacant space and provides programme.

Water feature also absorbs the residual heat

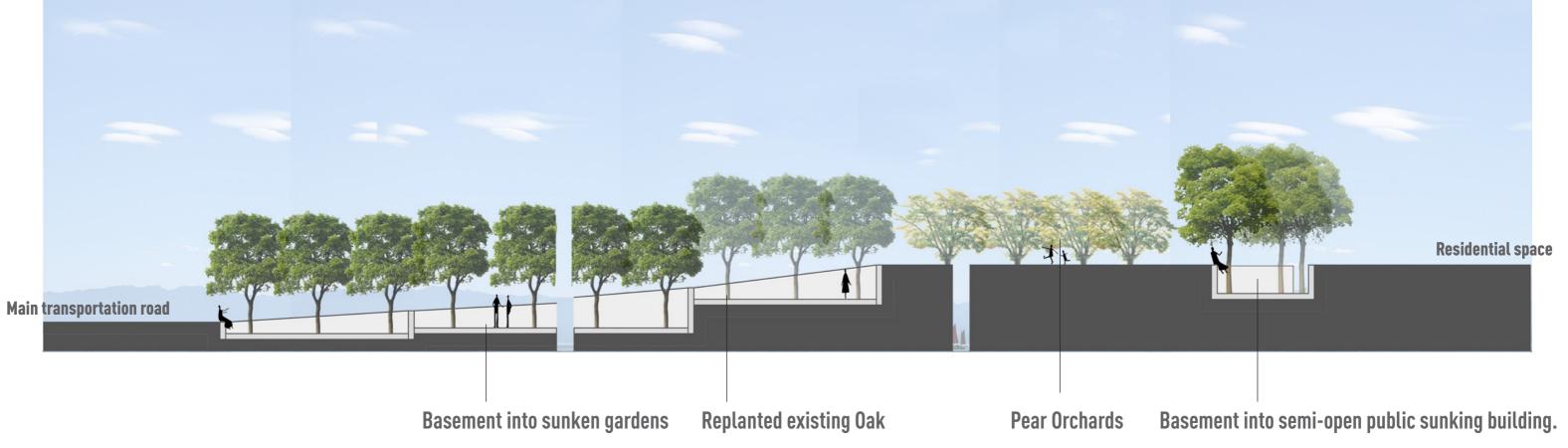


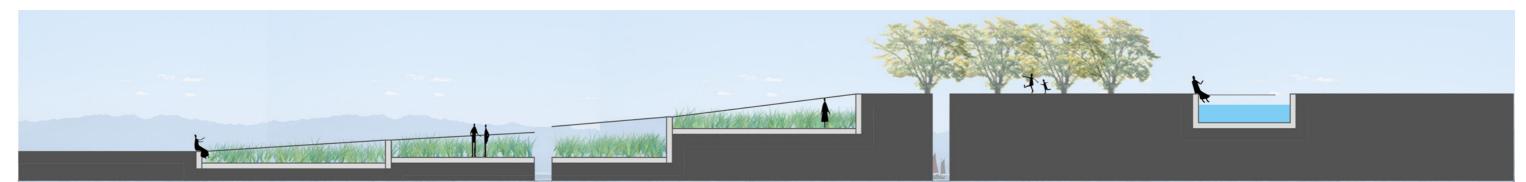
Central Heilust

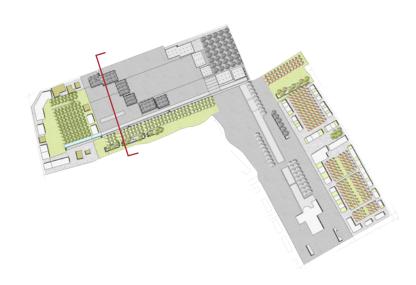
