IBA_HAMBURG

Internationale Bauausstellung

Hamburg voraus

IBA Hamburg – How Energy Can Invigorate Neglected Urban Quarters

Uli Hellweg
CEO Hellweg Urban Concept

Detroit Opportunity Sites
Transatlantic Workshop on Vacant Land Transformation
Detroit, Michigan | April 15-16, 2015

IBA as Drivers and Laboratories of „Baukultur“

IBA Berlin 1984/87

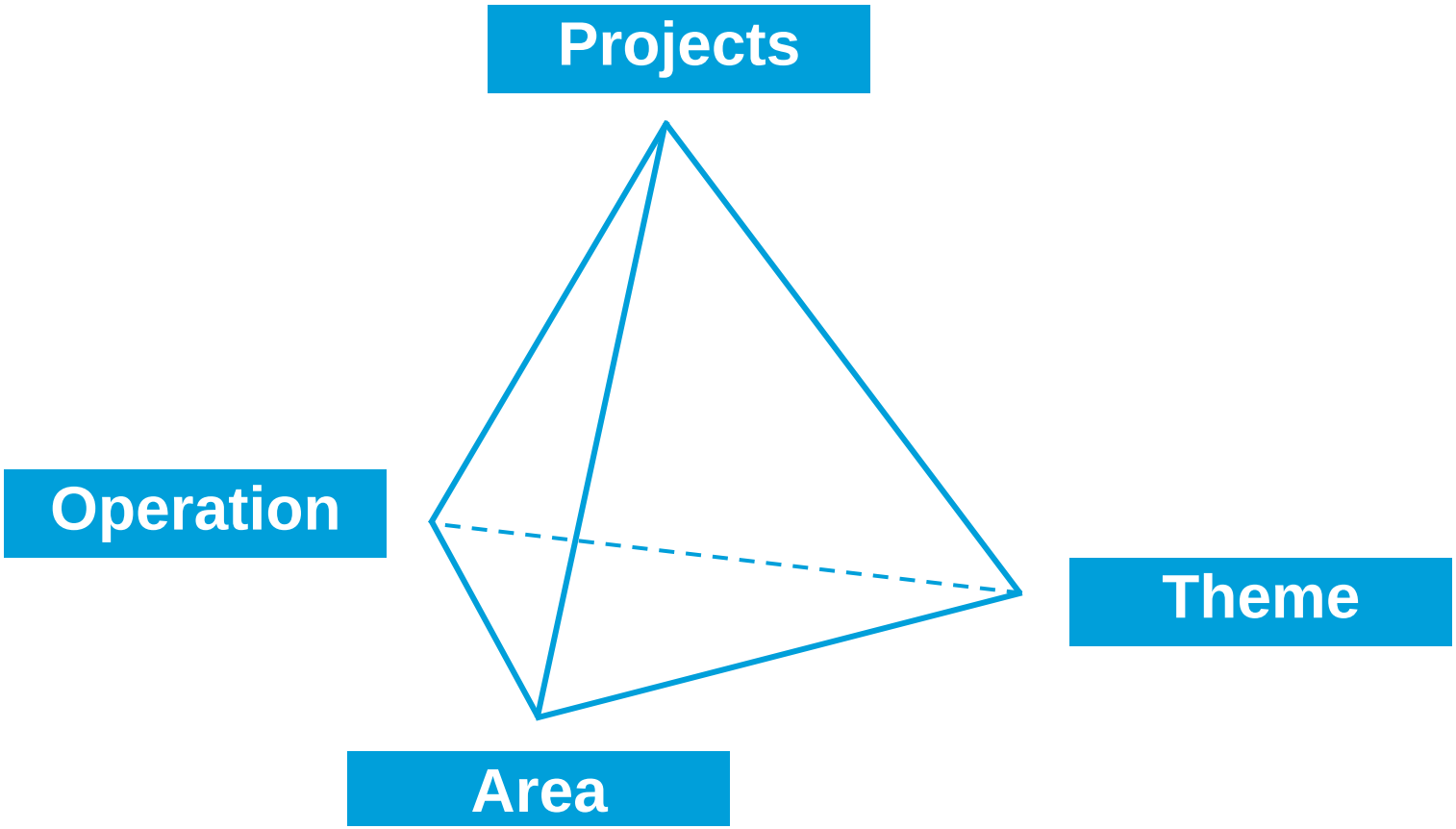

IBA Emscherpark 1999


IBA Berlin 1984/87


IBA Emscherpark 1999

IBA principle

„The magic pyramide“



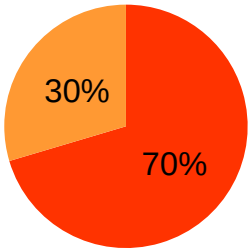
Location of Hamburg in the Elbe estuary

IBA project area in Hamburg

Wilhelmsburg: storm surge, February 16th, 1962

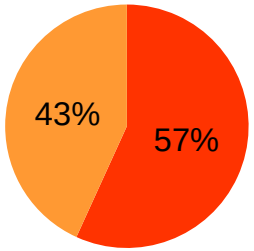
Makeup of the Population of the Elbe Islands

