



## Workshop on: Economic Tools for Sustainable Brownfields Redevelopment



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für Bildung  
und Forschung

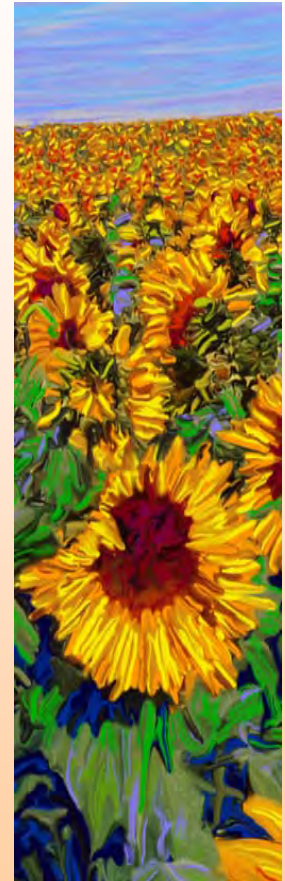
### U.S.-German Bilateral Working Group





In 2000, the United States Environmental Protection Agency (EPA) and the German Federal Ministry of Education and Research (BMBF) continued an ongoing partnership to gain an understanding of each other's approach to the cleanup of chemical contamination in order to protect human health and the environment. This partnership has now entered its third phase with a new focus on providing a variety of tools, approaches, and technologies that could facilitate streamlined, cost-effective cleanup and redevelopment of contaminated sites, or brownfields. The Interstate Technology and Regulatory Council (ITRC), a key state-led organization, is also a significant partner in the third phase activities.

One compilation of tools the partnership is developing is the Site-specific Management Approach and Redevelopment Tools (SMART) Guidance. The SMART Guidance is a document specifically designed to support brownfields redevelopment strategic planning. Additionally, EPA is developing SMARTe, a web-based decision support tool for redevelopment of brownfields.







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The SMART Guidance and SMARTe provide a forum for sharing ideas and experiences in brownfields redevelopment. Combining best practice examples with easy access to information and analysis tools will promote successful, long-term brownfields redevelopment that is environmentally sound and beneficial to both the local community and the developer.



The SMART Guidance and SMARTe are being developed and evaluated through:

- \* Joint Workshops
- \* Model Projects
- \* Beta Projects





Joint workshops on the various components of brownfields redevelopment bring together recognized "experts" from Germany and the U.S. These workshops provide a comprehensive and practical foundation for the SMART Guidance and SMARTe. The first of six planned workshops was held in Charlotte, North Carolina, on November 11 and 12, 2002. This workshop was on Economic Tools for Sustainable Brownfields Redevelopment. This CD contains abstracts, presentations, and other documents provided at the workshop.



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## Financial Tools Summary

[Brownfields Act of 2001](#)

[Federal Tools](#)

[Local Tools](#)

## Links



<http://www.epa.gov/ORD/SITE/BLA.html>



<http://www.bilateral-wg.org/>



<http://www.bmbf.de/>



The links below will connect you to the specific documents on this CD, presentation and abstract.

## Brownfields Redevelopment in the U.S.

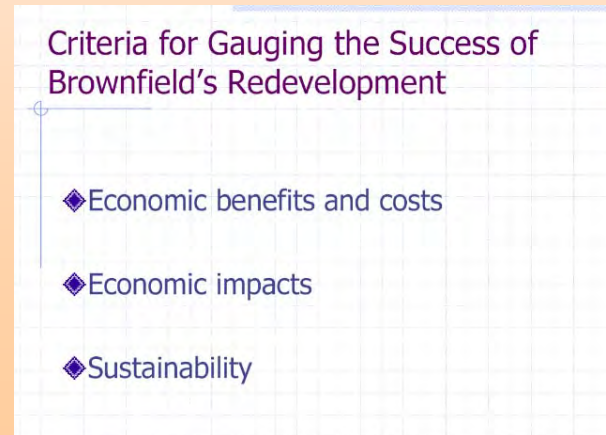
Alvarez



Abs.

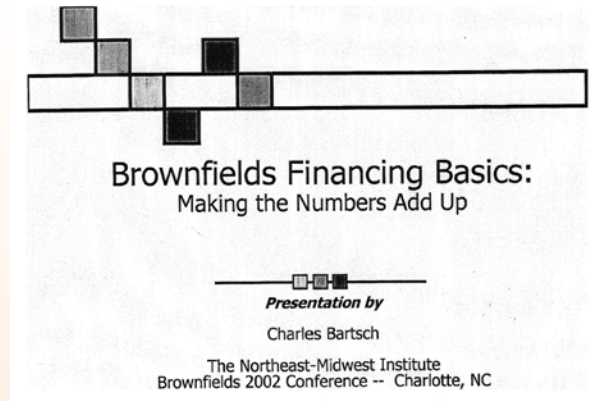
## Criteria for Gauging the Success of Brownfield's Redevelopment.

Anderson



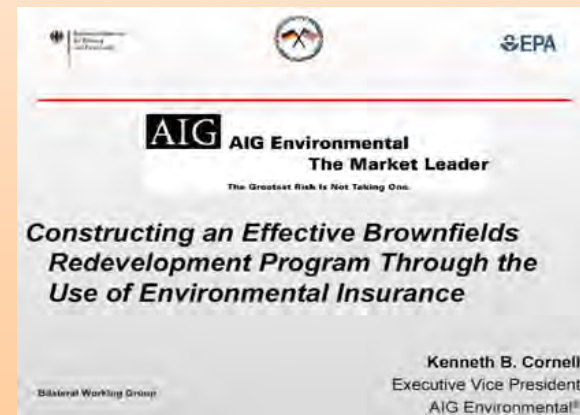
## Brownfields Financing Basics: Making the Numbers Add Up.

Bartsch



## Constructing an Effective Brownfields Redevelopment Program through the use of Environmental Insurance.

Cornell



Abs.



# Land Consumption & Site Recycling Challenges for Germany - An Overview.

Dosch

**BBR - Federal Office for Building and Regional Planning**

Supports spatial, urban and housing policy under the (new) Ministry for Infrastructure. Scientific sections:

I – Spatial Planning and Urban Development,  
II – Building, Housing, Architecture.

Spatial monitoring system, demonstration projects of sustainable development, Urban 21 Berlin 2000, European integration

Website: [www.bbr.bund.de](http://www.bbr.bund.de)

Land Consumption & Site Recycling in Germany, F. Dosch, BBR, Bilateral Working Group, February 2002  
and Europe for Brownfield Redevelopment Workshop, Charlotte, NC, May 11-12, 2002

Redevelopment of a Former Military Base in Germany. Difficult and Expensive: No money left for sustainability?

Eitel

**Economic Tools and Finance for Brownfield Redevelopment Workshop**

Redevelopment of a former military base in Germany.  
Difficult and expensive: no money left for sustainability?  
Model housing Petrikberg in Trier, Germany

November 11<sup>th</sup> and 12<sup>th</sup> 2002  
Charlotte, North Carolina

Jan Eitel, managing director EGP GmbH  
[J.Eitel@giu.de](mailto:J.Eitel@giu.de)

Bilateral Working Group

Abs.

## Funding Instruments Applicable for Brownfields Redevelopment - An Overview.

Ferber



Abs.

## Funding Experiences for Brownfield Redevelopment in the City of Leipzig

Gerken



Abs.



I know a great Brownfield. Can you give me a loan?

Henry



Abs.

# The State Property Fund North-Rhine Westphalia and the Role of State Development Agencies.



Abs.

## PPP Development and Finance Strategies.



Ishorst



The OKAL Site in Titisee-Neustadt, Black Forest as an Example for Brownfield Redevelopment in middle-sized Communities.

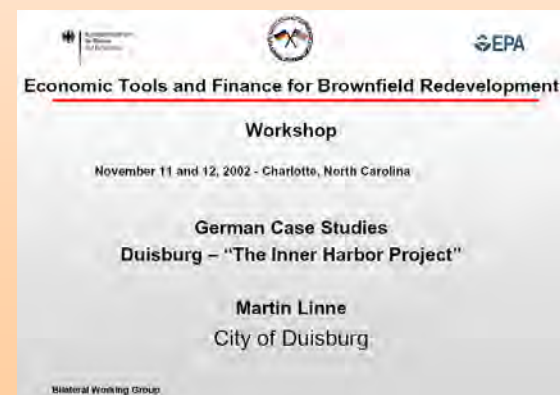
König



Abs.

Workshop Report Duisburg Inner Harbor.

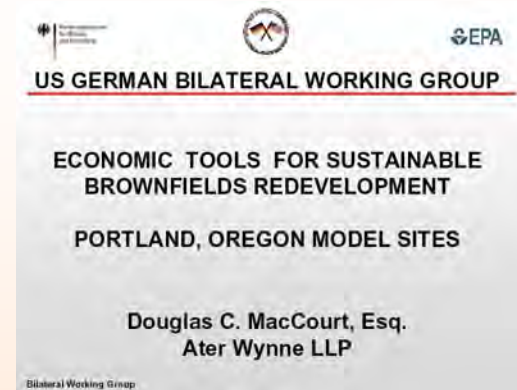
Linne



Abs.

Two successful case studies from Portland, Oregon will be presented, including North Marine Drive and the Yards at Union Station.

MacCourt



Abs.

Public Financing of Brownfields Redevelopment Projects.

Sherman



Abs.

## Criteria for Gauging the Success of Brownfields Redevelopment.

Vance

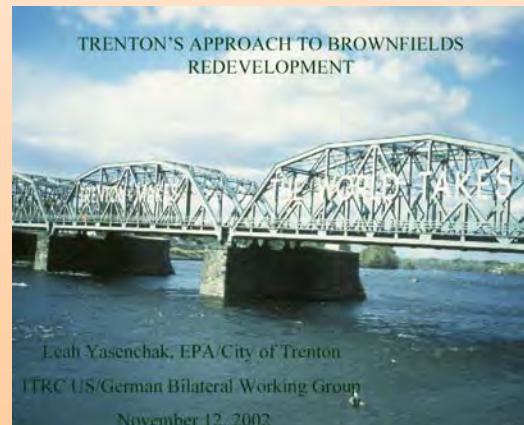
### Criteria for Gauging the Success of Brownfield's Redevelopment

- ◆ Economic benefits and costs
- ◆ Economic impacts
- ◆ Sustainability

Abs.

## Trenton's approach to Brownfields Redevelopment. US Case Study: Trenton, NJ.

Yasenchak



Abs.



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END

# Brownfields

## Redevelopment in the U.S.

U.S. Environmental Protection Agency

Office of Brownfields Cleanup & Redevelopment

*[[www.epa.gov/brownfields](http://www.epa.gov/brownfields)]*

Karl Alvarez

November 11,

# ***Brownfields Perspective***

- Buddhist proverb: "even the frog does not drink up the pond in which he lives."
- **Abba Eban: "History teaches us that men and nations behave wisely once they have exhausted all other alternatives."**
- Anonymous: "When your only tool is a hammer, every problem looks like a nail."





# ***Brownfields and U.S. Property Development***

## **Current Planning in the U.S. results in Large Lot Development**

- **X-Urban**
- **Isolated**
- **Car Dependent**
- **Unsustainable**
- **Loss of Agricultural Resources**



# ***Brownfields and U.S. Planning***

**Cities as “centers” for commerce and culture must absorb traffic flows**

- **Planning challenges**
- **Transportation intensive**
- **Stress on Air and Water resources**
- **Increasing commutes**
- **Housing price differentials**
- **Environmental Justice**





# ***Brownfields and Smart Growth***

## **Historic patterns of City design create ‘community’**

- **Human scale**
- **Pedestrian access**
- **Compact**
- **Greenspace/Parks**
- **Diverse Neighborhoods**
- **Neighborhood Identity**
- **“Workable”**





# ***Brownfields and Innovative Planning***



**Brownfields Redevelopment  
and Smart Growth promote  
livable cities**

- Multi-modal, multi-use**
- Human scale**
- Compact Communities**
- Greenspace/Parks**
- Retains Neighborhoods**

*...cities become the destination  
where people want to live, work,  
and play.*



# New *Brownfields* Law

**Definition:** Brownfields are “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant”

**Program Provisions:** Grants will be awarded under two processes.

**Subtitle A** - Competitive grants for assessments, revolving loan funds, cleanups, and job training. [up to \$200 million]

**Subtitle C** - Non-competitive grants to states and tribes to build program capacity. [up to \$50 million]



# ***Brownfields Targeted Benefits***



- † **Brownfields Law Implementation**
- † **One Cleanup Program**
- † **Revitalization Agenda**



- **Jobs for inner-city residents**
- **Increases in the number of revitalized unproductive & derelict properties.**
- **Increased tax revenues to cities.**
- **Increased social and environmental knowledge**
- **Environmental cleanup of contaminated properties to appropriate standards.**
- **Conservation of open rural land (“greenfields”).**
- **Increased pollution and transportation infrastructure controls.**
- **Opportunities for business involved in brownfields restoration projects.**



# Measures of *Brownfields* Success

## National Statistics: *[since 1995]*

- ▶ **\$4.6 billion leveraged**
  - ▶ \$283 million in cleanup investments
  - ▶ \$4.41 billion in redevelopment/construction
- ▶ **3,691 sites assessed with pilot funds**
  - ▶ 1,162 sites assessed with leveraged funds
  - ▶ 1,563 sites deemed not to require cleanup
- ▶ **20,583 jobs created or retained**
  - ▶ 7,545 cleanup jobs
  - ▶ 12,983 redevelopment jobs
- ▶ **15 RLF loans made totaling over \$4 million**
  - ▶ over \$66 million in leveraged funds
- ▶ **63% job placement rate for job training pilots**
  - ▶ \$12.37 average starting salary





# Summary

- ▶ Market Based
- ▶ Community Driven
- ▶ Partnership Centered
- ▶ Environmentally Sound
- ▶ Economically Sustainable



## **Abstract**

# **Brownfields Redevelopment in the United States: An Overview**

by

**Karl Alvarez**

**Office of Brownfields Cleanup and Redevelopment  
U.S. Environmental Protection Agency**

This presentation will provide an overview of the brownfields program and its contributions to the cleanup and redevelopment of contaminated property across the country. It details how current planning consumes increasing amounts of greenspace and how unsustainable growth adversely impacts cities and their residents. Through brownfields cleanup and redevelopment cities become the destination where people want to live, work, and play. The presentation will also provide information on the United States' new brownfields law and the tools provided to help cities and towns assess, cleanup, and reuse important property at their core.

# Criteria for Gauging the Success of Brownfield's Redevelopment

- ◆ Economic benefits and costs
- ◆ Economic impacts
- ◆ Sustainability

# Economic Benefits and Costs

- ◆ Net benefits = Change in the value of outputs  
- change in the cost of inputs
  - Outputs: more open space, cleaner air, reduced crime
  - Inputs: resource costs to society (labor, 'external' costs)
  
- ◆ Key criterion of success is *efficiency*: can the 'winners' fully compensate the 'losers'?