Underground garden

Site Choice

Section 4-4

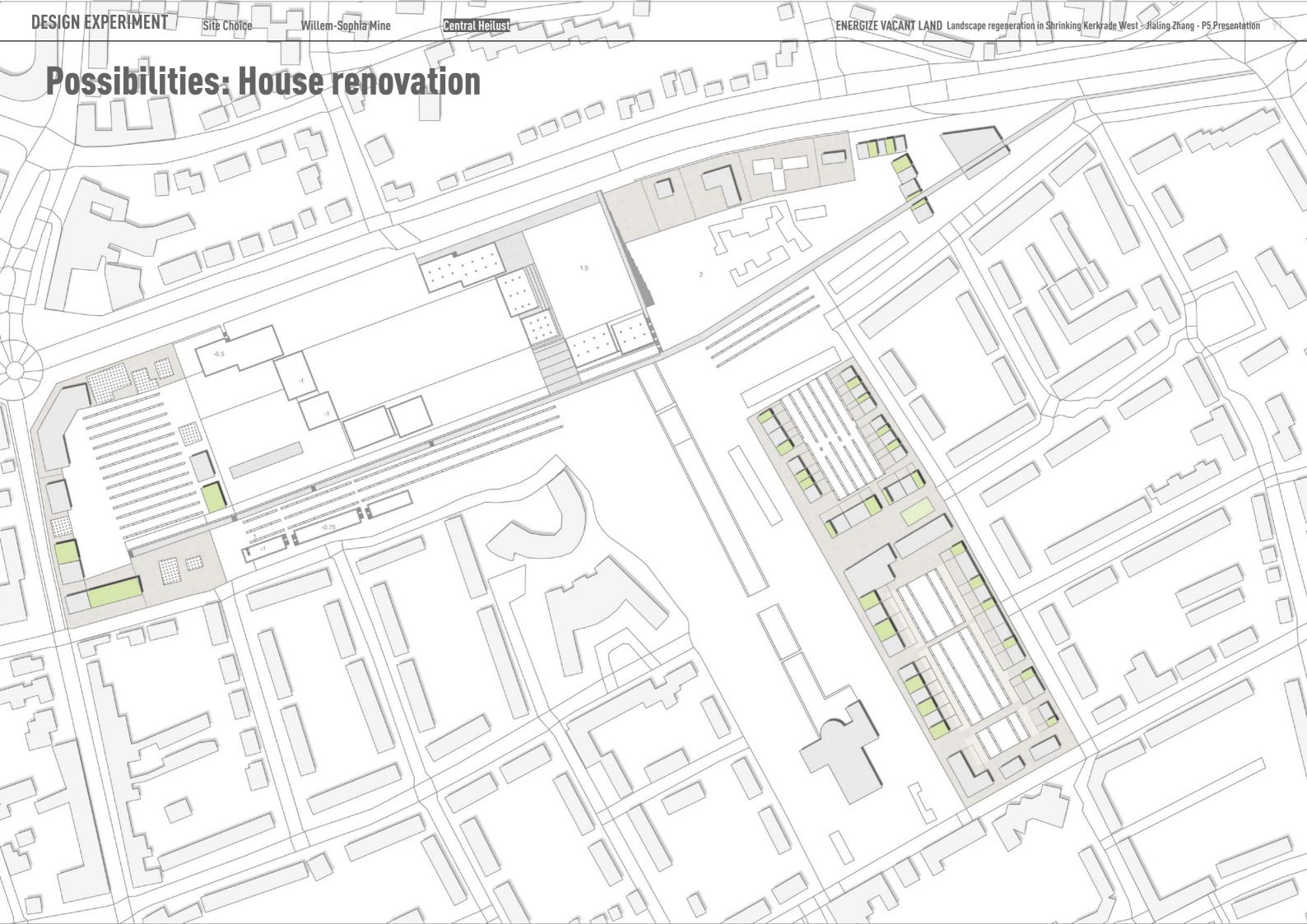






Buildings with the basement can be used flexibily. Height difference figures out the open and semi-open atmosphere.