Veddel



- Population with migration background
- Population without migration background

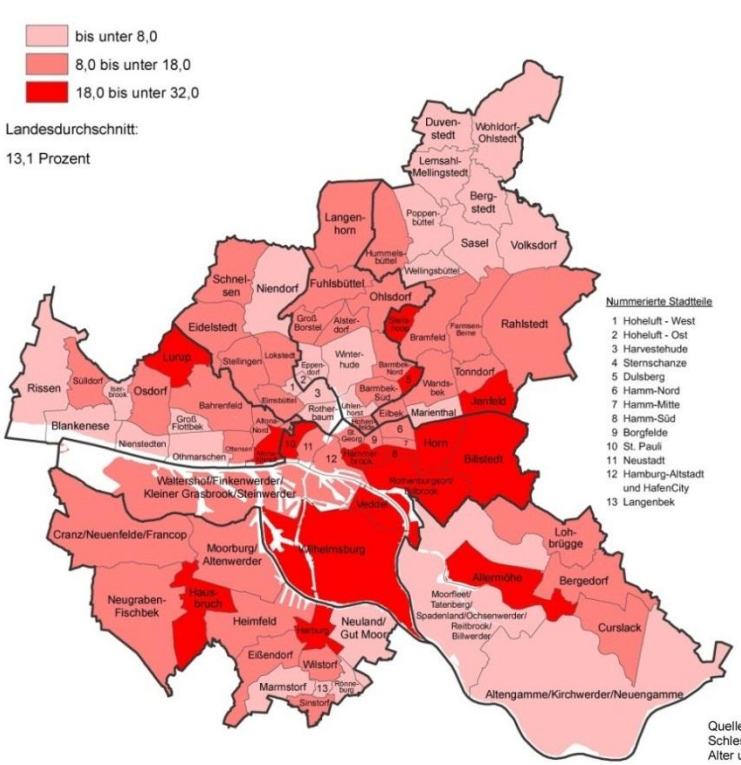
Wilhelmsburg



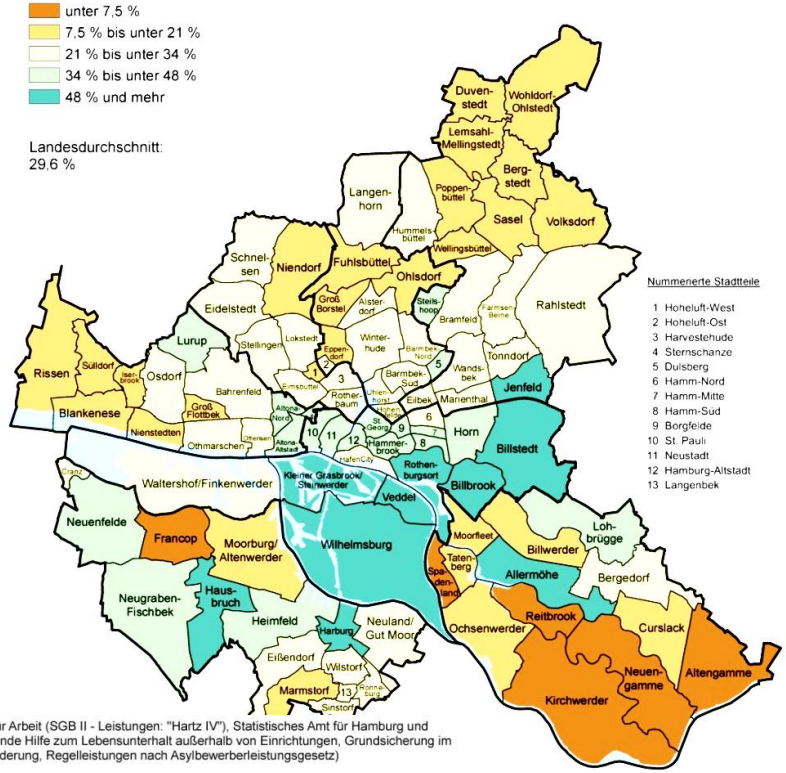
- Population with migration background
- Population without migration background

Social Segregation in Hamburg

Share of recipients of social welfare



Share of people with a migtation bacround



Quelle: Bundesagentur für Arbeit (SGB II - Leistungen: "Hartz IV"), Statistisches Amt für Hamburg und Schleswig-Holstein (laufende Hilfe zum Lebensunterhalt außerhalb von Einrichtungen, Grundsicherung im Alter und bei Erwerbsminderung, Regelleistungen nach Asylbewerberleistungsgesetz)

IBA Hamburg – Building the City Anew

Three key themes:

1. Urban Renewal/Retrofitting (Metrozones)

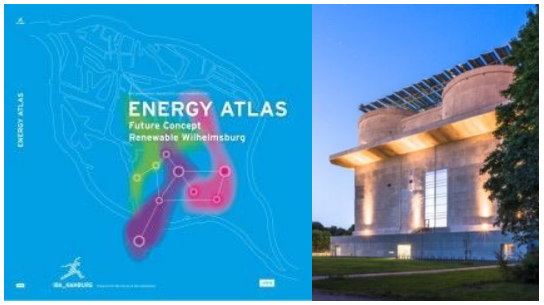
- Create quality urban neighbourhoods.
- Improve the existing housing stock
- Promote urban compatibilities.

2. Fostering Social Diversity (Cosmopolis)

- Make globalization a productive process.
- Create an international urban community.
- Greater power to education, knowledge and culture.

3. Cities and Climate Change

- Use local sources of energy.
- Build in climate neutral manner.
- Rethink urban development by and with the water.