# Economic Impacts

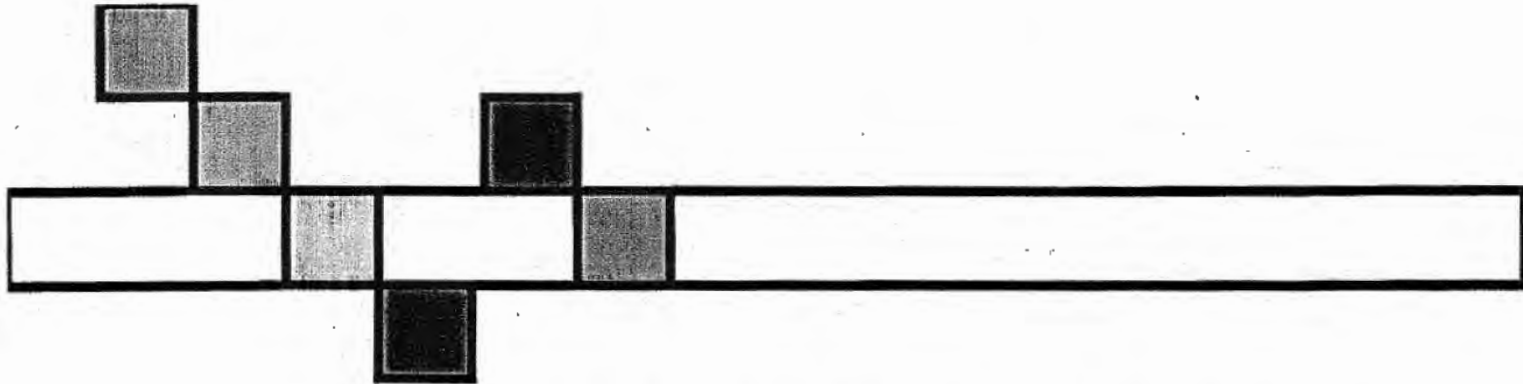
- ◆ Key criterion of success is *distribution*
- ◆ Who gains, who loses, and by how much?
- ◆ Indicators: jobs creation, changes in output or revenue, financial impacts to state and local governments

## Returning to the calculation of net benefits

Change in the value of outputs  
– change in the cost of inputs



jobs creation



# Brownfields Financing Basics:

## Making the Numbers Add Up



***Presentation by***

Charles Bartsch

The Northeast-Midwest Institute  
Brownfields 2002 Conference -- Charlotte, NC



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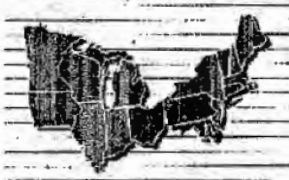
# Goals of Public Financing Initiatives

## What Can Public Financing Programs Do?

*\*and some examples*

- ☐ Reduce lender's risk
    - ✓ *loan guarantees; companion loans; insurance*
  - ☐ Reduce borrower's costs
    - ✓ *interest-rate reductions or subsidies; due diligence assistance; maintain records on institutional controls*
  - ☐ Improve the borrower's financial situation
    - ✓ *re-payment grace periods; tax abatements; training and technical assistance*
  - ☐ Provide comfort to lenders or investors
    - ✓ *loan guarantees; performance data; insurance/risk transfer mechanisms*
  - ☐ Provide resources directly
    - ✓ *grants; forgivable/performance loans*
-

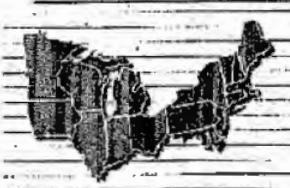




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## Coping with Contamination: Common Local Financing Tools

- Tax increment financing (TIF)
  - Tax abatements
  - Locally capitalized revolving loan funds (RLFs)
  - General obligation bonds
-



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## Examples of “Out of the Box” Financing

- **Traverse City, Michigan** – blend of environmental and economic development funding sparks river front mixed use redevelopment
  - **Stamford, Connecticut** – riverwalk supported by marina/boat slip fees
  - **Huntsville, Alabama** – in-town mall stimulates increased property values, which will be used to pay for additional community improvements
  - **Wyandotte, Michigan** – golf course and park maintenance supported through greens fees
  - **Old Town, Maine** – small town drives state and federal funding efforts for commercial and recreational reuse
  - **Waukesha, Wisconsin** – cleanup, construction, and home ownership funding lead to a new community
  - **Connecticut dry cleaners fund** – grants for brownfields prevention
-



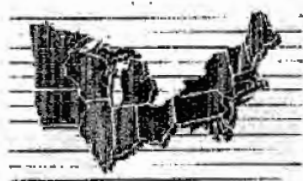
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## New State and Local Financing Ideas: What's on the Horizon?

### ***Local:***

- earmarking water, sewer, and waste water charges for brownfield cleanup
  - earmarking part of existing grant, loan, or loan guarantee program funds to site assessment and cleanup projects/activities
  - developing a municipal "linked deposit" program targeted to brownfield borrowers;
  - channeling loan repayments from existing city programs to brownfield projects;
  - devoting monies raised from fines or fees to a brownfield financing pool
  - using small amounts of public funds to "seed" a private, shared-risk financing pool devoted to brownfield redevelopment.
-



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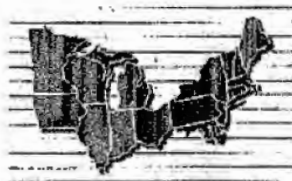
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## New State and Local Financing Ideas: What's on the Horizon?

### ***State:***

- Connecticut's dry cleaning fund – from 1 percent surtax on cleaning services
  - Michigan – targeting unclaimed bottle deposit revenue for cleanup and redevelopment
  - Wisconsin and Ohio – using EPA CWSRF monies for water-related brownfield projects
-



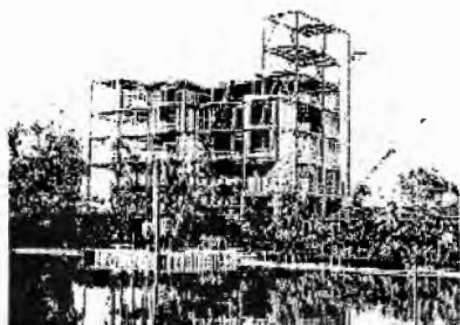


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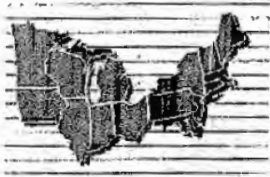
## Project Examples

### River's Edge – Traverse City, Michigan

A former iron foundry site along the Boardman River turned into a successful, mixed-use urban infill project



- Financial incentives included direct and indirect financing and tax credits, such as: (a) State Coastal Management funds used to assess the environmental contamination and future uses of the property, (b) a state site reclamation grant, (c) a downtown development authority (DDA) public infrastructure TIF, and (iv) the single business tax credit associated with the brownfields redevelopment authority.
- River's Edge redevelopment involved over \$50 million in private investment. The site is built on more than 300,000 sq ft, with a value of nearly \$100 million. Mixed-uses include a street-level retail shops, second floor office space and high rise residential units. Much of the parking is hidden below the buildings, giving the surface back to the people to stroll, shop, live, work and play.

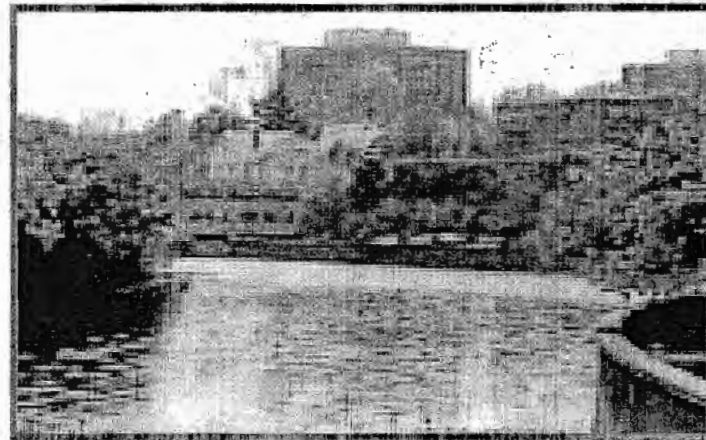
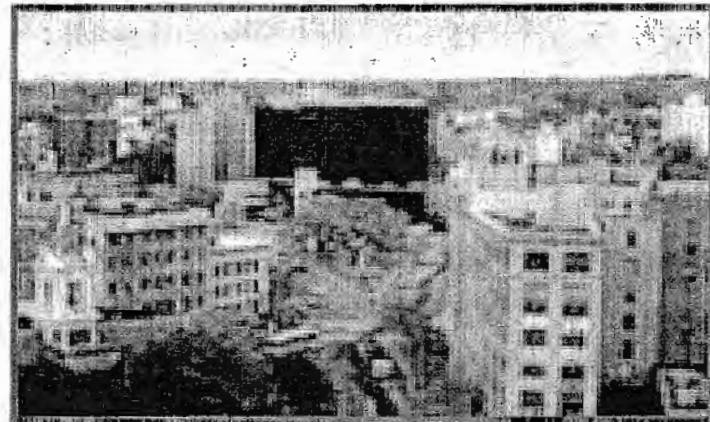


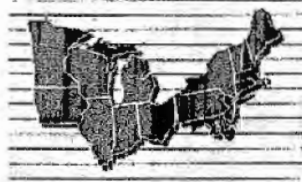
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## Project Examples

### **Riverwalk Stamford, Connecticut**

- Brownfield site used to “open up” Long Island Sound to the public
- Maintenance supported by marina/boat slip fees from adjoining brownfield development





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# Project Examples

### **Parkway Place Mall** Huntsville, Alabama

- \$60 million in-town mall, replacing a largely abandoned "brownfield mall"
  - Huntsville and Madison County contributed \$6 million for a parking garage and street improvements
  - Special TIF-like taxing district created around the mall, to take advantage of anticipated rise in property values
- \* \$10 million generated will be used to rebuild an adjacent high school
- \* other proceeds will be used recover developer subsidies







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## Project Examples

### Wyandotte, MI—Chemical Site on Detroit River

- This project involved transforming a defunct, 84 acre chemical manufacturing plant along the Detroit River into a public recreation area and a nine-hole golf course.
- Today, the redeveloped property includes a park with a riverfront walkway and observation decks, picnic areas, jogging trails, and a rowing club, in addition to the nine-hole public golf course. User fees have allowed the golf course to be self-supporting and pay for maintenance of the park. The nine-hole, par 36 golf course cost approximately \$5.2 million in public funds—supported primarily from Wyandotte's tax increment finance district and the issuance of tax increment bonds.





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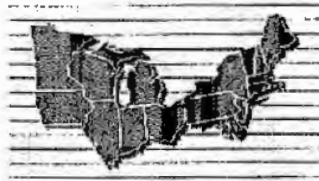
## V. Project Examples

### Old Town, ME -- Marsh Island Carry

The successful transformation of the underutilized contaminated site to a revitalized waterfront park and commercial property was a partnership between the proactive city government of Old Town, the Maine Department of Environmental Protection's (ME DEP) Voluntary Response Action Program (VRAP), and the U.S. EPA Brownfields Program, with additional support of the private sector.

The redevelopment was made possible by several additional grants from federal and state agencies. They include a \$400,000 Enhancement Grant from ME DOT for the park and walkways; a \$400,000 Community Development Block Grant for infrastructure around the commercial buildings, a \$24,500 from the National Trails Recreation Act for trails, walkways, and river stabilization, and \$8,000 from ME Forest Service for tree planting





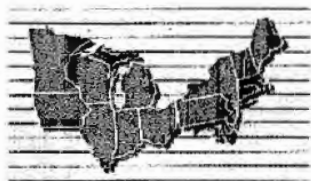
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# Project Examples

## Phoenix Heights – Waukesha, Wisconsin

- 69 energy-efficient homes completed, many for moderate income families
- \$13.5 million project, including \$3.13 million in public funds, for
  - \* \$1.87 million in state funds for cleanup
  - \* \$415,000 in CDBG for construction
  - \* \$575,000 in state and HOME funds for buyer assistance
- \$405,000 in annual property taxes generated





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## Project Examples

### Connecticut Dry Cleaner Remediation Fund

- Brownfield prevention program
- Provides up to \$50,000 in grants for soil and groundwater cleanup, pollution prevention







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Web Site

[www.nemw.org/brownfields.htm](http://www.nemw.org/brownfields.htm)

- ***Federal Legislative Proposals to Promote Brownfield Cleanup and Redevelopment*** - what's happening in Congress
- ***State of the States*** - profiles of state VCPs, including new information on financing incentives, economic benefits, eligible contaminants, cleanup standards, and institutional controls
- ***Guide to Federal Brownfield Programs*** - detailed information on programs throughout the federal government that can promote and support brownfield cleanup and redevelopment
- **Financing options for brownfield cleanup and redevelopment**
- **Contacts in state and federal brownfield programs**
- **Link to EPA brownfield home page**
- **Links to brownfield databases and organizations**

**Economic Tools for Sustainable Brownfields Redevelopment  
U.S.-German Bilateral Workshop Agenda -  
The Charlotte Convention Center, Room AB  
November 11 and 12, 2002, Charlotte, North Carolina**

**Monday, November 11, 2002**

12:00 – 12:30	<b>Welcome, Introduction of Participants</b>	Annette Gatchett, EPA
12:30 – 1:15	<b>Introduction Key Notes</b>	Karl Alvarez, EPA
	<u>U.S. Situation</u>	
	<ul style="list-style-type: none"><li>• Land Management / Site Recycling<ul style="list-style-type: none"><li>- Status and Challenges</li></ul></li></ul>	Dr. Fabian Dosch, Federal Agency of Building and Housing
	<u>Germany</u>	
	<ul style="list-style-type: none"><li>• Land Use, Land Management, Site Recycling<ul style="list-style-type: none"><li>- Overview about the German Situation</li></ul></li></ul>	
1:15 – 1:40	<b>U.S. Introductory Presentation</b>	
	<u>Brief Overview of Brownfield Economics</u>	
	<ul style="list-style-type: none"><li>• Primary Economic Factors Affecting Brownfield Redevelopment</li><li>• Three Types of Risk to the Brownfields Transaction and Common Financing Requirements to Minimize Risk</li></ul>	Evan Henry, Bank of America

# **Economic Tools for Sustainable Brownfields Redevelopment**

## **U.S.-German Bilateral Workshop Agenda**

1:40 – 2:00

### **Overview of National Brownfields Financing Tools**

(as applied with examples of success and failure)

- Tax-based tools
- Market-based tools
- Public/private investment tools
- U.S. urban economic policies empowerment zones
- Community development corporations

Charlie Bartsch, Northeast-Midwest Institute

2:00 – 2:15

Questions and Answers

2:15 – 2:30

Break

2:30 – 3:15

### **German Introductory Presentation**

Funding instruments applicable for brownfield redevelopment – an Overview

- German urban economic development policies
- National finance instruments
  - Federal Level
  - State Level
- European funding initiatives (e.g. Urban II, European Structural Funds)

Dr. Uwe Ferber,  
Projektgruppe  
Stadt+Entwicklung

3:15 – 3:30

Questions and Answers

# Economic Tools for Sustainable Brownfields Redevelopment

## U.S.-German Bilateral Workshop Agenda

3:30 – 4:30	<b>U.S. Panel Presentation</b> <ul style="list-style-type: none"><li>• Public Finance Tools<ul style="list-style-type: none"><li>- Bonds</li><li>- Tax Credits</li></ul></li><li>• Private Capital Tools<ul style="list-style-type: none"><li>- Debt</li><li>- Equity</li><li>- Risk Management/Insurance</li></ul></li></ul>	Doug MacCourt, Ater Wynne LLP (Moderator)  Ann Sherman, Ater Wynne LLP  Ken Cornell, Vice President, AIG Environmental  Evan Henry, Bank of America
4:30 – 4:45	Questions and Answers	
4:45 – 5:00	Break	
5:00 – 6:00	<b>German Panel Presentation</b> <p>Specific Discussions:</p> <ul style="list-style-type: none"><li>• Federal and State Urban Development Programs - Funding Experiences for Brownfield Redevelopment in the City of Leipzig</li><li>• PPP development and finance strategies</li><li>• The State Property Fund (“Grundstücksfonds“) in North-Rhine Westphalia and the Role of State Development Agencies (“Landesentwicklungsgesellschaften - LEG“)</li></ul>	Karsten Gerken, Head of Redevelopment Agency, City of Leipzig  Ralph Ishorst West German Real Estate Bank
6:00 – 6:15	Questions and Answers	