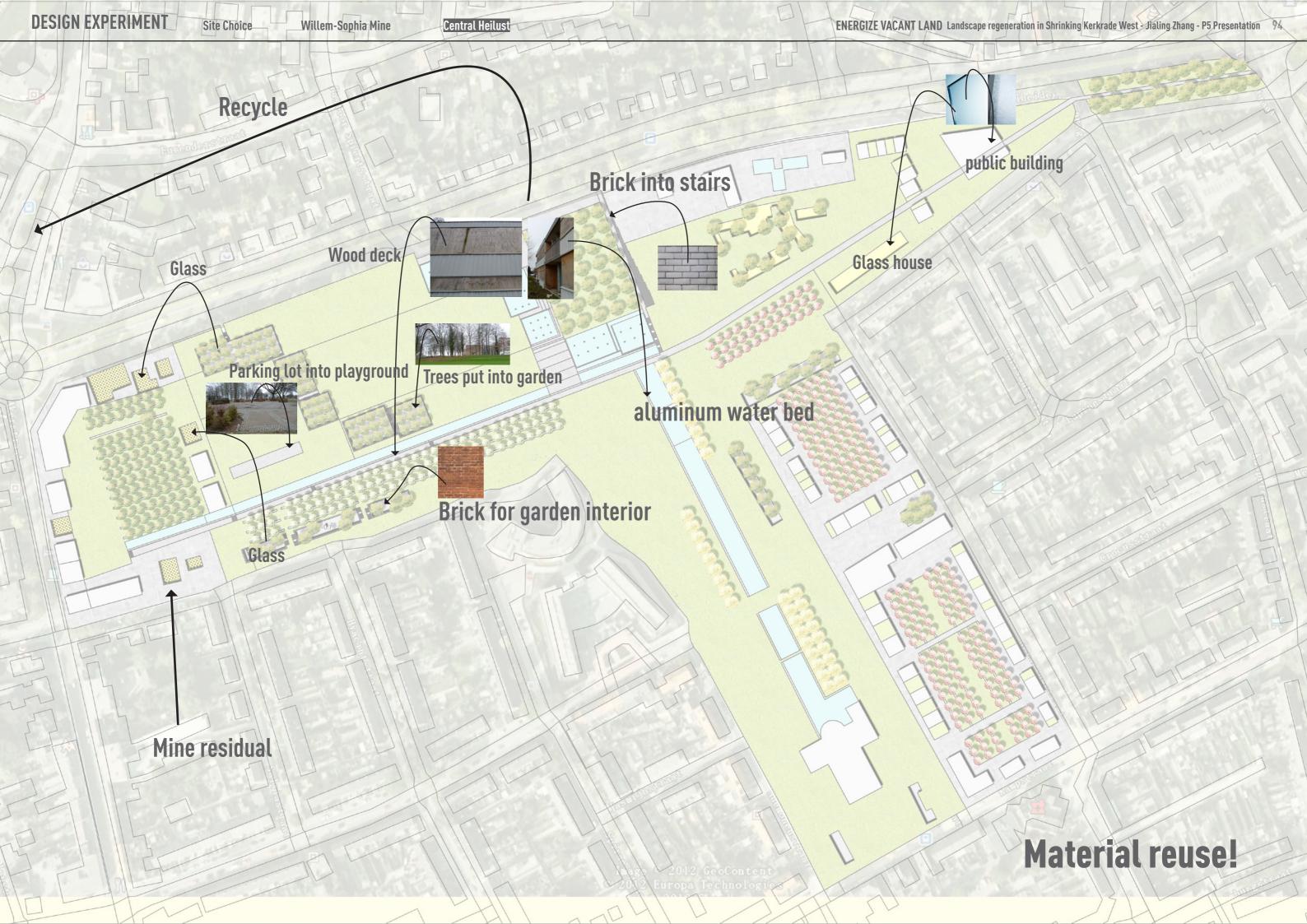


House Renovation

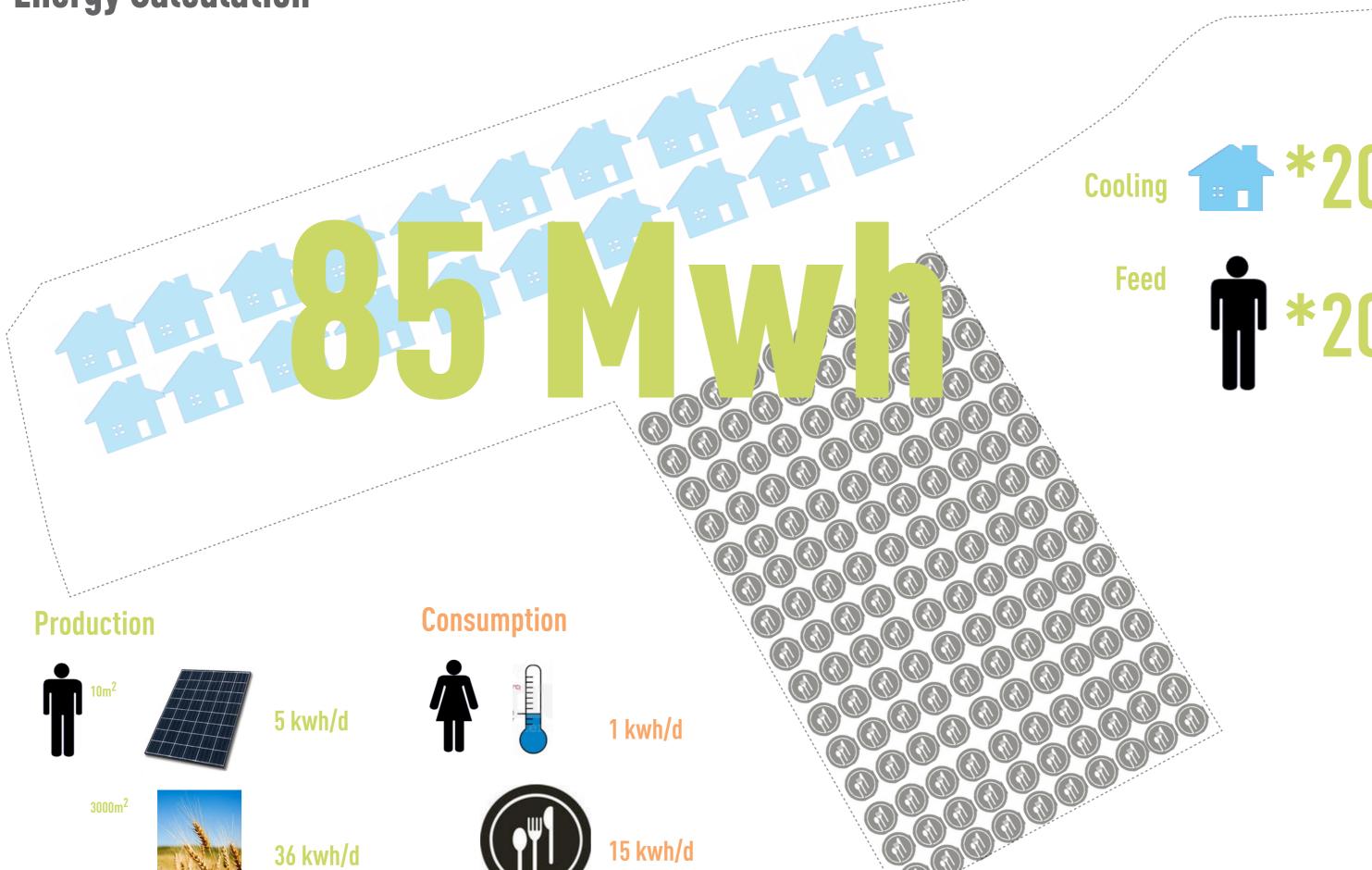


Buildings can be re-constructed into new living housing, public buildings or offices. Instead of making new buildings, old buildings provide enough space to build up new relationship between landscape and architecture.