IBA projects and results

70 IBA-Projects (2006-2013)

- **New Dwellings:** 1.208 units
- **Energetical Modernization:** 516 units
- **Commercial, Commerce, Services:**
  100,000m²
- **Social Infrastructure:**
  8 educational facilities , 4 sports facilities
  4 day nurseries, 2 homes for the elderly,
  1 student hostel, 1 resident pavilion
- **New Parks, opened-up port facilities:**
  171,5 ha
- **New Waterways:** 2,7 km

Financing:

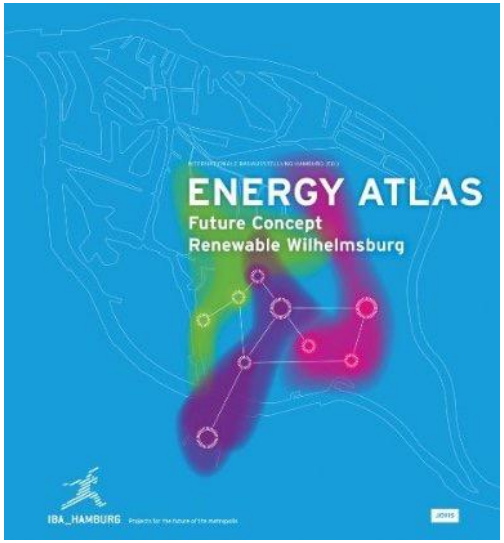
- **Seed Capital:** 90 Mill. € for 8 years
- **Raised Funding:** 30 Mill. €
- **Additional public expenses:** 300 Mill. €
- **Private Investment:** 700 Mill. € (2010-14)

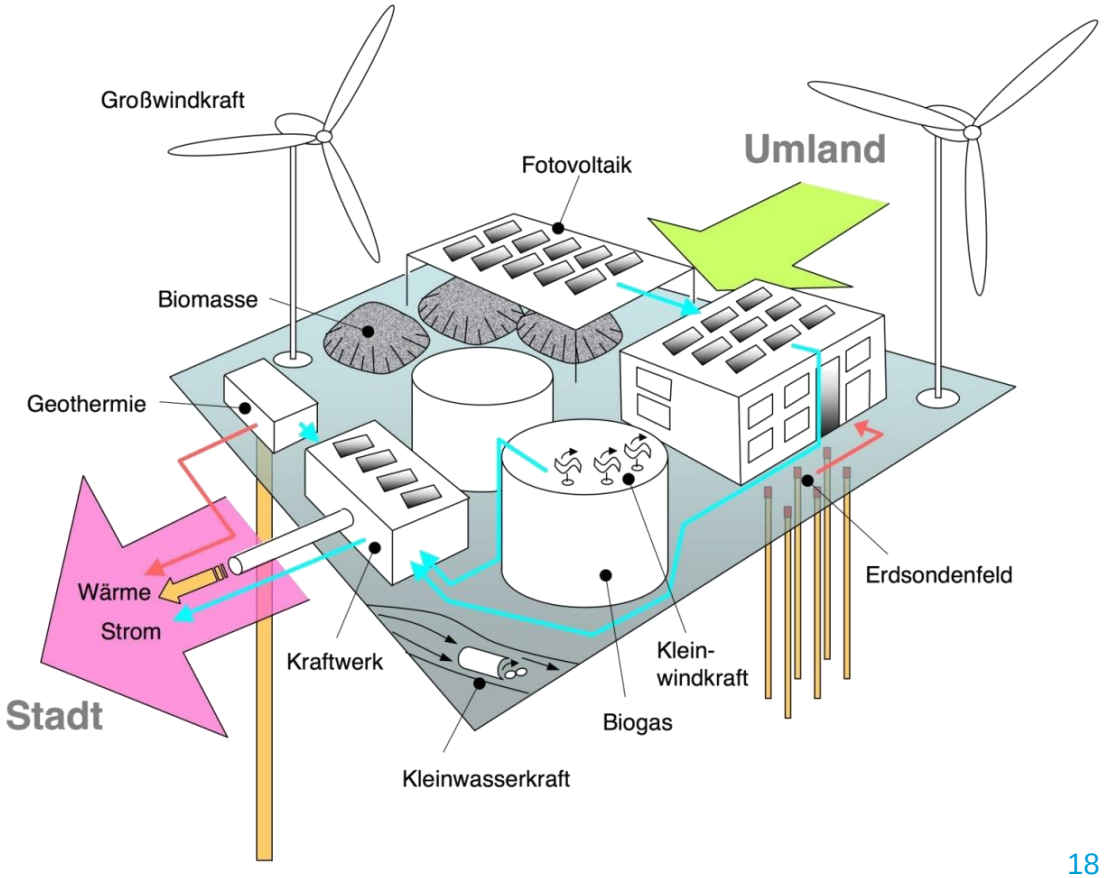
TOTAL: 1,12 Mrd. (2006-2014)

Key Topic „Cities And Climate Change“:

Future Concept for a Renewable Wilhelmsburg

A Modell For Decentralizing the Energy Transition (Energiewende)