# Economic Tools for Sustainable Brownfields Redevelopment

## U.S.-German Bilateral Workshop Agenda

**Tuesday, November 12, 2002**

8:30 – 10:00	<b>U.S. Case Studies</b> <ul style="list-style-type: none"><li>• Trenton, New Jersey</li><li>• Portland, Oregon</li></ul>	Leah Yasenchak, City of Trenton  Doug MacCourt, Ater Wynne LLP
10:00 – 10:30	Questions and Answers	
10:30 – 11:00	Break	
11:00 – 12:30	<b>German Case Studies</b> <ul style="list-style-type: none"><li>• Duisburg Innenhafen</li><li>• Model Project from Baden-Wuerttemberg</li></ul>	Martin Linne, City of Duisburg  Michael Konig, Dr. Eisele Group
12:30 – 1:00	Questions and Answers	
1:00 – 2:00	Lunch Break	

# **Economic Tools for Sustainable Brownfields Redevelopment**

## **U.S.-German Bilateral Workshop Agenda**

2:00 – 3:00

### **Joint Panel Discussion – Financing Public Infrastructure Towards Sustainable Brownfields Redevelopment**

#### **U.S.**

- Mechanism and project example of funding sustainable uses (e.g. new EPA and HUD laws, U.S. DOT policy to access public financing, and examples of projects linking land use planning, air/water quality and public infrastructure)

Colin Vance, EPA  
Lisa Peoples, HUD  
Chris Forinash, EPA

#### **Germany**

- Approaching Sustainability on Brownfields – a Current Example from German Urban Development

Jan Eitel,  
GIU – Innovation, Enterprise  
Support and Land Management

3:00 – 3:15

Question and Answer

3:15 – 5:15

### **Roundtable Discussion – Group Design Exercise**

Real site (U.S./German)

Ann Vega  
(U.S. Facilitator)

Only essential, predevelopment facts (former use, contamination, what a planner needs)

Stephan Tomerius  
(German Facilitator)

Comparison real end and findings of the groups

# **Economic Tools for Sustainable Brownfields Redevelopment**

## **U.S.-German Bilateral Workshop Agenda**

5:15 – 5:30

### **Conclusion**

Annette Gatchett, EPA

Suggested format for reporting conclusions in panel discussion at Brownfields 2002

### **Brownfields 2002 Conference**

Presentation of workshop results on Wednesday, November 13, 2002, Panel Session, 1:00 -2:30 p.m.

# **The Brownfields Revitalization Act of 2001: How Communities Can Benefit**

*by Charles Bartsch  
Northeast-Midwest Institute*

On January 11, 2002, President Bush signed the Brownfield Revitalization and Environmental Restoration Act into law – nearly eight years after the first brownfield bill was introduced into Congress. The new law will promote greater interest in brownfield site reuse in a couple of ways (see summary on the last page). As noted below, it will set the stage for new state-community-private partnerships that can resolve thorny liability issues that impede site reuse. A key aspect is that the act clarifies the state-federal relationship regarding cleanup finality.

The new law will also help cities, communities, and private sector players overcome one of the most significant hurdles they face when trying to acquire and redevelop contaminated property – the lack of capital to carry out essential early- stage activities, notably, site assessment, remediation planning, and the actual cleanup itself.



The Brownfield Revitalization and Environmental Restoration Act authorizes \$200 million per year (thru fiscal 2006) for grants to states, local governments, and tribes, as well as entities such as quasi-public redevelopment agencies and authorities. This money to be used for:

- Site assessment grants – typically, up to \$200,000 per site, but EPA has discretion to bump this to \$350,000 under some circumstances
- Grants for cleanup – both to make direct remediation grants of up to \$200,000, to governments or non-profits, or to capitalize cleanup revolving loan funds (RLFs), up to \$1 million per applicant.

The new law will also make it easier for recipients to run their revolving loan funds; they will no longer have to meet national contingency plan and on-site coordinator requirements that stymie existing loan fund operators.

Even though the direct cleanup grants will require a 20 percent match, this is a significant step forward in EPA's brownfields effort, since this will be the first time that the agency will be allowed to make direct grants for cleanup. Criteria for funding awards will also allow a wider range of activities, including "non-economic" uses that will help improve community quality of life. Applications will be judged on factors that include the extent to which the money will be used to protect human health and the environment; spur redevelopment and create jobs; preserve open space and parks; represent a "fair" distribution between urban and rural areas; and involve the local community.

The new law opens up the program in two potentially significant ways. First, it permits sites with – and stipulates that 25 percent of what Congress appropriates for the program (up to \$50 million) may be used for sites with petroleum contamination. This will help brownfield reuse proponents better address the realities of the reuse process, where a variety of contaminants are the norm; it will also be useful in small towns where the predominant type of brownfield is the abandoned gas station. Also, grant recipients will now be able to use a portion of the site assessment or cleanup grants to pay insurance premiums that provide coverage (such as for cleanup cost over-runs) for these sites. This should help prospective site reusers secure private financing more readily, because it will provide a way to better quantify and manage risk.

The Brownfield Revitalization Act also significantly increases EPA’s support of state response programs. This will be critical, given the enhanced state role in deciding site cleanup finality, which includes strict limits on federal enforcement and cost recovery. The new authorizes \$50 million per year (thru fiscal 2006) for grants to states and tribes to establish and enhance state voluntary cleanup and other response programs – more than triple the pre-enactment level. States can use these funds to help them fulfill their new obligations under the act, and give state officials resources to expand program efforts, such as establishing their own state-wide cleanup RLFs.

The Bush Administration’s fiscal year 2003 budget requested a total of \$200 million for EPA’s brownfield program:

- \$50 million (full funding) to enhance state voluntary cleanup or other response programs

\$150 million for balance of program (\$50 million shy of full funding), which includes \$120.5 million for grant programs and \$29.5 million for new staffing and other program costs (which makes the 25 percent petroleum project set aside about \$30 million)

It will be up to key members of Congress to decide how strongly they will push for full funding of the newly authorized brownfield programs; at this time, it appears likely that Congress will comply with the President's wishes and provide \$200 million for next fiscal year

In addition to funding, the new law will encourage more public-private partnerships with a common goal of site cleanup and reuse, because it clarifies vexing liability issues that deterred site acquisition and redevelopment. Specifically, the Brownfield Revitalization Act:

- Exempts from Superfund liability contiguous property owners – those who did not contribute to the contamination and who provide cooperation and access for the cleanup;
- Clarifies the innocent landowner defense to Superfund liability, making it easier to use via a “checklist” to determine whether or not it applies; and
- Exempts from Superfund liability prospective purchasers – those who did not know about the contamination at the time of acquisition, who are not responsible for contamination at the site, and who do not impede its cleanup (the law includes windfall lien provisions for sites where the government pays for cleanup, thus enhancing the fair market value of the property).

The latter is probably the most important provision in the new law. Liability protection for prospective purchasers, available for persons who acquire property after January 11, 2002, will remove a significant barrier to private sector participation in brownfield projects, and allow new owners to quantify their risk much more precisely. This should give local officials a good marketing tool to promote site redevelopment – especially as it is linked with property assessment resources and technical assistance efforts.

The act also clarifies the state-federal relationship regarding cleanup finality. Sites addressed thru a state’s voluntary response program are protected from EPA enforcement and cost recovery actions under CERCLA, except in the case of only a few statutorily defined “reopeners” – situations in which EPA can come back with an enforcement action. These situations include: sites where contamination has migrated across state lines or onto federal property; if releases of threat of releases present an imminent and substantial endangerment; if new information shows that a cleanup is no longer protective; or if a state requests intervention. At the same time, states will need to maintain a “public record of sites” addressed through the program, and update it annually. In addition, citizens may request a state to conduct an assessment at a specific site, and a state must “appropriately” respond.



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## **Small Business Liability Protection and Brownfield Revitalization Act**

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**H.R. 2869 – Summary of Key Brownfield Provisions,  
as passed by Congress and  
Signed by President Bush on January 11  
(incorporates provisions of S.350)**

### ***Title II – Brownfield Revitalization and Environmental Restoration***

#### **Sub-title A – Funding**

- \$200 million per year (thru '06) for grants to states, local governments, and tribes, as well as entities such as quasi-public redevelopment agencies and authorities
- Money to be used for (1) site assessment grants – typically, up to \$200,000, but EPA has discretion to bump this to \$350,000 under some circumstances); and (2) grants for cleanup – both for direct remediation grants, up to \$200,000, to governments or non-profits (requires 20 percent match), as well as capital for RLFs, up to \$1 million (with less burdensome requirements)
- Funding criteria include the extent to which the money will be used to protect human health and the environment; spur redevelopment and create jobs; preserve open space and parks; represent a “fair” distribution between urban and rural areas; and involve the local community
- Up to \$50 million (25% of appropriation if less than \$200 million) may be used for sites with petroleum contamination
- Insurance premiums are now an eligible use of funds
- Authorizes EPA to operate a brownfield program that includes training, research, and technical assistance activities

### **Sub-title B – Liability Clarifications: Provides Superfund liability relief to:**

- Contiguous property owners, who provide cooperation and access for the cleanup
- Prospective purchasers, who are not responsible for contamination at the site, and who do not impede its cleanup (bill includes windfall lien provisions for sites where the government pays for cleanup, thus enhancing the fair market value of the property)
- Innocent landowners

### **Sub-title C – State Response Programs**

- Authorizes \$50 million per year (thru '06) for grants to states and tribes to establish and enhance state VCPs/response programs
- States must maintain a “public record of sites” addressed through their programs, and update it annually
- Provides for deferral of listing sites on NPL list if a state is taking action
- Establishes **finality** – sites addressed thru state programs are protected from EPA enforcement and cost recovery actions under CERCLA – *except...*
- In the case of **re-openers** – situations in which EPA can come back with an enforcement action, are preserved in specifically defined situations, including:
  - \*migration of contamination across state lines or onto federal property, if releases or threat of releases present an imminent and substantial endangerment; new information shows that a cleanup is no longer protective; or a state requests intervention
- EPA must consult with the state on re-opener situations
- Citizens may request a state to conduct an assessment at a specific site, and a state must “appropriately” respond

U.S.-German Bilateral Working Group

Economic Tools for Sustainable Brownfields Redevelopment

Workshop Notes

November 11 & 12, 2002

Charlotte, North Carolina

Monday, November 11, 2002

Annette Gatchet, EPA

Ms. Gatchett welcomed everyone to the workshop, outlined the purpose of and agenda for the workshop, and reviewed logistical issues with the participants.

Karl Alvarez, EPA

Current planning in the U.S. results in large-lot development, which is X-Urban, isolated, car dependent, unsustainable, and results in a loss of agricultural resources. Cities as "centers" for commerce and culture must absorb traffic flows which creates planning challenges, is transportation intensive, stresses air and water resources, increases commutes, promotes housing price differentials, and exacerbates environmental justice issues.

Historic patterns of city design create 'communities' that incorporate the following features:

- Human scale
- Pedestrian access
- Compact
- Greenspace/parks
- Diverse neighborhoods
- Neighborhood identity
- "Workable"

Brownfields redevelopment and Smart Growth promote livable cities, which are:

- Multi-modal, multi-use
- Human scale
- Compact communities
- Greenspace/parks
- Retains neighborhoods

In these cases, cities become the destination where people want to live, work, and play.

The new U.S. Brownfields law defines brownfields as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." The law provides for grants to be awarded under two processes:

1. Competitive grants for assessments, revolving loan funds (RLF), cleanups, and job training (up to \$200 million).
2. Non-competitive grants to states and tribes to build program capacity (up to \$50 million).

Benefits of the new law include:

- Jobs for inner-city residents
- Increase in the number of revitalized unproductive and derelict properties
- Increased tax revenues to cities
- Increased social and environmental knowledge
- Environmental cleanup of contaminated properties to appropriate standards
- Conservation of open rural land ("greenfields")
- Increased pollution and transportation infrastructure controls
- Opportunities for business involved in brownfields restoration projects



## Measures of brownfields success (national statistics since 1995):

- \$4.6 billion leveraged: \$283 million in cleanup investments and \$4.41 billion in redevelopment/construction.
- 3,691 sites assessed with pilot funds: 1,162 sites assessed with leveraged funds and 1,563 sites deemed not to require cleanup
- 20,583 jobs created or retained: 7,545 cleanup jobs and 12,983 redevelopment jobs
- 15 RLF loans made totaling over \$4 million; over \$66 million in leveraged funds
- 63% job placement rate for job training pilots; \$12.37 average starting hourly wage

## In summary, the new brownfields legislation is:

- Market-based
- Community-driven
- Partnership-centered
- Environmentally-sound
- Economically-sustainable

Dr. Fabian Dosch, BBR Bonn

The current land consumption rate in Germany is 47,000 hectares each year. This rate is 1.5 times larger than the area of Munich. The concern regarding this land consumption is the impact to the economy, ecology, and social aspects of Germany.

Currently, estimates of derelict land are broken down in the following manner:

Commerce/Industry - 48%

Military - 41%

Remaining land - 10%

Land reuses are currently charted at the following:

Nature - 14%

Housing - 22%

Commerce - 59%

Best practices and the National Strategy dictate that Germany and the European Union (EU) concentrate efforts on revitalization of cities, reduction of land consumption, and focus on internal redevelopment towards existing infrastructure.

Indicators used for this effort include tracking the increase in employment opportunities, 100% occupancy rate in dwellings in inner city locations, and the successful redevelopment of remaining derelict land.

Economic tools to reduce land consumption include:

- Land tax reform
- Abolition instrument fostering land consumption
- Increase urban redevelopment grants
- Regrouping housing subsidies from new housing starts to existing housing

Evan Henry, Bank of America

Matrix of brownfields versus greenfield development:

	<b>Brownfield</b>	<b>Greenfield</b>
<b>Condition</b>	Contamination	Unstable soils
<b>Cost to cure</b>	Cleanup	Grading & compaction
<b>Financial impact</b>	Property value	Property value

There are increased consequences to uncertainty in the brownfield marketplace including:

- Technical
- Legal
- Timing

Possibility of unknown problems increase uncertainty and the result is to narrow the range of economic viability.

The role of government in the U.S. is to reduce the unknowns to increase the range of economic viability through the use of technical assistance, grants and liability relief as well as subsidizing the restoration of economically less viable sites.

Limitations to the role of government in the U.S.:

- Cannot use public funds to enrich the private sector
- Cannot use public funds to help polluter restore brownfield
- U.S. funds are set up to "find" not "fund" brownfields
- Government brownfield programs are aimed at working around the liability issue
- Arguably a change in liability scheme would stimulate private redevelopment of brownfields more than government assistance approach

Private financing includes:

- Debt
- Equity
- Insurance

Insurance is not a financing mechanism but should be considered a risk reduction mechanism.