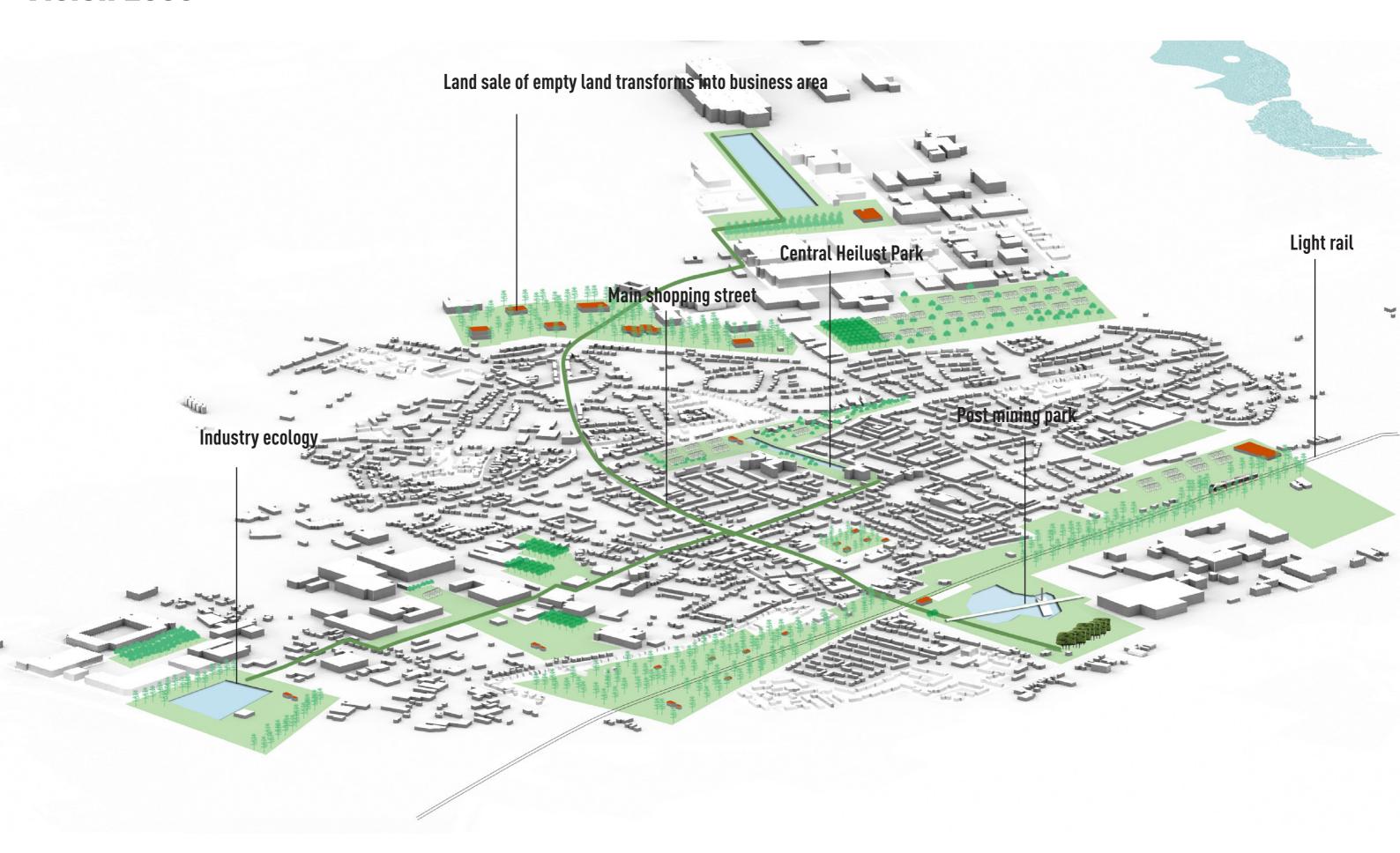


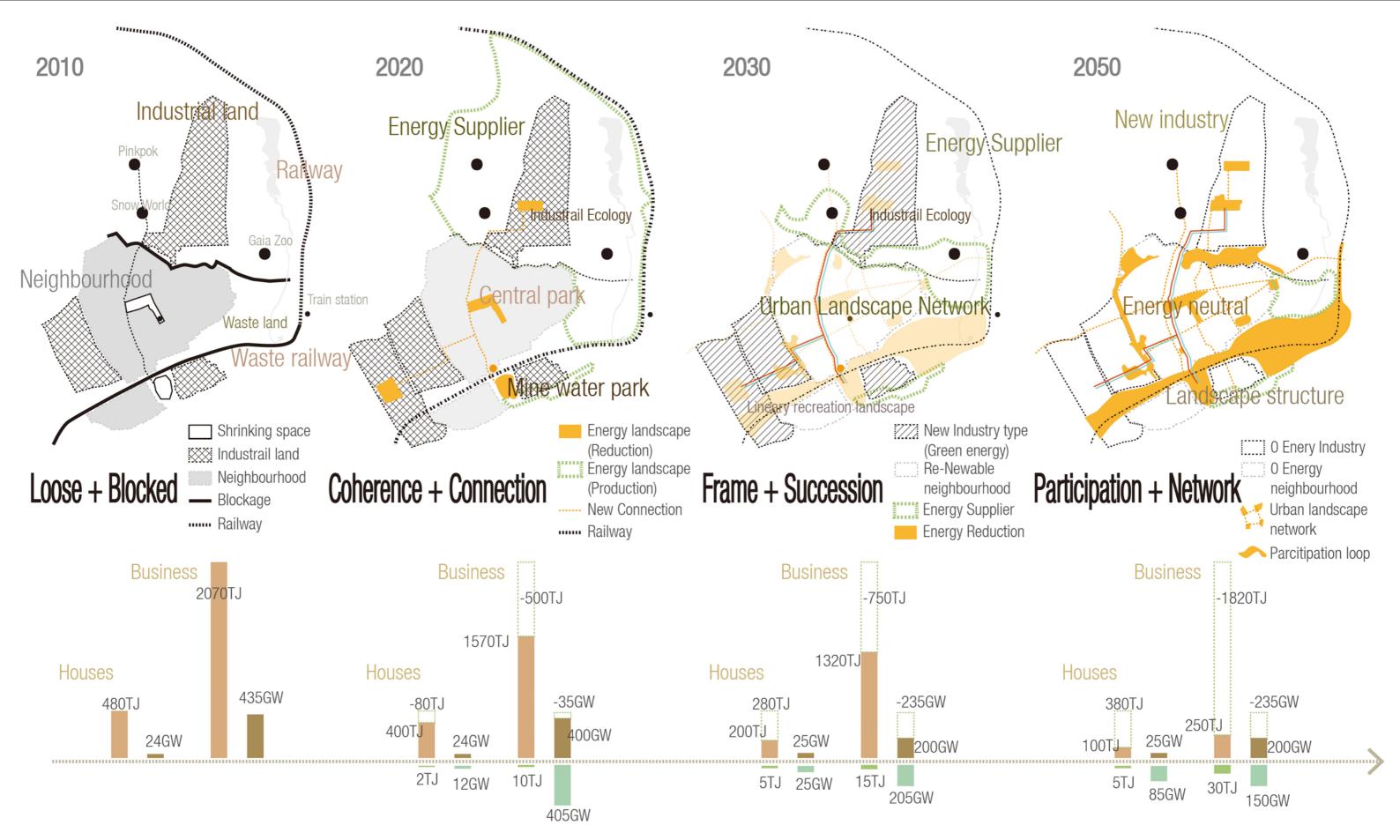


Energy Calculation



Vision 2050





Phasing



Guidelines

Property shifting

Initiative group starts landscape intervention first



PROGRESS **FOLLOWS ITSELF**



A case in Tubigen, Germany

Reference from Spontaneous City