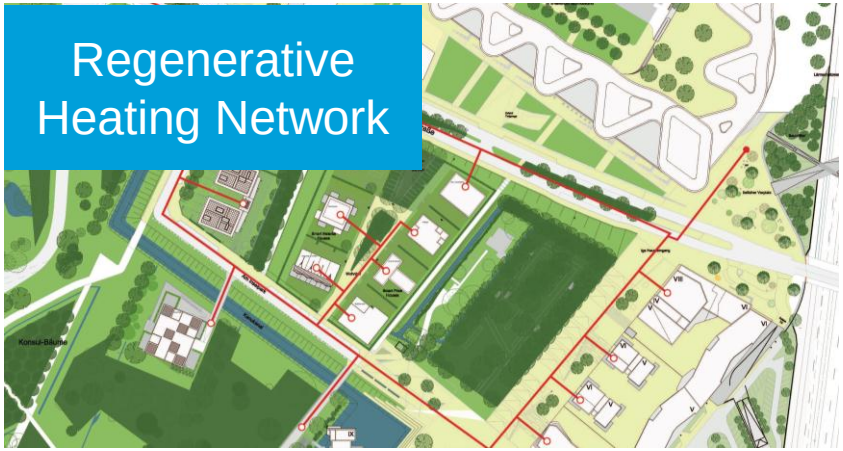


Strategic Operational Fields of Cities and Climate Change

Energetically Excellent New Buildings

Refurbishing into New Building Standard

Regenerative Heating Network



Renewable Energies

Strategic Operational Fields of Cities and Climate Change

Energetically Excellent New Buildings

Smart Price Houses: Awarded Projects

Architects: Fusi/Amann, Hamburg

Architects: Adjay, London

Architects: Wallner, München

Smart Material Houses: Awarded Projects

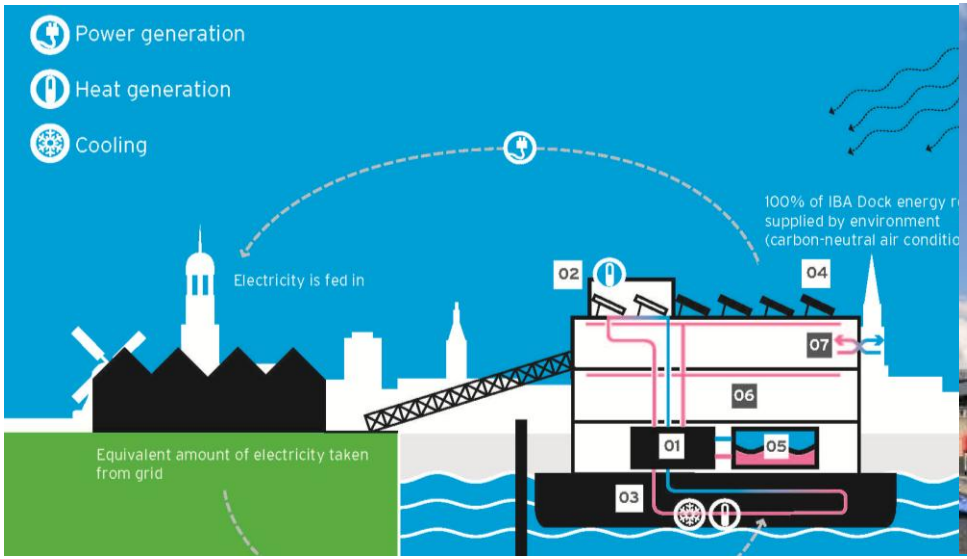
Architects: Kennedy & Violich Architecture, Boston

Architects: Splitterwerk, Graz

Architects: zillerplus Architekten und Stadtplaner, München

WaterHouses – Architecture Adapts to Climate Change

Adaptive Architecture
IBA DOCK – Floating exhibition and office centre



01 The energy management system (EMS) controls the distribution of heat and cold through-out the IBA DOCK and links the heat pump and solar thermal system.
02 The solar thermal plant uses the warmth of the sun to heat the building and supply hot water.
03 The brine/water heat pump uses warmth from the sun and port water to heat the building.
04 The photovoltaic plant produces the same amount of solar power per year as is required by the heat pump to heat the dock.
05 Heat storage tank
06 Heating and cooling ceilings keep supply temperatures low and maintain very comfortable conditions.
07 Ventilation plant with heat recovery system.

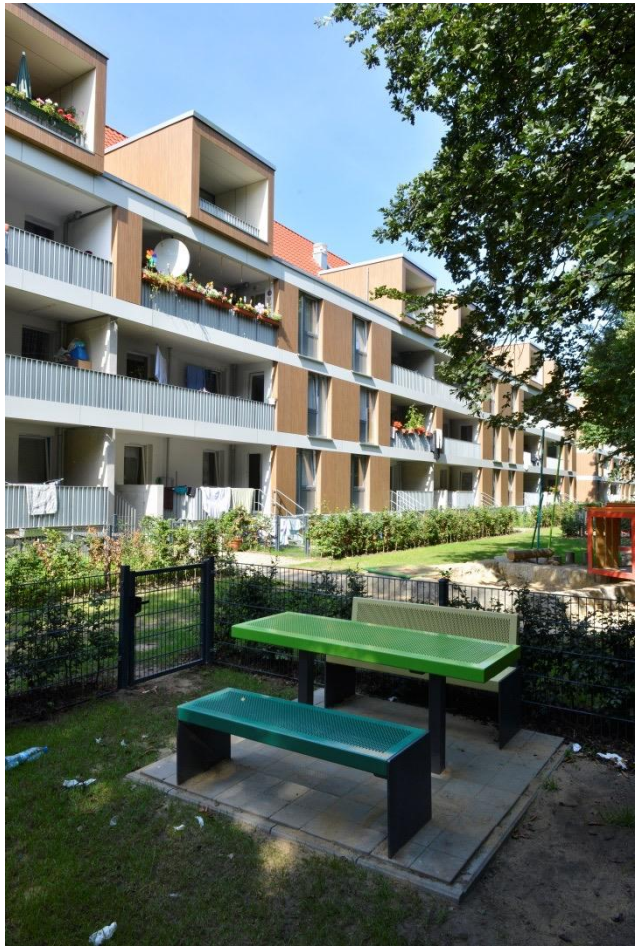
Strategic Operational Fields of Cities and Climate Change