	<b>Debt</b>	<b>Equity</b>
<b>Risks</b>	Direct liability Repayment Collateral value	Loss of investment Direct liability
<b>Rewards</b>	Repaid fixed amounts	Gain is proportional to success of the project



## **Charlie Bartsch, Northeast-Midwest Institute**

The goals of public financing initiatives include:

- Reducing lender's risk
- Reducing borrower's cost
- Improving borrower's financial situation
- Providing comfort to lenders or investors
- Providing resources directly to users

Common local financing tools include:

- Tax increment financing (TIF)
- Tax abatements
- Locally capitalized RLFs
- General obligation funds

New local financing ideas include:

- Earmarking water, sewer, and wastewater charges for brownfield cleanup
- Earmarking part of existing grant, loan, or loan guarantee program funds to site assessment and cleanup projects
- Developing a municipal "linked deposit" program targeted to brownfield borrowers
- Channeling loan repayments from existing city programs to brownfield projects
- Devoting monies raised from fines or fees to a brownfield financing pool
- Using small amounts of public funds to "seed" a private, shared-risk financing pool devoted to brownfield redevelopment

New local financing ideas include:

- Connecticut's dry cleaning fund – from 1 percent surtax on cleaning services
- Michigan – targeting unclaimed bottle deposit revenue for cleanup and redevelopment
- Wisconsin and Ohio – using EPA CWSRF monies for water-related brownfield projects

The web site for the Northeast-Midwest Institute also provides a variety of resources related to brownfields redevelopment.

## Uwe Ferber, Germany, Ferber, Graumann und Partner

German urban and economic development policy principle: "Preservation of equivalent living conditions."

Funding:

Privately driven	Self developing
Public/Private driven	Potential development
Public driven	Reserve sites

Public/Private - Urban renewal and economic regeneration policies with a mix of tax based tools and direct, public co-funding. For example, tax deductions on historic (heritage) building retention and reuse.

Public - 50% to 75% direct funding for eligible projects:

- Federal economic regeneration fund
- Urban renewal programs
- Employment initiatives
- Contaminated lands program
- Minimizing public funding by maximizing private funding
- Enhance private investment
- Mix of instruments in project practice depending on drivers and type of redevelopment

Problems: Transparency of funding and cash flow, EU competition policy and bank policies. In addition, most brownfields in Germany are privately owned.

Discussions took place of other avenues for funding brownfield cleanup and reuse that included:

- Future of insurance models
- Benchmarks for performance (indicators)
- England is using a National Lottery to fund brownfield cleanup activities

**Ann Sherman, Ater Wynne, Portland, Oregon**

Tax Exempt bonds - Income tax exempt from federal/state taxes. Interest rate is much less on these types of bonds.

Tax exempt bonds (offered by State and Local governments):

1. Tax exemption
    - a. Must be used for Government purpose
    - b. 501(c) 3 (not-for-profit organization)
    - c. Private activity
      - Exempt facility (airports, docks and wharves, mass commuting facility, facilities for furnishing water, sewage disposal, facility for solid waste disposal and includes large investment for infrastructure)
  - ii. Small issuer manufacturing facility bonds
  - iii. Multifamily housing bonds for affordable housing
- 
2. Types of Issuers include cities, counties, special districts, tribes, state bond act.
- 
3. Security and sources of repayment for bonds need to be identified (property taxes, revenues, limited tax, TIFs, local improvement district [LID], certification of participation [COP], lease purchase of obligation [using lease revenues to pay back debt])

Taxable Bonds:

1. Taxable tails - little pieces of taxable bonds issued with tax exempt bonds
2. State tax exemption
3. Tax Credits
  - a. Low income housing tax credits
  - b. New market tax credits (tax credit for any redevelopment in low income areas)
  - c. Other Federal and State subsidies

Types of projects bonds are used for include: open space projects, parks, housing, golf courses, assisted living facilities, hospital, convention center, library and mixed use projects.

Tax credits used in conjunction with tax exempt or taxable bonds may also be a strategy.

Market disclosure issues include:

- Public offerings of municipal debt
- SEC 15c2-12 continuing disclosure requirements

**Ken Cornell, AIG Environmental**

Brownfield reuse should take into consideration stakeholder concerns and include community support. Concerns regarding liability for newly found contamination and conditions on site are exacerbated or created during remediation and third party claims.

People should evaluate a risk management program. This approach will help participants:

- Minimize risks
- Assess, quantify, and control costs
- Provide protection from escalating costs
- Assurance against unknown legal liability
- Thorough cleanup will be completed quickly and economically

**Evan Henry, Bank of America**

Bankers analyze risk. Applicant should try to reduce risk to lender.





# ***Constructing an Effective Brownfields Redevelopment Program Through the Use of Environmental Insurance***

**Kenneth B. Cornell**

Executive Vice President

AIG Environmental®

# Address Stakeholders' Concerns

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- Nurture community support
- Set the stage for thoughtful redevelopment
- Protect everyone involved

# Sources of Potential Liability

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- New found contaminants
- Conditions exacerbated or created during remediation
- Third-party claims



# Successful Cleanup Becomes Reality

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- **Help sellers and buyers minimize or transfer risks**
- **Assess, quantify and control costs**
- **Provide protection from escalating costs**
- **Assurance against unknown legal liability**
- **Thorough clean-up will be completed quickly and economically**



# Environmental Insurance Circa 1992

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- Pay a lot get a Little
- Poor Reception
- Fuzzy Picture
- Few Channels
- No Add-On's
- Waiting List



# Environmental Insurance 2002

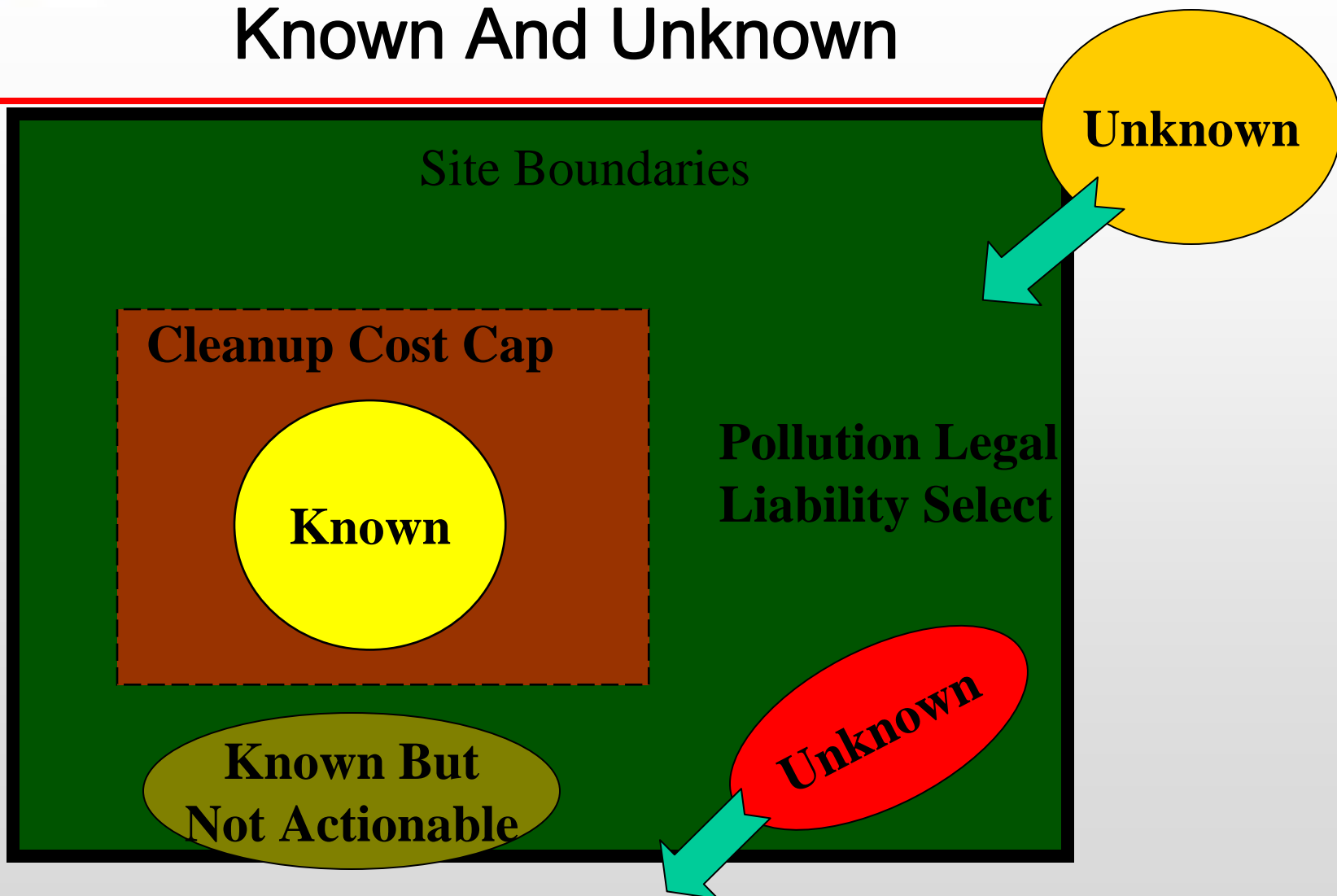
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- Sleek
- Cable Ready
- Compatible with other components
- Clear & Crisp
- Value = Price
- Immediate Delivery
- Reliable

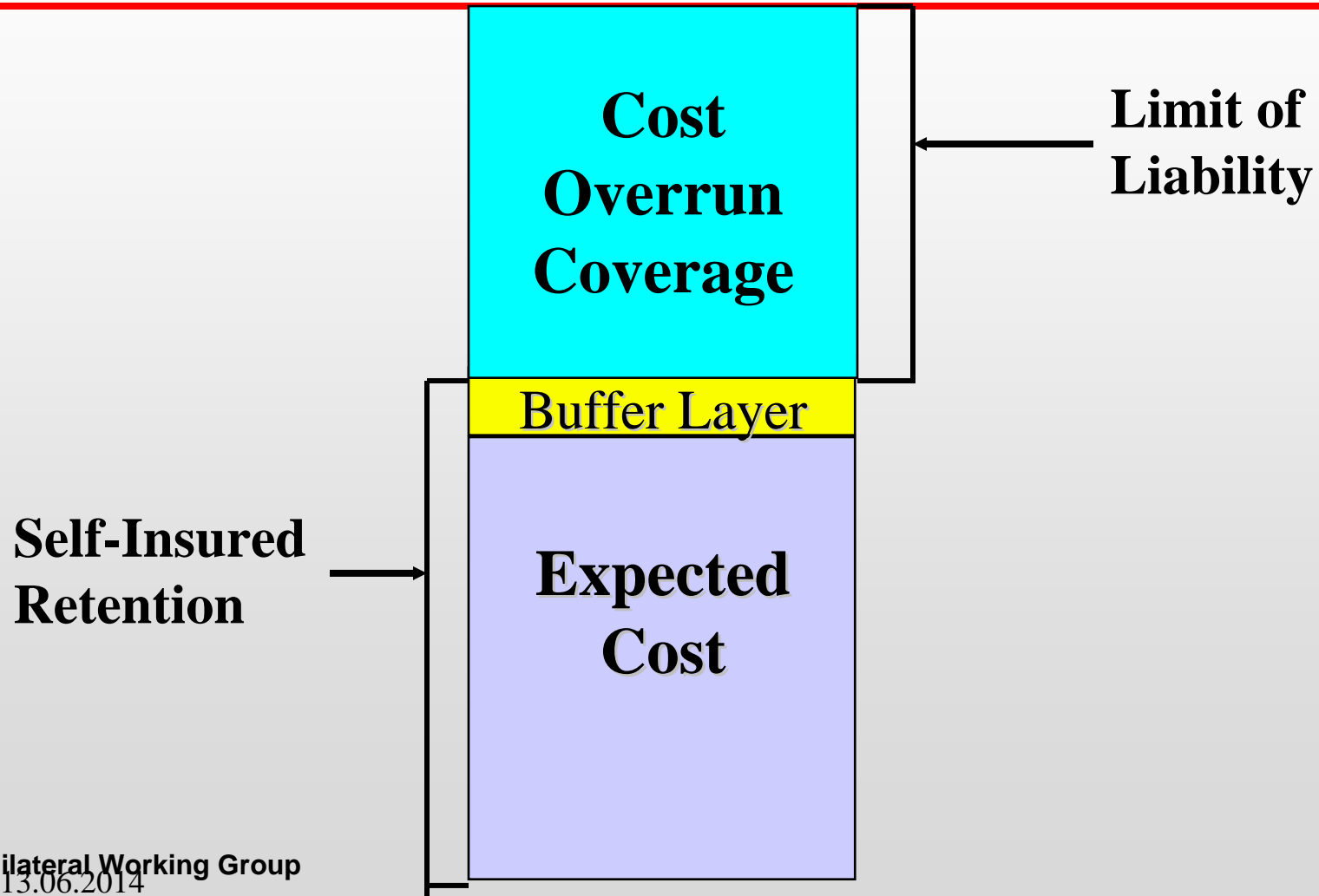




# Known And Unknown



# Cleanup Cost Cap Program



# Case Study #1

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## *Seller Concerned About Clean-up Cost Overruns*

- **Brownfield Site**
  - 40-acre former industrial site close to downtown
- **Future Plan**
  - Modern shopping and business district
- **Concern**
  - Contamination could escalate during cleanup
- **Seller funded a fixed amount for cleanup and transferred liability for cost overruns**
- **Developer insured against unknown contamination and third-party lawsuits**

## Case Study #2

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### *Fearful Of Unknown Contamination*

- **Brownfield Site — 50,000 square foot abandoned facility**
- **Future Plan — Manufacture heavy equipment, employing over 300 people**
- **Concern — Negative publicity about leaking underground storage tank**
- **Seller — Doesn't want any future liability**
- **Buyer — Able to satisfy seller concerns and lender requirements**
  - **Cap cleanup costs and transfer liability of unknown contamination**
  - **Third-party protection ensures future profitability**

## **Case Study #3:**

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### *Assurances Required That Clean-up Adheres to regulations*

- **Brownfield Site — A few blocks from a well-known state university**
- **Future Plan — Medical center and pharmacy with adjacent medical offices**
- **Concern — Property saturated with oil, gasoline, solvents and metals**
- **Seller — Negotiate environmental insurance as part of the deal to attract investors**
- **Buyer — Cleanup plan adheres to federal and state regulations**
  - **Costs are capped to ensure completion**

Integration of presentations by José Pérez

USEPA

Technical Information Branch, Cincinnati, Ohio

26 west M.L. King drive

Cincinnati, Ohio 45268



## Disclaimer

The views expressed in these Proceedings are those of the individual authors and do not necessarily reflect the views and policies of the U.S.