Global Neighbourhood- before renovation

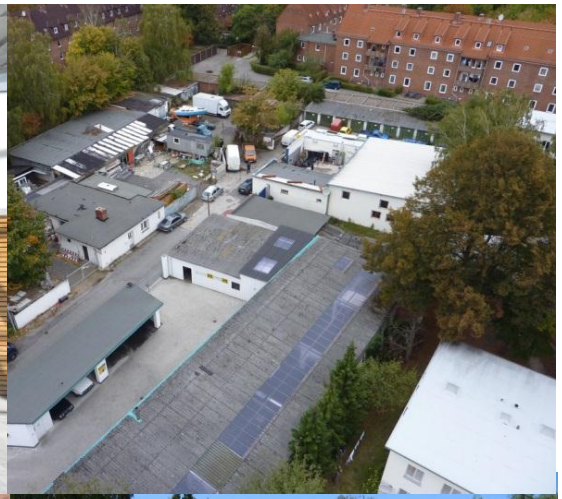
Planning Workshop for Children

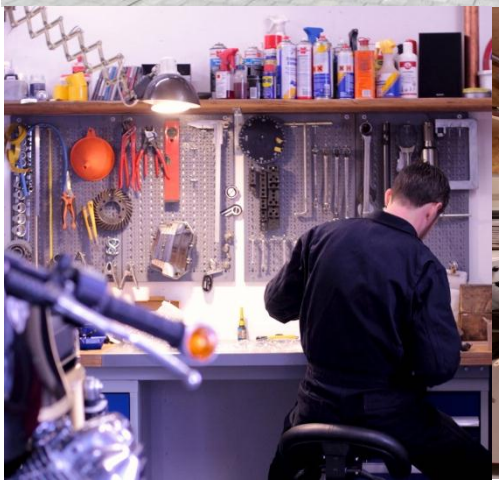
Vocational Trainung and Job Creation by Urban Renewal