Environmental Protection Agency (EPA). Scientists in EPA's Office of Research and Development have prepared the EPA sections, and those sections have been reviewed in accordance with EPA's peer and administrative review policies and approved for presentation and publication. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

## **BBR - Federal Office for Building and Regional Planning**

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**Supports spatial, urban and housing policy under the (new) Ministry for Infrastructure. Scientific sections:**

**I – Spatial Planning and Urban Development,  
II – Building, Housing, Architecture.**

**Spatial monitoring system, demonstration projects of sustainable development, Urban 21 Berlin 2000, European integration**

**Website: [www.bbr.bund.de](http://www.bbr.bund.de)**



# **Land Consumption & Site Recycling Challenges for Germany - an overview**

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- 1. Monitoring land consumption - facts and trends**
- 2. Derelict land and site recycling - scale and volume**
- 3. Challenges for sustainable land management**

**Dr. Fabian Dosch, BBR, Bonn**

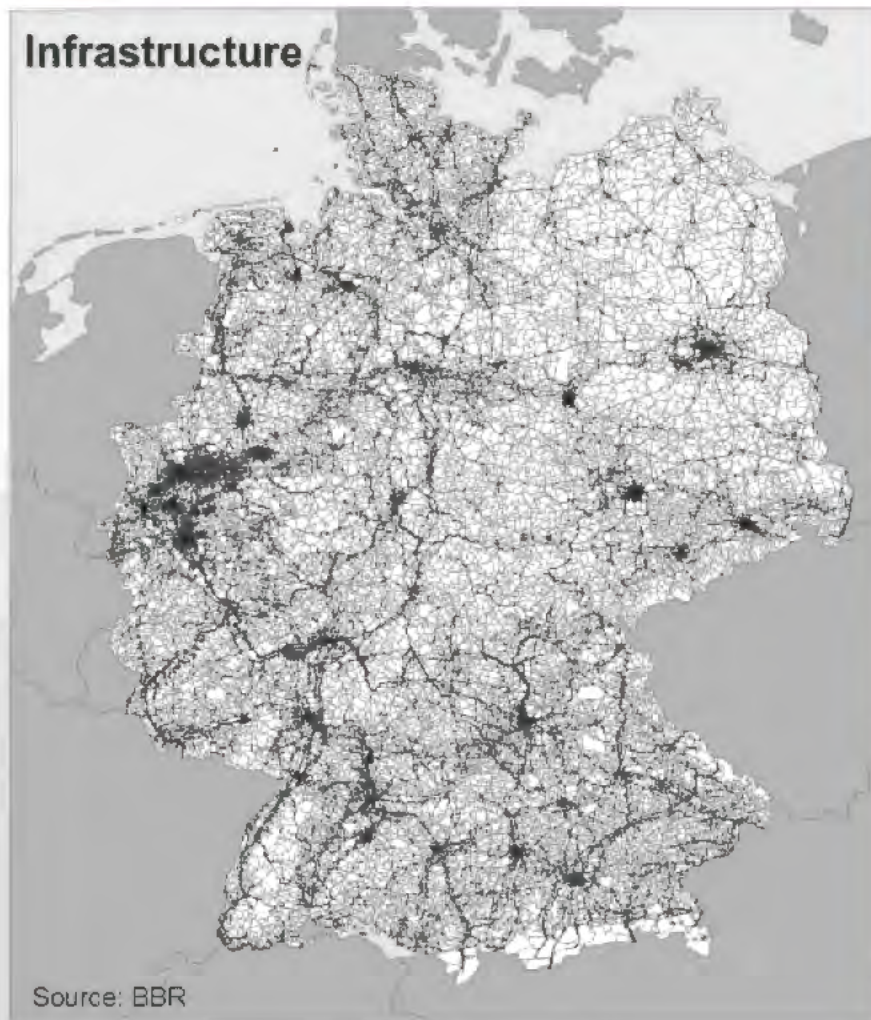
**November 11th, 2002, Charlotte NC Workshop “Economic  
Tools and Finance for Brownfield Redevelopment”**







## Green but fragmented! - land use in Germany



## “Once the size of Munich every year”



**1,290,000 m<sup>2</sup>** every day

...about 50%, almost 650,000 m<sup>2</sup> are sealed.

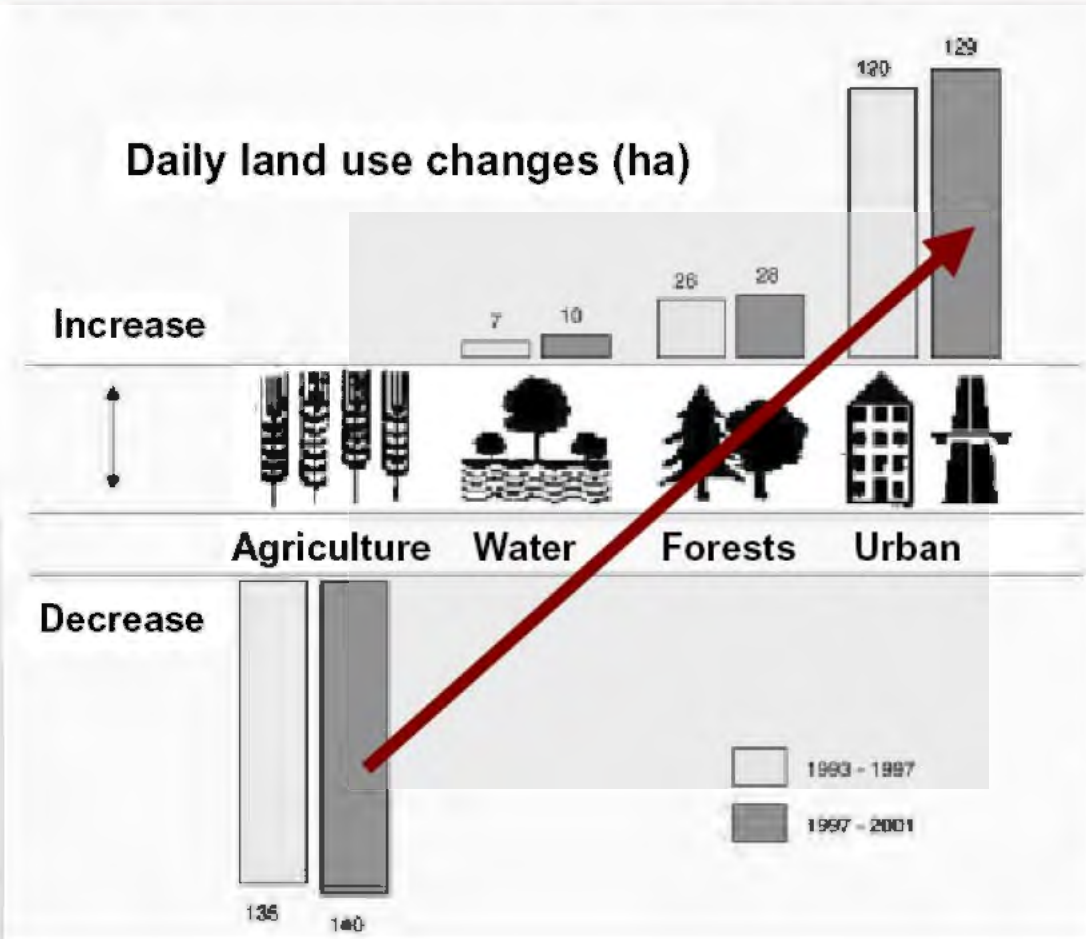
Land consumption per year (47.000 ha) is 1,5 times larger than the area within the city borders of Munich (43,000 ha).

15 m<sup>2</sup> / sec. growth of built-up area  
....about 9 m<sup>2</sup> of it being building land  
....6 m<sup>2</sup> of it being housing / 3 m<sup>2</sup> enterprises





## Result: loss of fertile soil and open space

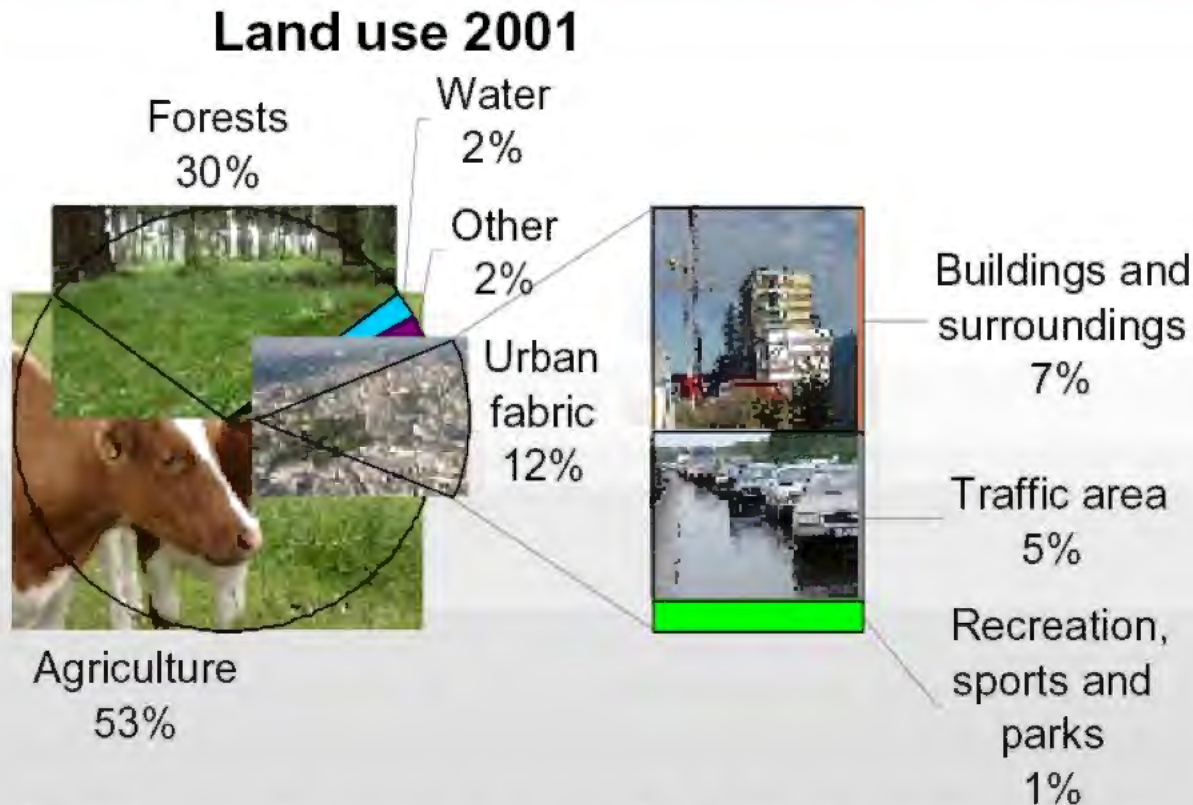


Land consumption:  
more in eastern and  
northern Germany and old-  
industrialized regions than  
in booming regions





## Land use 2001: 85% open space, 12% urban fabric

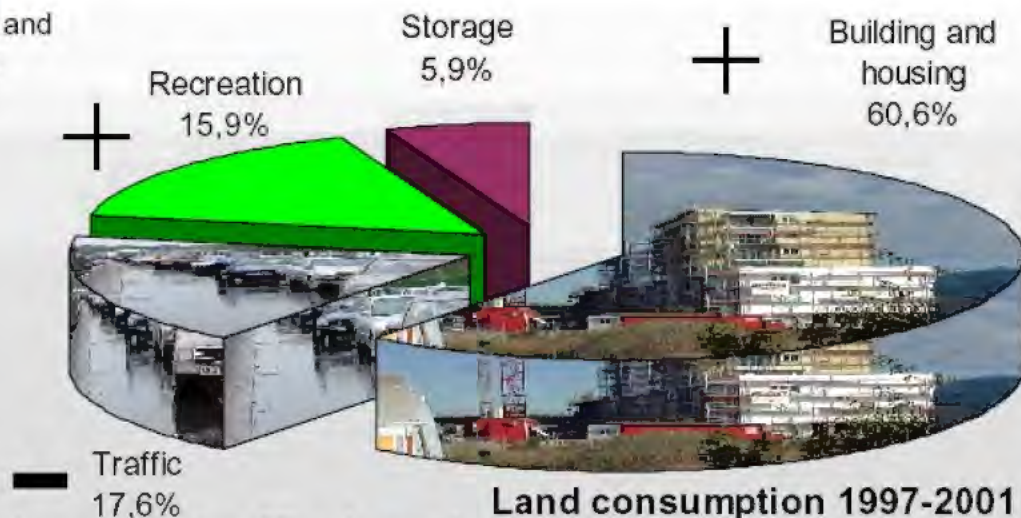
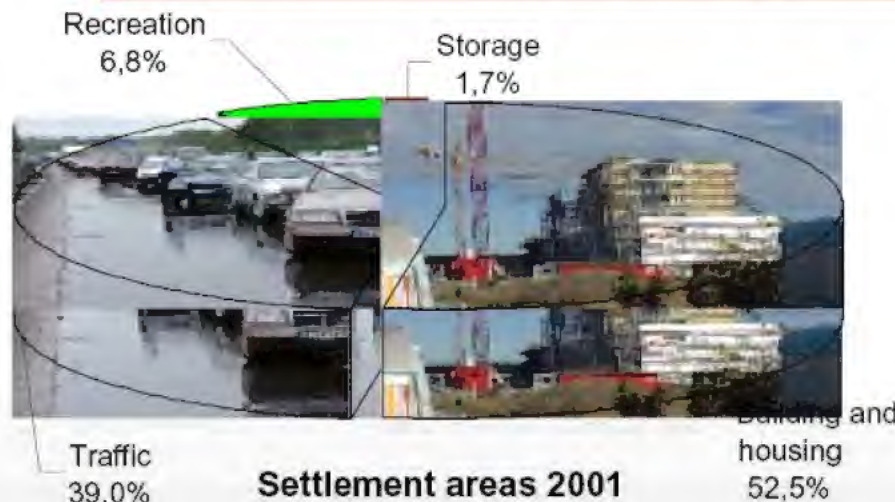


**Settlement areas cover 12,3 %: buildings 7 %, traffic area 5 %**





## Land consumption by housing and recreational areas



**Trend: more building & recreational areas, traffic less important**





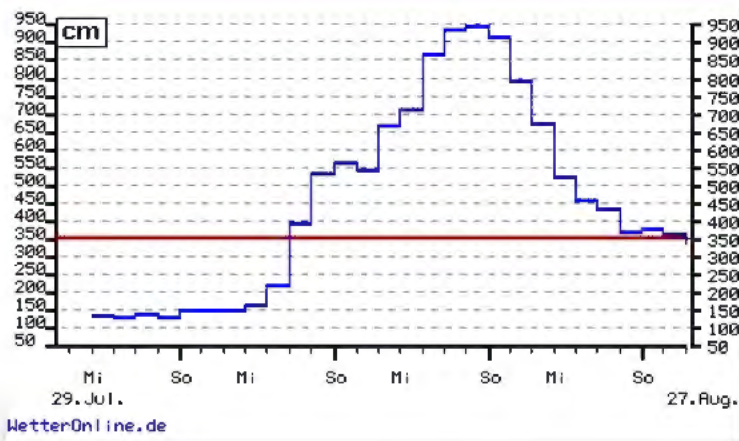


## Urban sprawl: sealing also of floodplains...





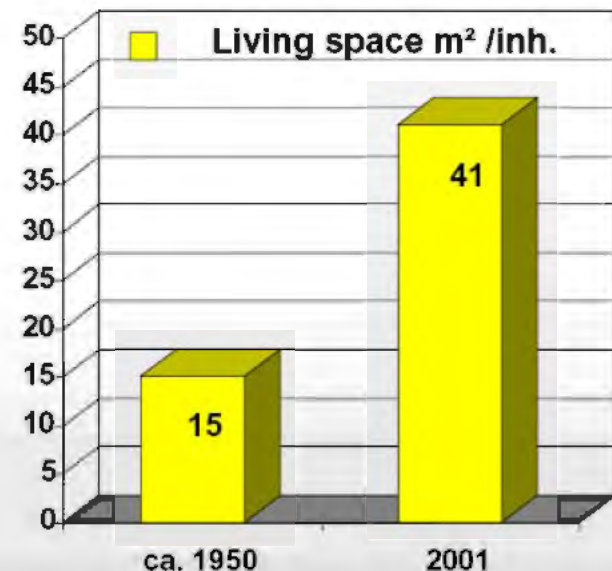
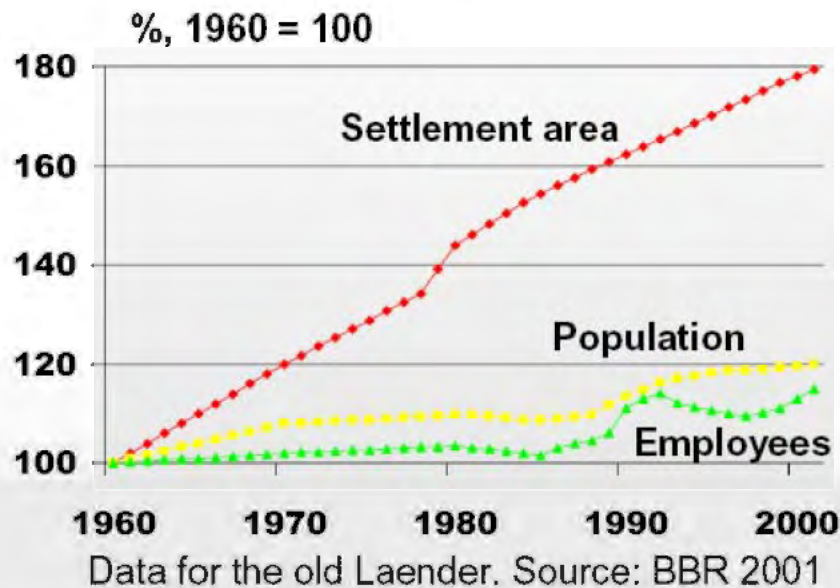
## Settlements on the wrong spots?- Extreme floodings 2002



## Damages on the infrastructure: up to 25bn €



# Land consumption - increase of prosperity?



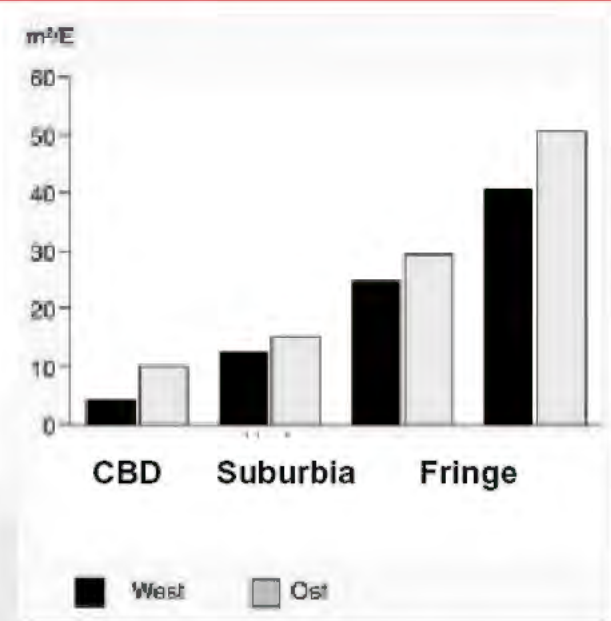
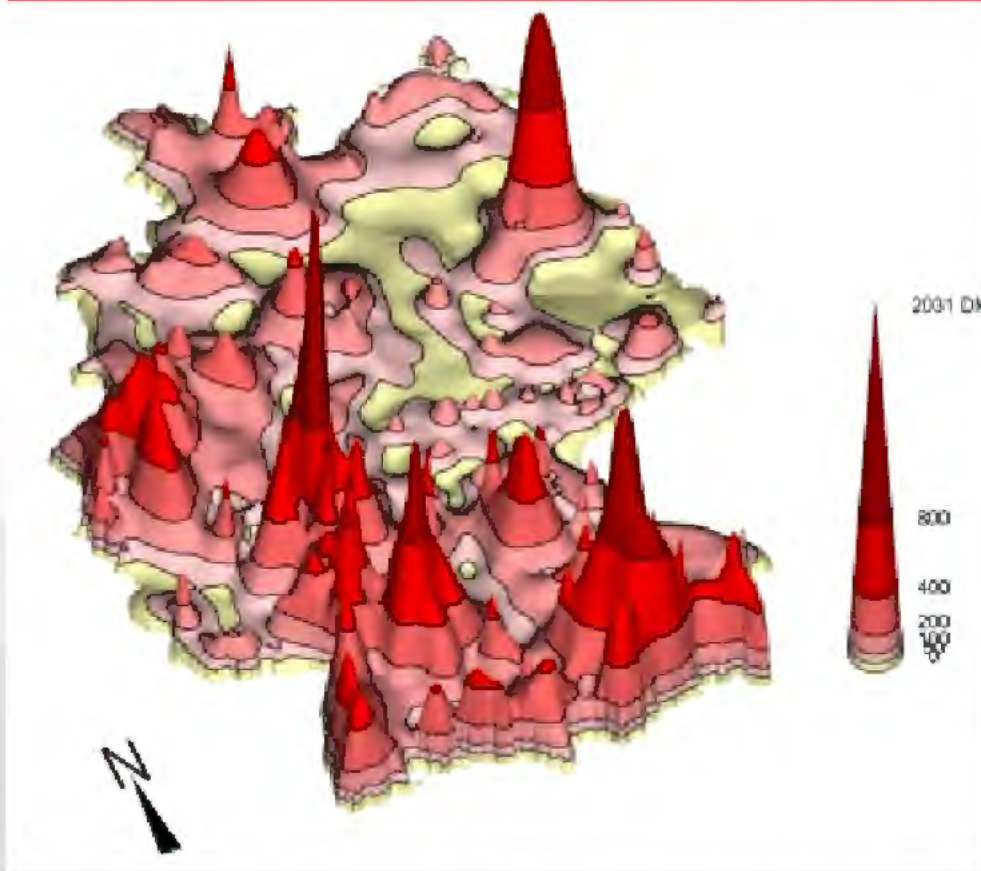
In the last 50 years, the settlement area has grown much quicker than the population and is still growing more rapidly than the occupation

Land consumption = increase of individual prosperity ...!?





## Suburbanization driven by building land prices



**Above: land consumption  
m²/inhabitant from core  
cities to urban fringes**

### 3-D image: prizes for housing land 2000





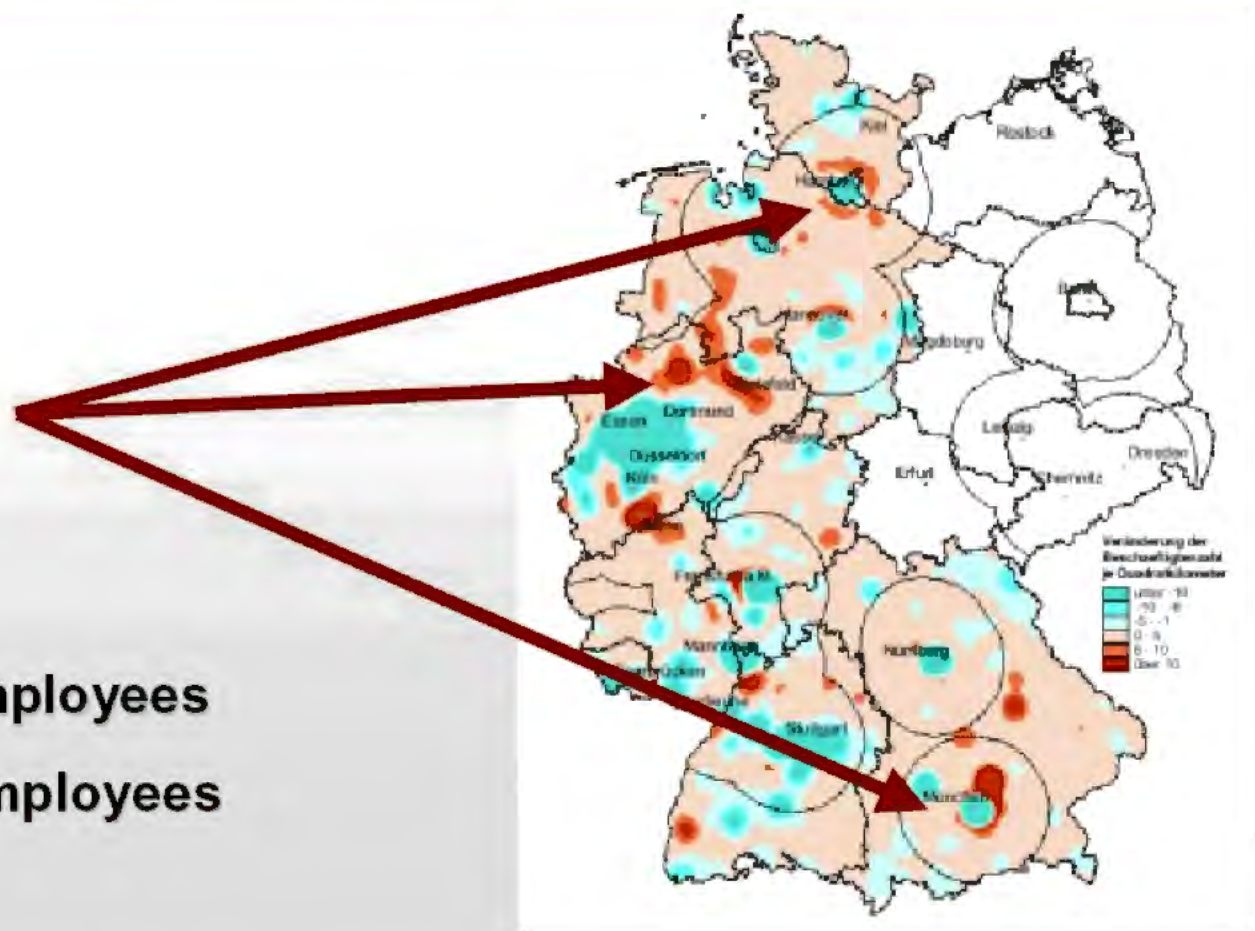


## Employment shifts towards suburbia

**1990-98:**

**Blue: less employees**

**Red: more employees**





## Effect 1: Vacancies, esp. in eastern Germany



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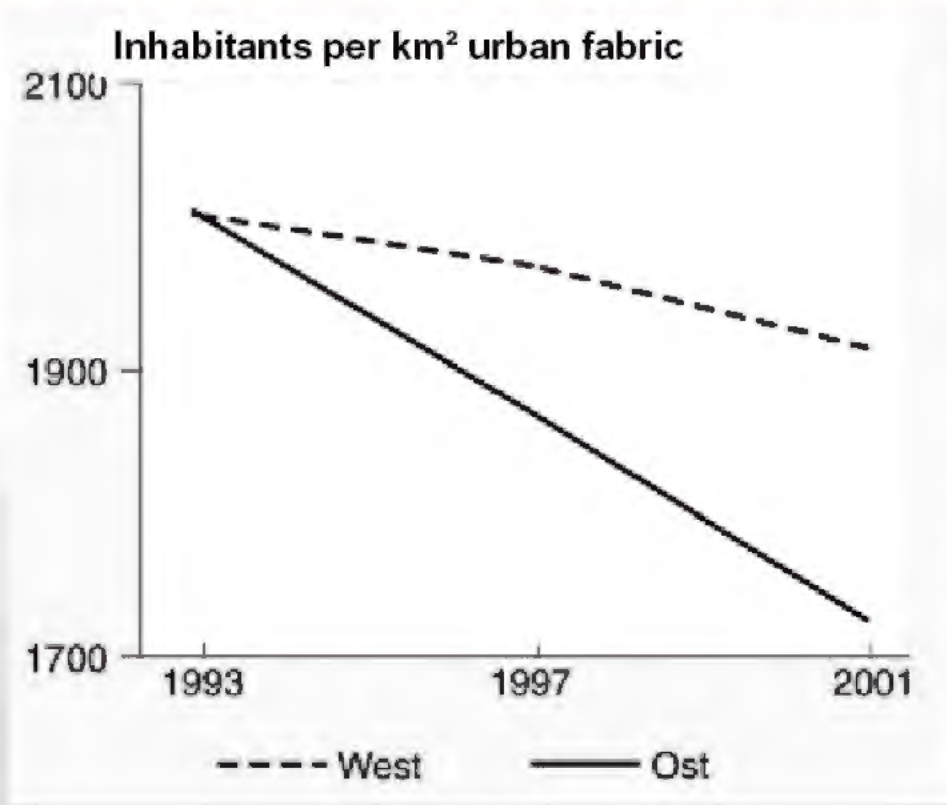
© Leipzig. F. Dosch

## Greenfield development versus inner-city vacancy





## Effect 2: Decrease in settlement densities



**Additional urban fabric per inhabitant**



# Land consumption – ...but what are the problems?

## Economically

### Costly infrastructure



Source: komplettbau-frank

### Costly vacancy



Source: Dosch

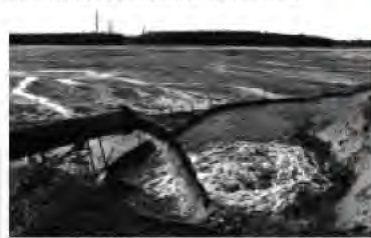
### ..traffic generating



Source: fotopositiv.com

## Ecologically

### Contaminated sites



Source: BPS

### Loss of soil



Source: Fuhrich

### Land dissection



Source: WFG Unna

## Socially

### Vacancy



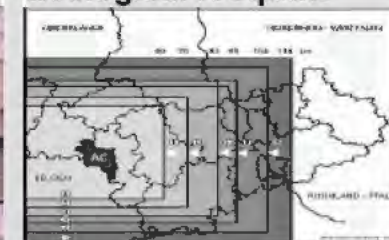
Source: Dosch

### Functional separation



Source: Dosch

### Ecological footprint



Source: H. Böll-Stiftung, komm.



## **Causes for land consumption=challenges for action?**

### **Suburbanization is driven**

- by increasing prosperity and demands for living space,
- • unfavorable concepts for settlement structure,
- increasing division of labor,
- • land consuming subsidies & cheap building land prizes,
- • the shifting of the employment towards suburbia.