Global Neighbourhood- after renovation

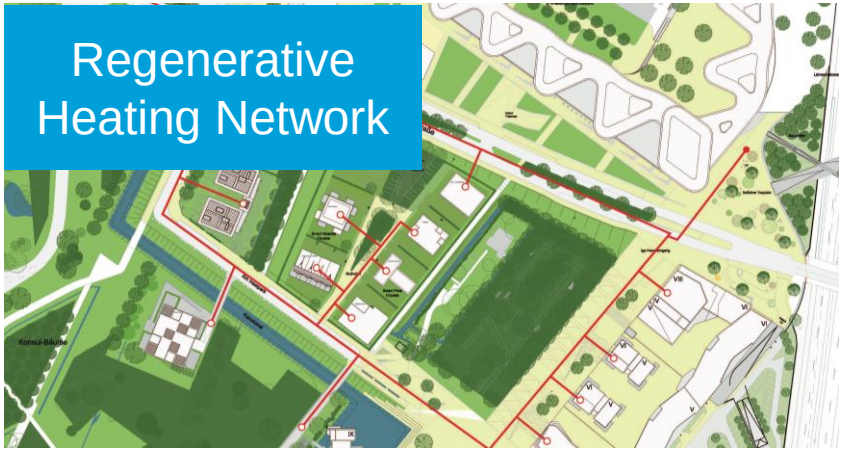


World-Commercial Park



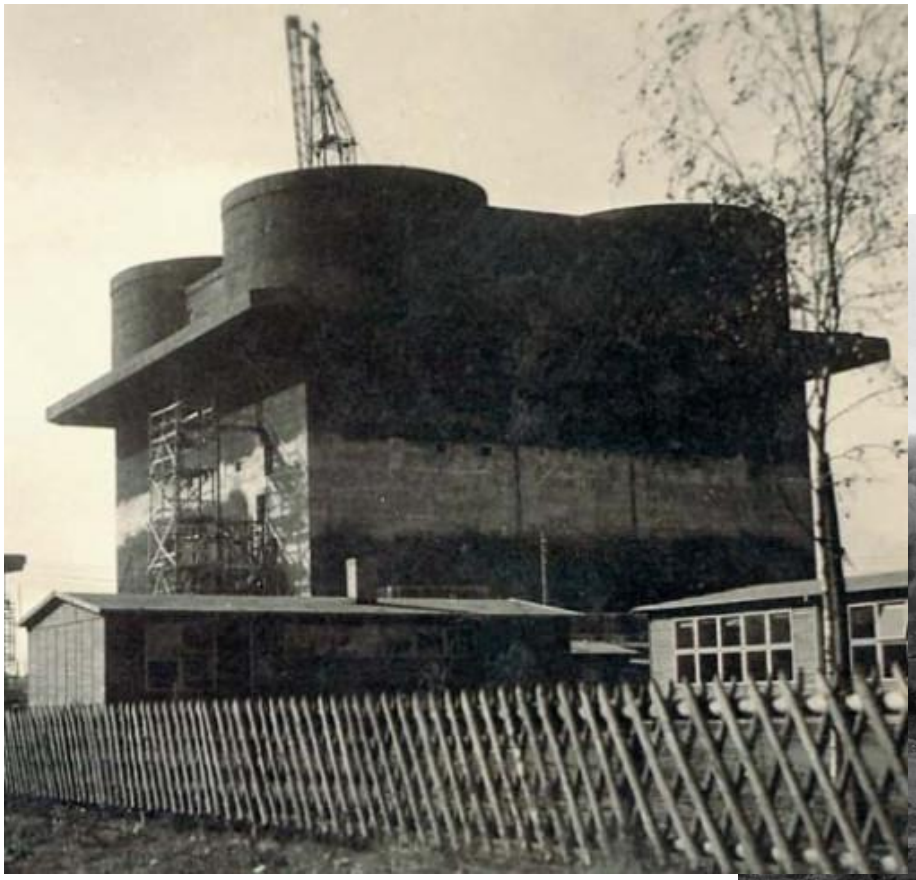


Strategic Operational Fields of Cities and Climate Change



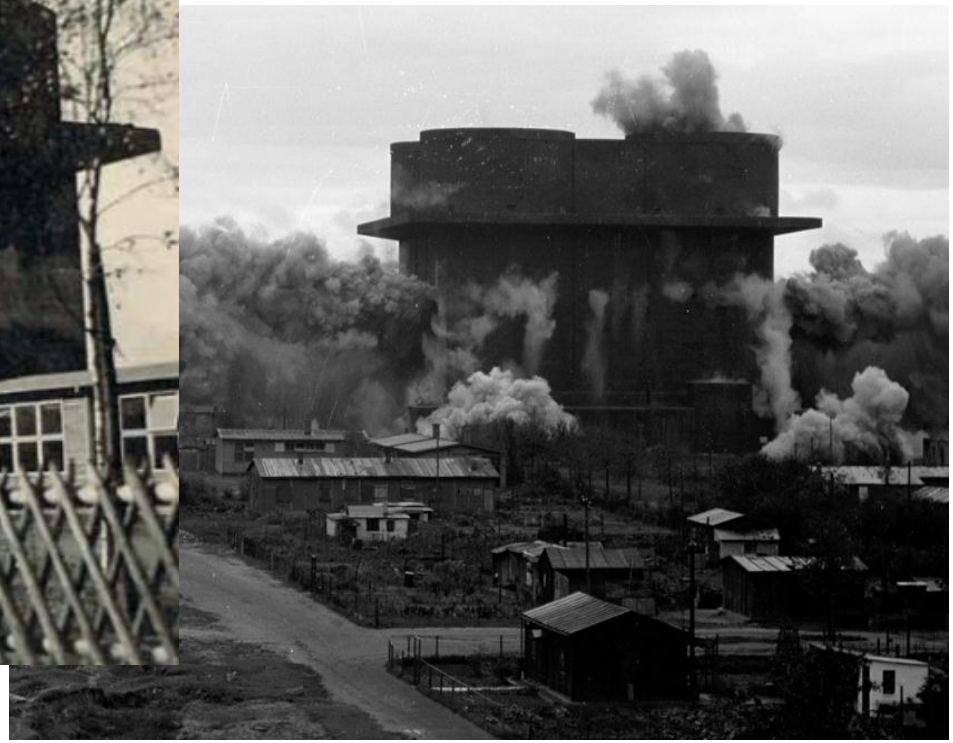
Regenerative Heating Network

Flack- And Air-Raid Bunker From World War II

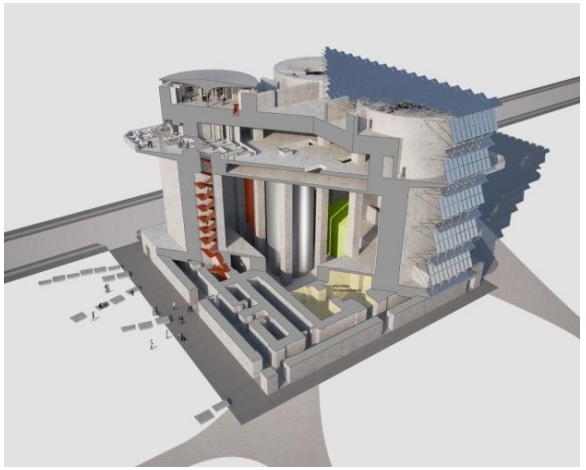


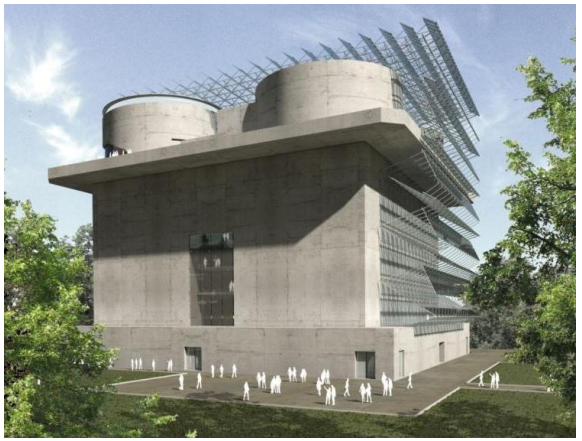
1943

1945



Energy Bunker 2011

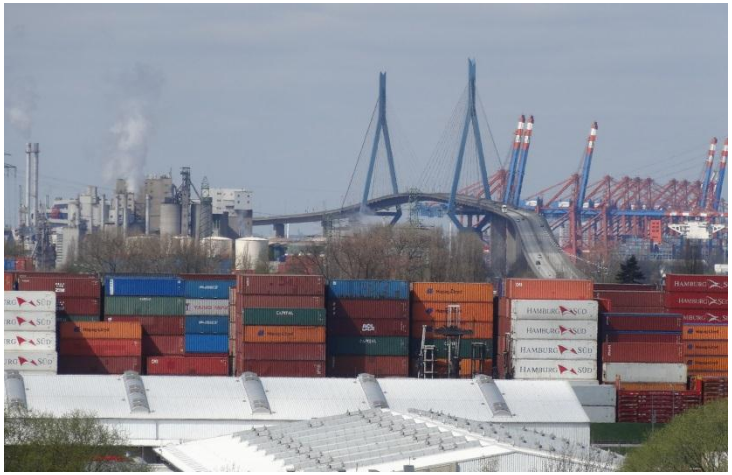




IBA Hamburg / Martin Kunze / bloomimages / HHS Architekten

Energy Bunker – Transformation into an Eco Power Plant 2013

Eco-Lighthouse - Observation Gantry – Cafe - Exhibition