### → **challenges for action**





## Persistent trends in settlement development 2020

Settlement and transport area 2001



settlement and transport area 2001 in %



Settlement and transport area 2020 - Trend



settlement and transport area 2020 in %, estimation of trends



© BBR Bonn 2002  
Carta

Source: Federal Statistical Office  
BBR Trend-estimation on settlement and transport area 2002

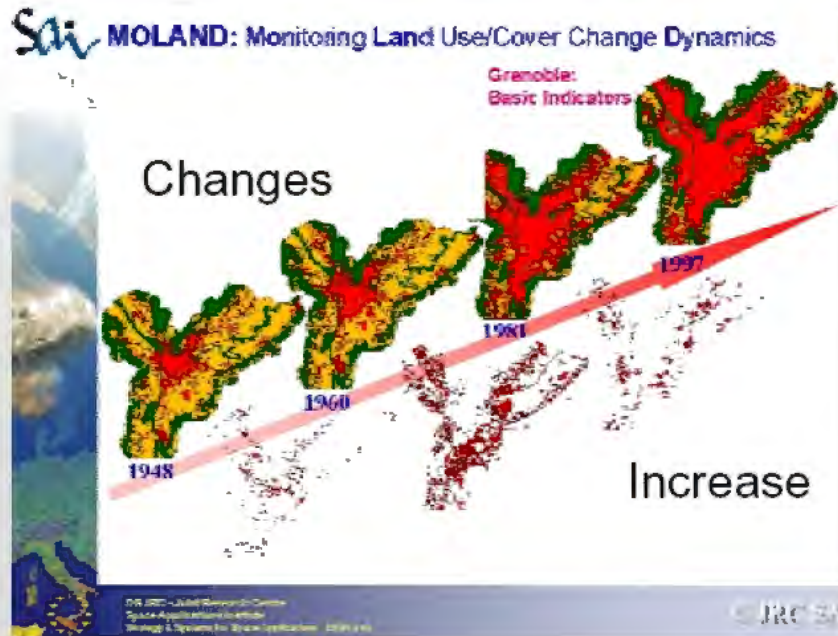




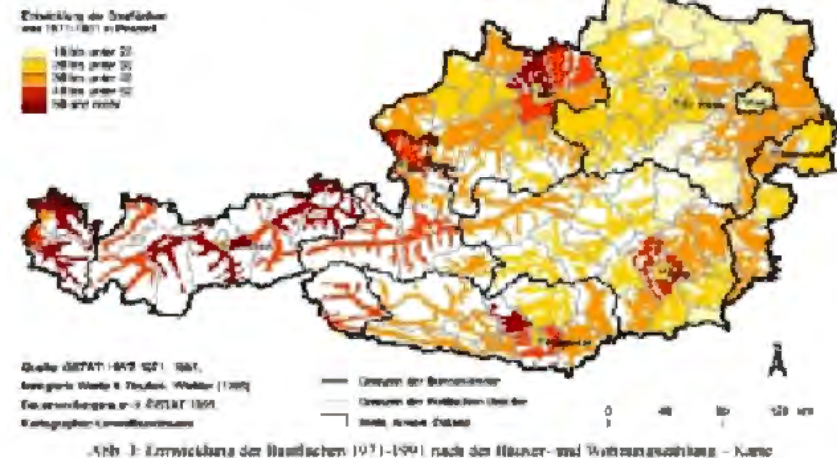
# European dimensions of urban sprawl: alpine area

## Austria 1971-1991

Source: UBA Vienna



## Land consumption 1971-1991



## Grenoble 1948-1997

Source: SAI JRC Italy



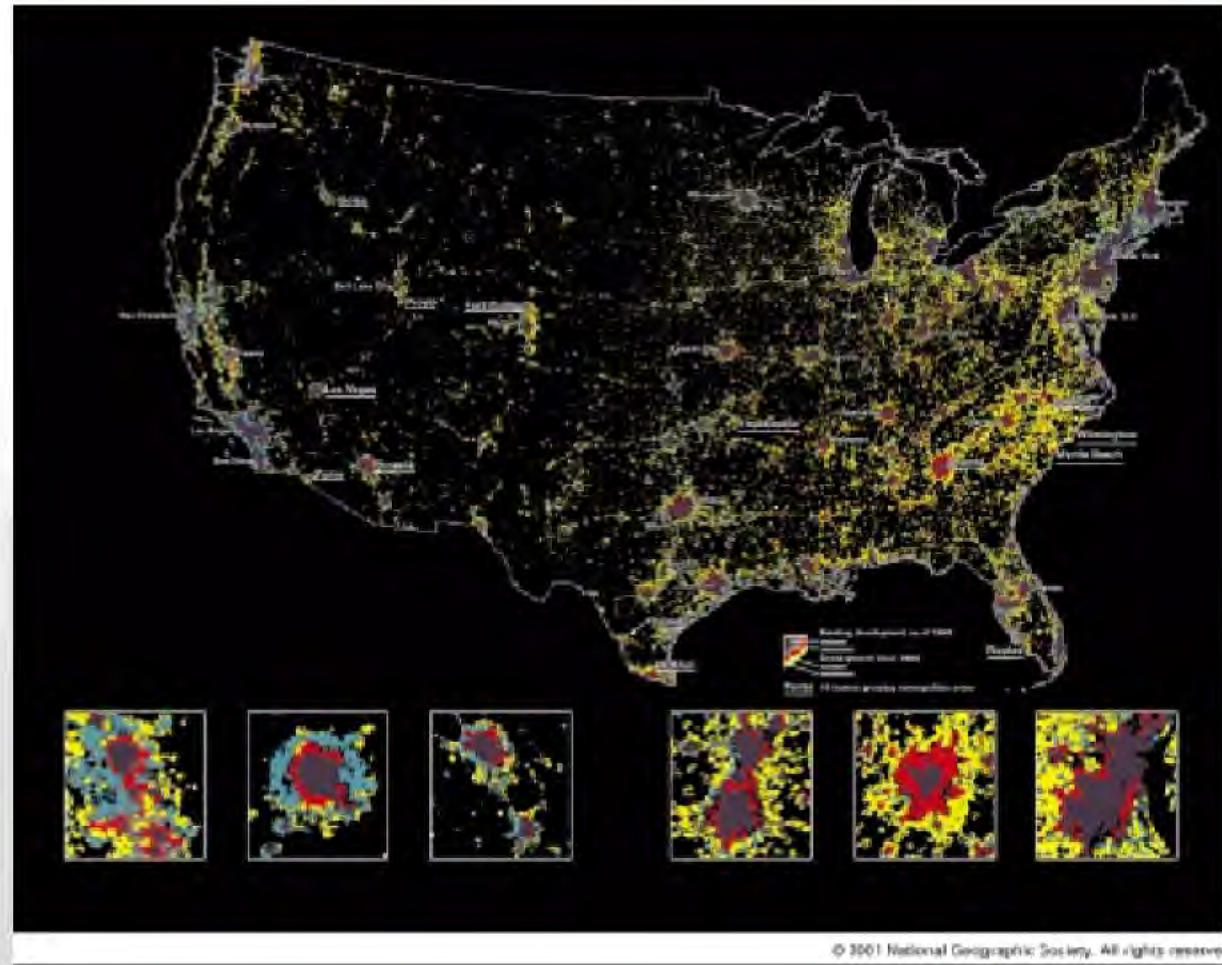




# Land consumption higher in the US?

**Urban sprawl**

**In the 1990s:  
more in the  
NE (old-  
industrial.)  
than in the  
SW.**



© 2001 National Geographic Society. All rights reserved.



## **II Derelict land in Germany: estimations of areas**

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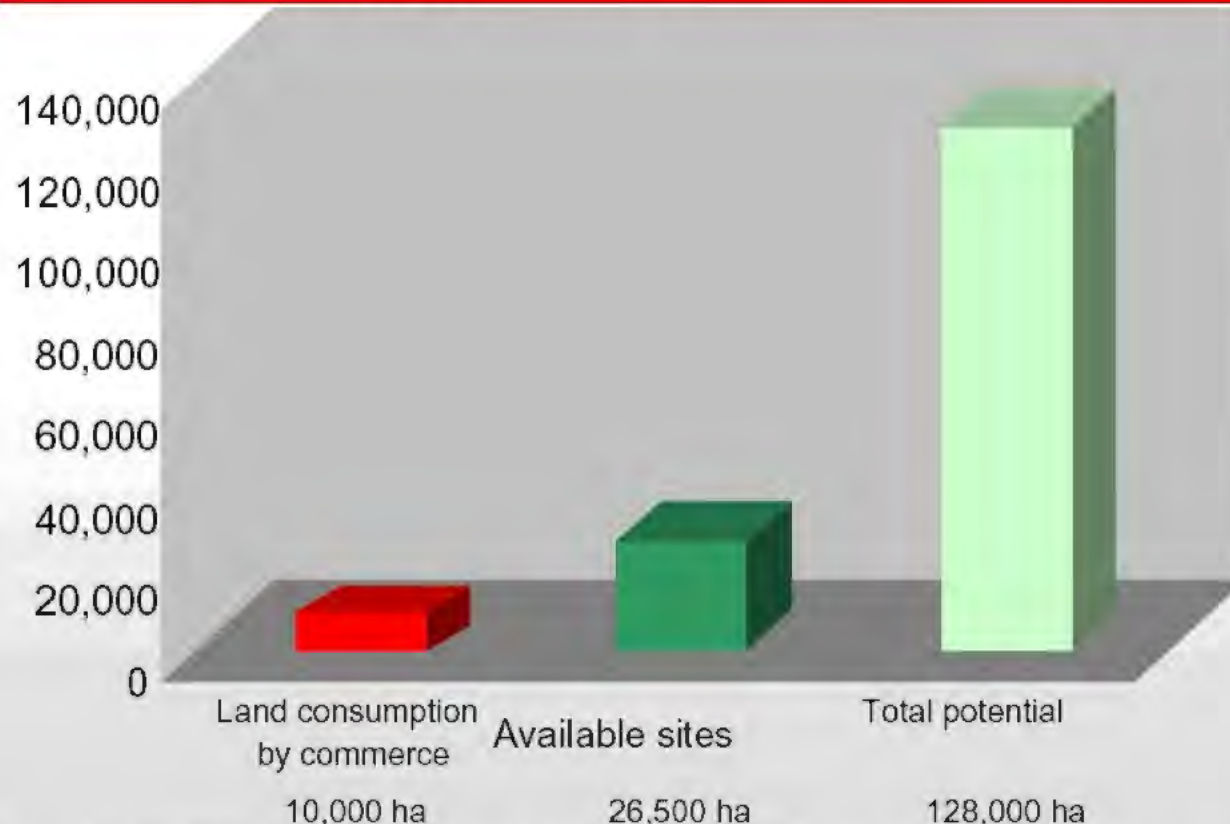
- **Commerce & industry**
  - BBR = ca. 44,000 ha within built-up areas
  - UBA = ca. 127,000 ha
- **Military**
  - > 400,000 ha (2000), 80% in the hinterland & countryside
- **Traffic**
  - Railway land: next 15 years → closure of 3,000 objects, real estate 6.5bn €

**Other origins: vacant housing areas, old harbor sites, mining areas, abandoned fairgrounds, etc.**





## II Derelict land compared to commercial demand



**Availability of commercial land for re-use almost three times higher than annual demand (breakdown of demand)**





## **Derelict land: definitions**

---

**USA / EPA brownfields: abandoned or under-utilized properties where expansion or redevelopment is complicated by real or perceived environmental contamination (USCM conference)**

**UK NLUD: derelict sites and other previously developed land and buildings that may be available for redevelopment**

**German “Brachflächen“: broader definition includes sites where no contamination is suspected**

**A common objective dominates the brownfield issue:**

**sustainable urban development**



# Derelict land: definitions

---

## Definition of recycling with the indicator on brownfield redevelopment for “Cities of the Future”, Germany

„Re-usable\*\* derelict\* commercial and conversion building land in m<sup>2</sup> in 1997, 2000, 2003 in total and re-use\*\*\* of derelict areas in 2000 and 2003 investigated in 1997.

- differentiated according to the following types of uses: trade, housing; (optional)
- differentiated according to location criteria (interior zone, white land; hinterland municipalities)

\* derelict land: former industrial and military building land > 1 ha (< 1 ha for information only), which in the long term – for at least 1 year – will not be used neither for industrial nor for residential purposes (=stock) and which should be subsequently used (for buildings).

\*\* re-usable: development facilities and existing building law, capture necessary if building permission would be possible.

\*\*\* re-use: areas on which a subsequent use has been started (building notice). Only really re-used areas are ascertained (partial use).

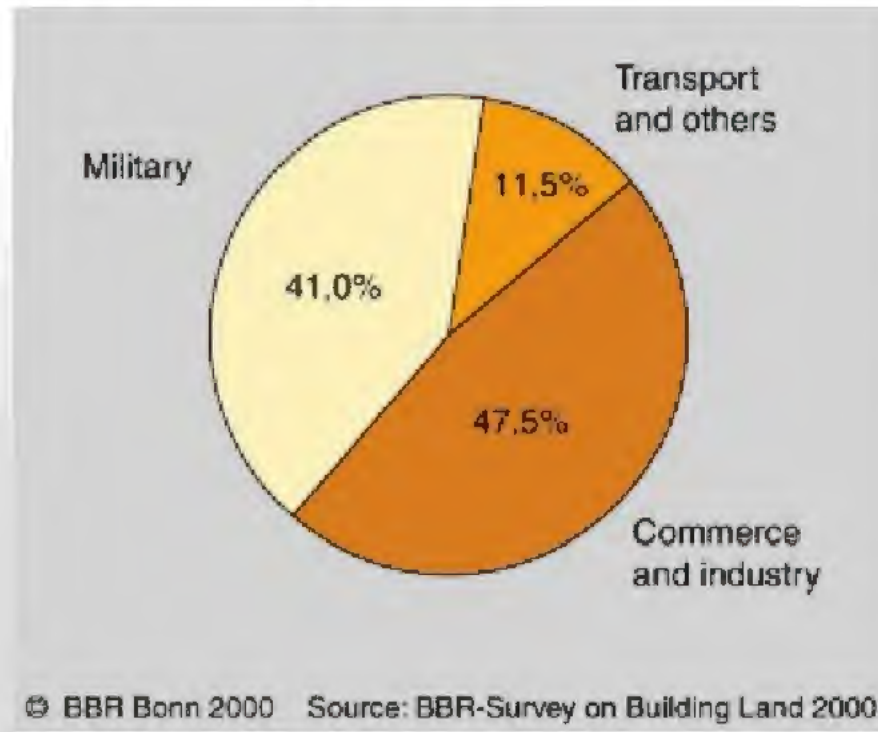
Trade (type of use): including agricultural areas in the interior zone, including derelict land in transport areas, railway and mail territories if intended to be re-used; without derelict agricultural areas. Derelict residential areas can be optionally captured and separately identified.