Strategic Operational Fields of Cities and Climate Change

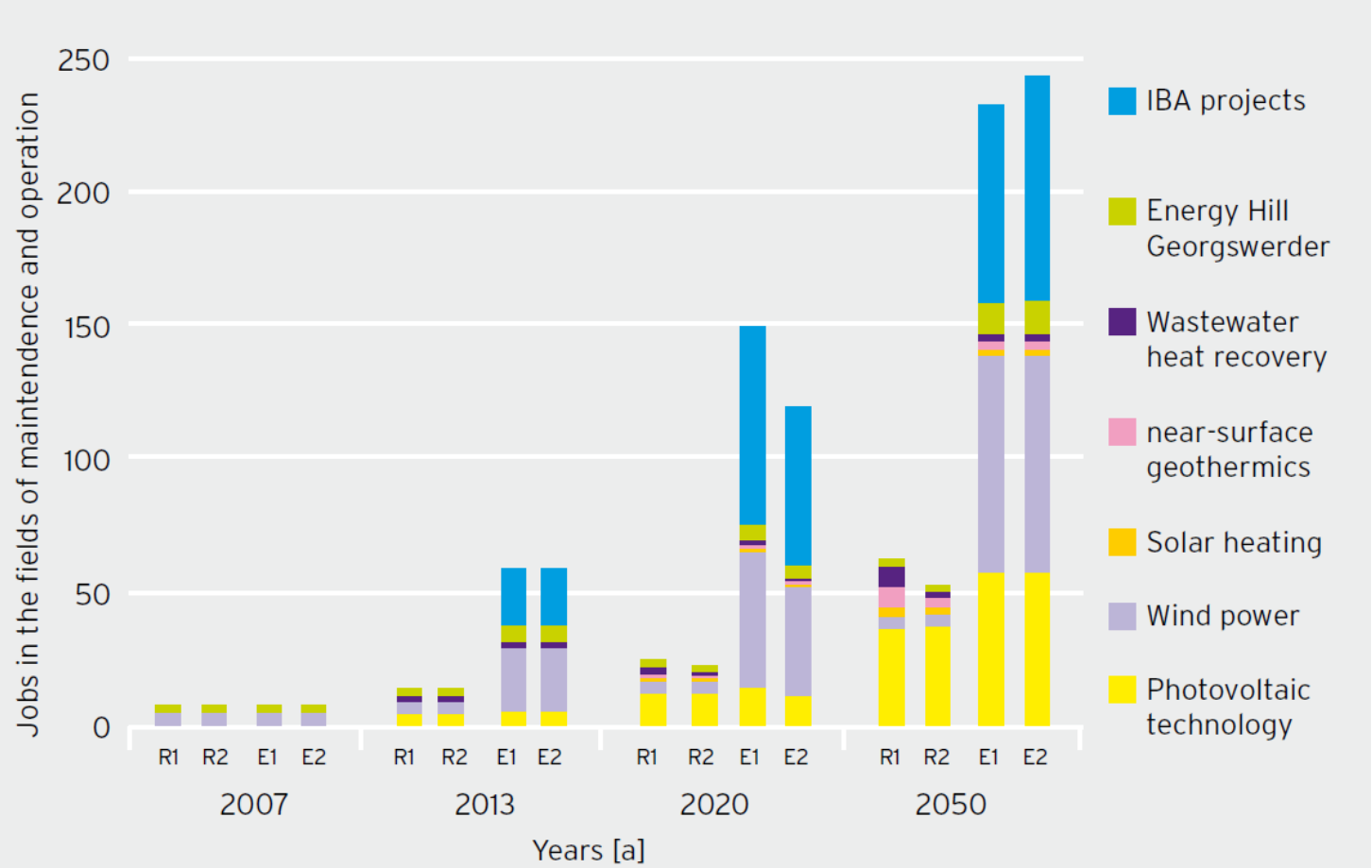
Renewable Energies

Energy Hill Georgswerder

Photovoltaik und Wind Energy Sytem

Creating New „Regenerative“ Public Space

Employment in Maintenance and Operation



Conclusions

- The transformation of neglected urban quarters in regenerative and sustainable urban areas is a unique chance to bring a new identity and new image to the opportunity sites, and to offer a lot of benefits for the local community, eg. vocational training, jobs and income, revenues for local businesses and associated benefits as local taxes.

- Regenerative concepts must be part of an comprehensive strategy of urban and environmental equity, including efforts in education, employment, public realm and decent and affordable housing.

- The regenrative transformation of cities and urban quarters is depending on both acceptance and support by the local and state authorities. Yet private investment and committment plays a decisive role.

- The transformation process needs a responsible agency that serves as a partner for local stakeholders and residents and equally as a driver and coordinator of all parties involved.

IBA MONOGRAPH:
BUILDING THE CITY WITHIN THE CITY
NOW PUBLISHED

THANK YOU VERY MUCH FOR YOUR KIND ATTENTION!

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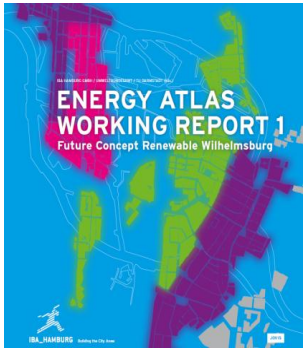
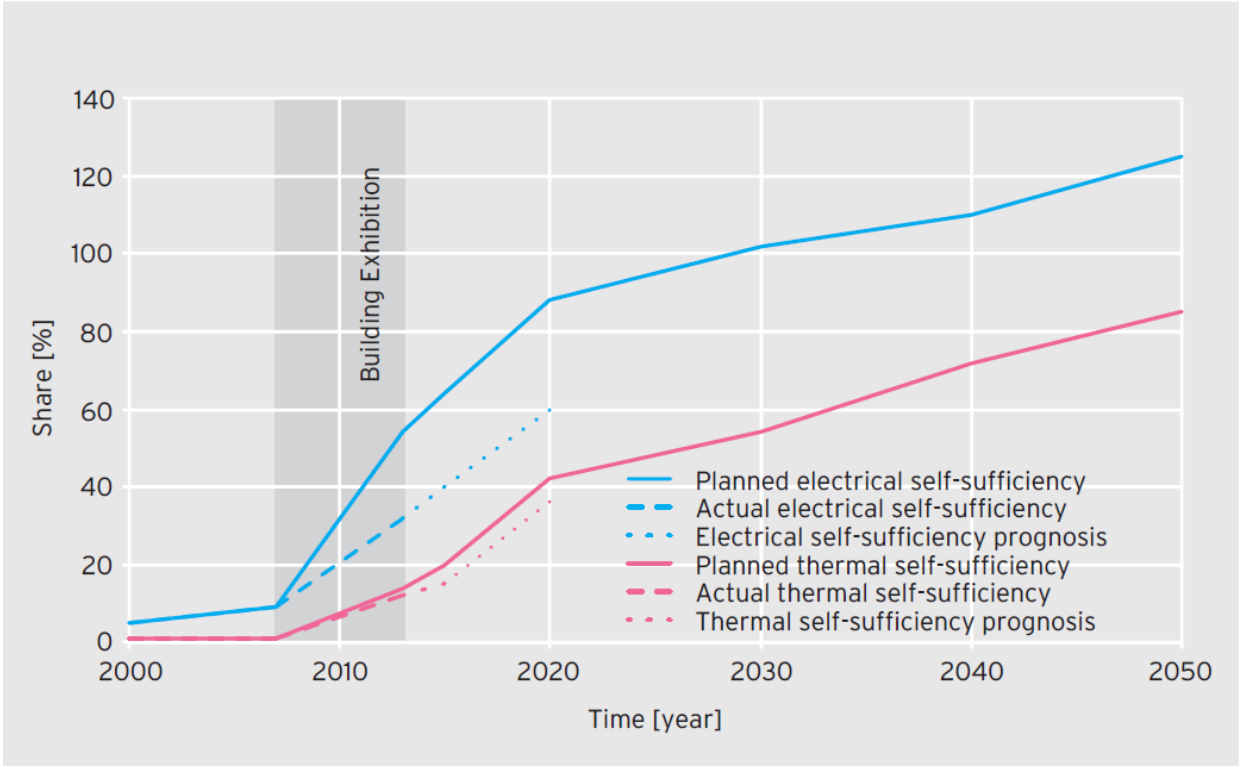
Energy Atlas WORKING REPORT 1 – Future Concept Renewable Wilhelmsburg 2015



Target-actual comparison of self-sufficiency through renewable energies



Nergieatlas Werkbericht 1 – Zukunftskonzept Erneuerbares Wilhelmsburg

IBA HAMBURG GMBH

EnEff:Stadt
Forschung für die energieeffiziente Stadt

IBA_HAMBURG

Technische Universität Braunschweig

TU Clausthal

HCU HafenCity Universität Hamburg

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aufgrund eines Beschlusses des Deutschen Bundestages

Causes of the deficient implementation

- **Delayed development of district heating network (i.e. „Energiebunker“)**
  - Long lead phases and high investment needs
  - Lack of interest / awareness of owners
  - Tenancy restrictions (heat supply regulation)

- **Delay in the realization of "geothermal energy “**
  - Economy
  - Secure the customer structure
  - Political acceptance
- **Low rate of redevelopment in existing buildings**
  - Demography
  - Lack of support and advice
  - Financial burden