## Data quality largely depends on definitions, mapping and timeliness.



# Derelict land in Germany: types & origins

**BBR building land survey 2000:  
48% formerly commercial land,  
41% military areas**



## Closure/reduction of military locations

Übersicht über die Größe und Risikoprüfung von Bundeswehrstandorten  
Quelle: BBR, Fortentwicklung und Bewertung, Stand: 1. Januar 2001  
Stand: 1. Januar 2001

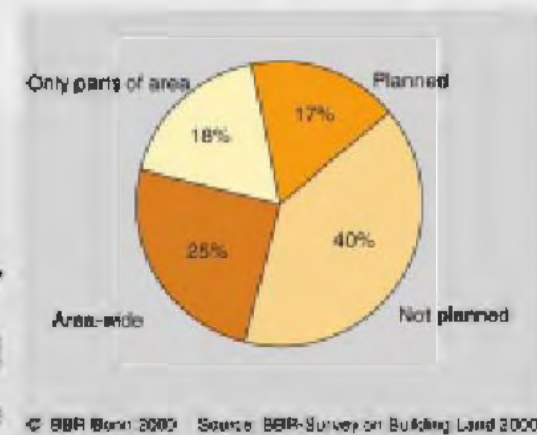




## **Lack of knowledge - obstacles with site recycling...**

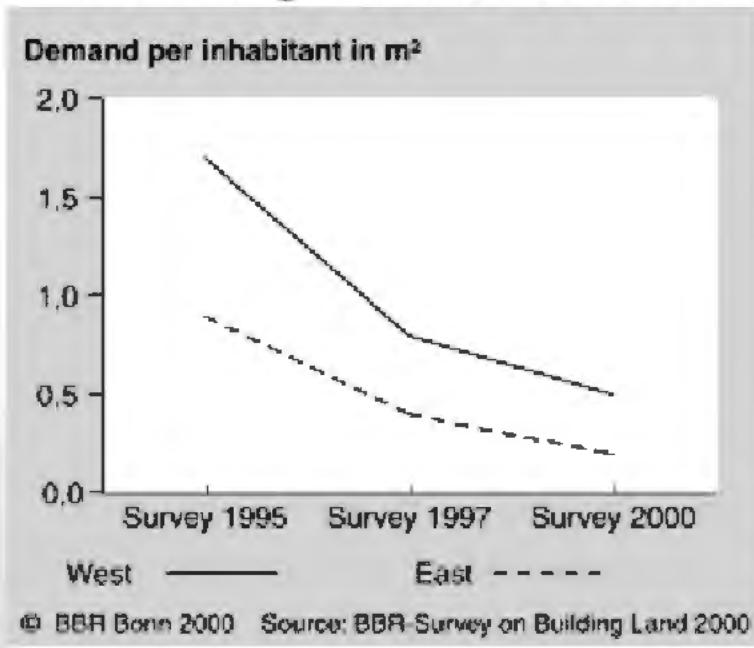
- **potential waste deposits, unfavorable locations, new uses do not suit old facilities,**
- **competing environmental provisions (noise and air pollution emissions on neighborhoods), clean-up regulations of the Federal Soil Protection Act (BBodSchG),**
- **competition with favorably priced greenland in urban fringes**
- **bad image**

**• lacking knowledge: register for industrial and commercial building land only seldom available**



# Recycling: share in building land mobilization

## Decreasing demand for building land



Size of community in 1 000 inhabitants	Derelict land and military brownfields %
< 10	10,6
10 -< 20	30,9
20 -< 50	29,2
50 -< 100	30,5
100 -< 200	61,1
200 -< 500	41,6
≥ 500	34,7
West	26,2
East	46,2
<b>Total</b>	<b>32,7</b>

**Rising share of recycling sites in the mobilization of industrial and commercial building land shown by time series and in larger cities**



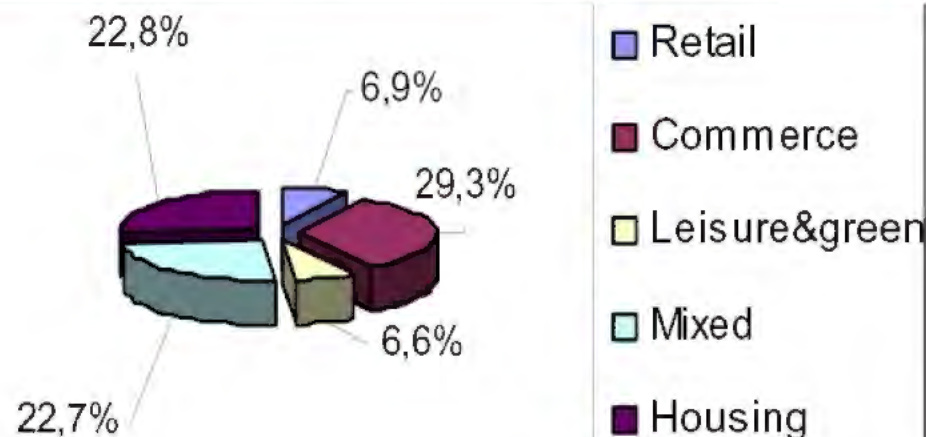
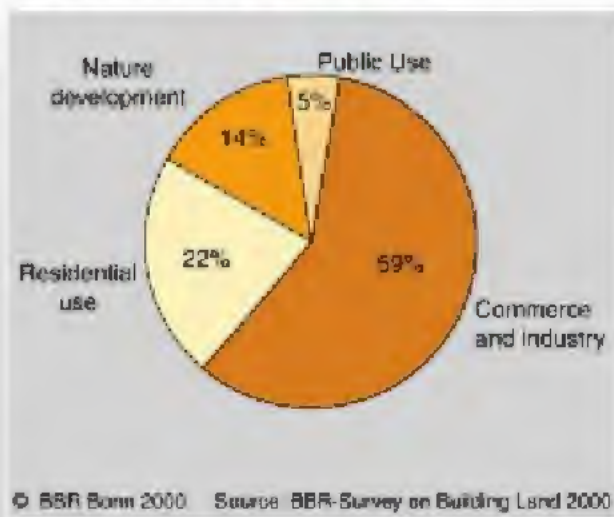




## Recycling of derelict land: follow-up uses

### BBR Survey 2000:

**Nature 14 %,  
Housing 22 %,  
Commerce 59 %**



### DIFU 2001:

**> 70%  
commerce,  
housing and  
mixed uses**



## Recycling of derelict land in Germany: best practice

- A quarter of the former industrial brownfield converted into a mixed area: Essen Weststadt 1988-1999



- Nordhorn: former Povel textile factory converted into a mixed area to supplement city centre 1986-1997







## Recycling of derelict land Germany: best practice 2

- Tübingen Franzosenviertel  
1991-98: a quarter of military brownfield converted and built up with SME and housing



- Cologne-Kalk: former chemical plant re-used for many purposes:

- Cologne Science Center
- Urban Entertainment Center...



- Bonn Plittersdorf: former American village to be re-used by a big retail centre ... under protests of neighbors...



## Site recycling funded by Interreg II C / III B

---

The EU Community Initiative INTERREG is designed to strengthen economic and social cohesion throughout the EU, by fostering a balanced development of the continent through cross-border, transnational and interregional cooperation

### Project examples IIC/ III B

*CADSES*: PROSIDE Promoting Sustainable Inner-Urban Development  
*RECULA* - Restructuring Cultural Landscapes

*Alpine Space*: TUSEC-IP – „Technique of Urban Soil Evaluation in City Regions – Implementation in Planning Procedures“

*Baltic Sea*: ENSURE - Exchange Network for Sustainable Urban Revitalization Experience; WUD - Waterfront Urban Development; CONVERNET, MECIPS





### **III Challenges for sustainable land management**

---

#### **National strategy on sustainability (April 2002)**

- **professed political target to revitalize the (medieval) inner cities**
- **reduction of land consumption from 129 ha (2001) to 30 ha (2020)**
- **internal development before external development with a ratio 3 : 1**
- **dispersal of settlement growth by decentralized concentration**

#### **Coalition agreement of the German parliament (10/2002)...**

**“We will further develop urban policy to implement the national sustainability strategy, particularly to reduce land consumption. This includes the revitalization of city centres and the stabilization of urban living, the new use of conversion sites and vacant housings as well as the reconstruction of infrastructure. (pp.58, livable cities)”**





# Legal regulations for the reutilization of land

---

## **FEDERAL BUILDING CODE [Baugesetzbuch – BauGB]**

Section 1a: Consideration for Environmental Concerns

(1) ..Land shall be used sparingly and with due consideration; the extent to which it is sealed by development shall be kept to a minimum...

Section 164b (2): financial assistance ... for the reutilization of land, in particular derelict industrial sites, conversion land

Section 165: Urban development measures ... return derelict land to productive use

## **Federal Regional Planning Act (Raumordnungsgesetz (ROG))**

§ 1 ..land use possibilities shall be kept open in the long term..

§2 (8) ...Natural resources, particularly water and soil, shall be used sparingly and carefully;

§2 (2)3 The re-use of derelict settlement areas shall be given priority over the use of open spaces.

## **Building regulations (Laender) with special regulations**

# Objectives to reduce land consumption

---

**Quantitative objective=**  
economical use of land

- Reduction of growth of settlement in 'new' areas
- Mobilization of building land instead of new designation
- Exploitation of existing potentials (land recycling, use of building law)
- Compact buildings
- Extension of already existing building substance
- Land management

**Qualitative objective =**  
careful use of land

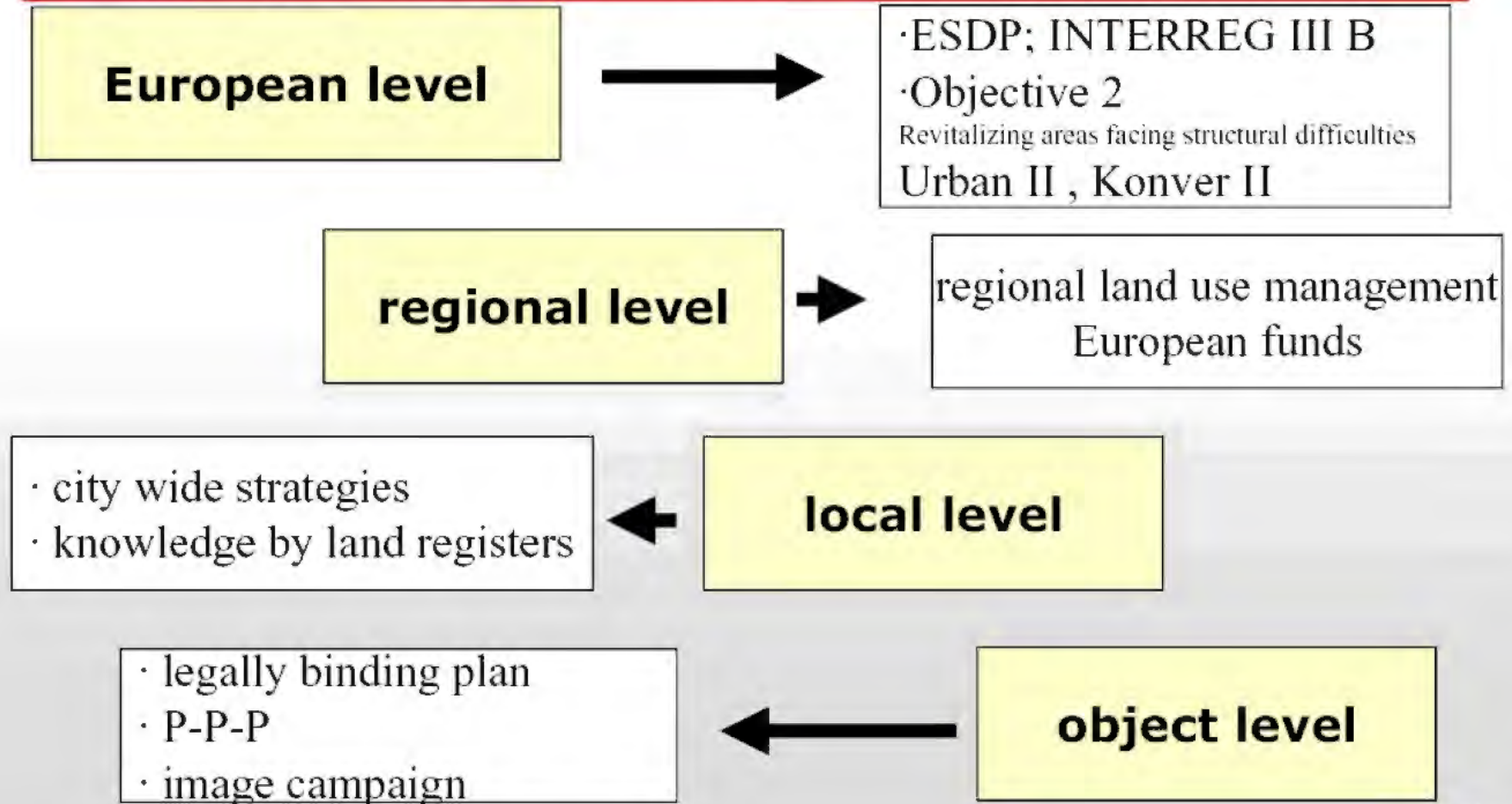
- Consideration of soil qualities (especially productive function, biotope function, archiving function, cultural function)
- Selection of location: protection of high-quality soils
- Avoiding of unrequired sealing
- Redevelopment of areas under pressure
- Desealing, if possible







## Planning levels & initiatives for recycling





## Are success indicators successful?

- Reduction of the growth of built-up areas: is achieved  
Ratio internal development / external development > 3 : 1
- Increase in employment, stabilization of inhabitants
- Mobilization of available building land reserves
- Almost 100% of dwellings in inner-city locations
- Successful redevelopment of derelict land in some cities

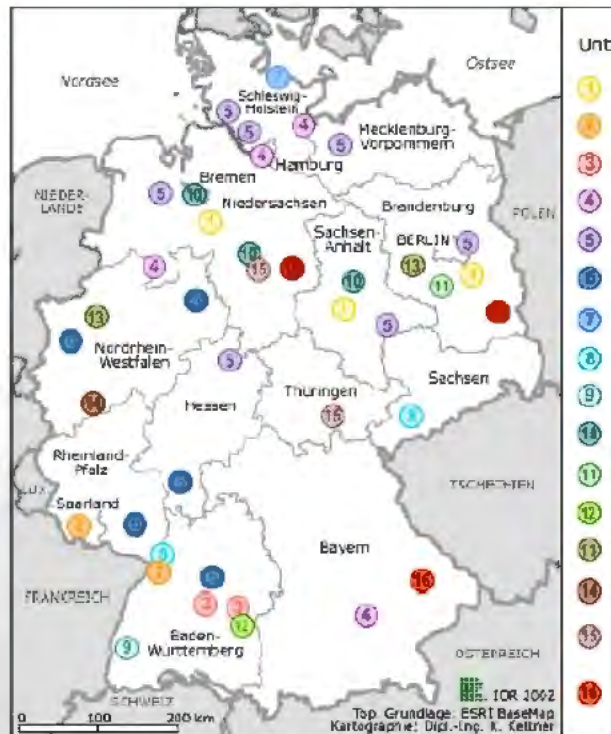


- Investigation in **49 German cities** to test the possible future implementation of indicators in Federal Building Act





# Regional land use management: pooling



# **Economic tools to reduce land consumption**

---

- **land tax reform (land value & land use tax)**
- **abolition of instruments fostering land consumption**
- **increase of urban development grants**
- **regrouping of house building subsidies from new buildings to the existing stock (home-ownership subsidies)**

## **SITE RECYCLING:**

**e.g. start-up grants,**

- **special funding program by the Laender, the Federal and the European level**
- **tax reduction regulations and increased depreciations for investments in brownfields**
- **pooling solutions for clean-up risks**





## Visions 2050: ...overshooting?



EXPO 2000 Pavillion Netherlands



Pig City. © MNVRL 2000



Spacehouse. © ESA 2000



The Fifth Element. © Gaumont 1997

## Challenges with site recycling... - conclusions

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- 1. Land consumption continues. In contrast to urban sprawl, the amount of non-competitive brownfields accelerates**
- 2. Well known obstacles could be overcome by local and moreover regional land use and site recycling management; indicators on brownfield redevelopment may contribute.**
- 3. Brownfields are competitive against greenfields only by means of economical instruments. Proposals are well-known.**
- 4. As revitalization of city centers is a professed political target, new initiatives are foreseeable. Demographic trends raise the chances for a modernization of already built-up areas.**

Thanks for your attention!  
Contact:  
[Fabian.Dosch@bbr.bund.de](mailto:Fabian.Dosch@bbr.bund.de)





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# Economic Tools and Finance for Brownfield Redevelopment Workshop

**Redevelopment of a former military base in Germany.  
Difficult and expensive: no money left for sustainability?**

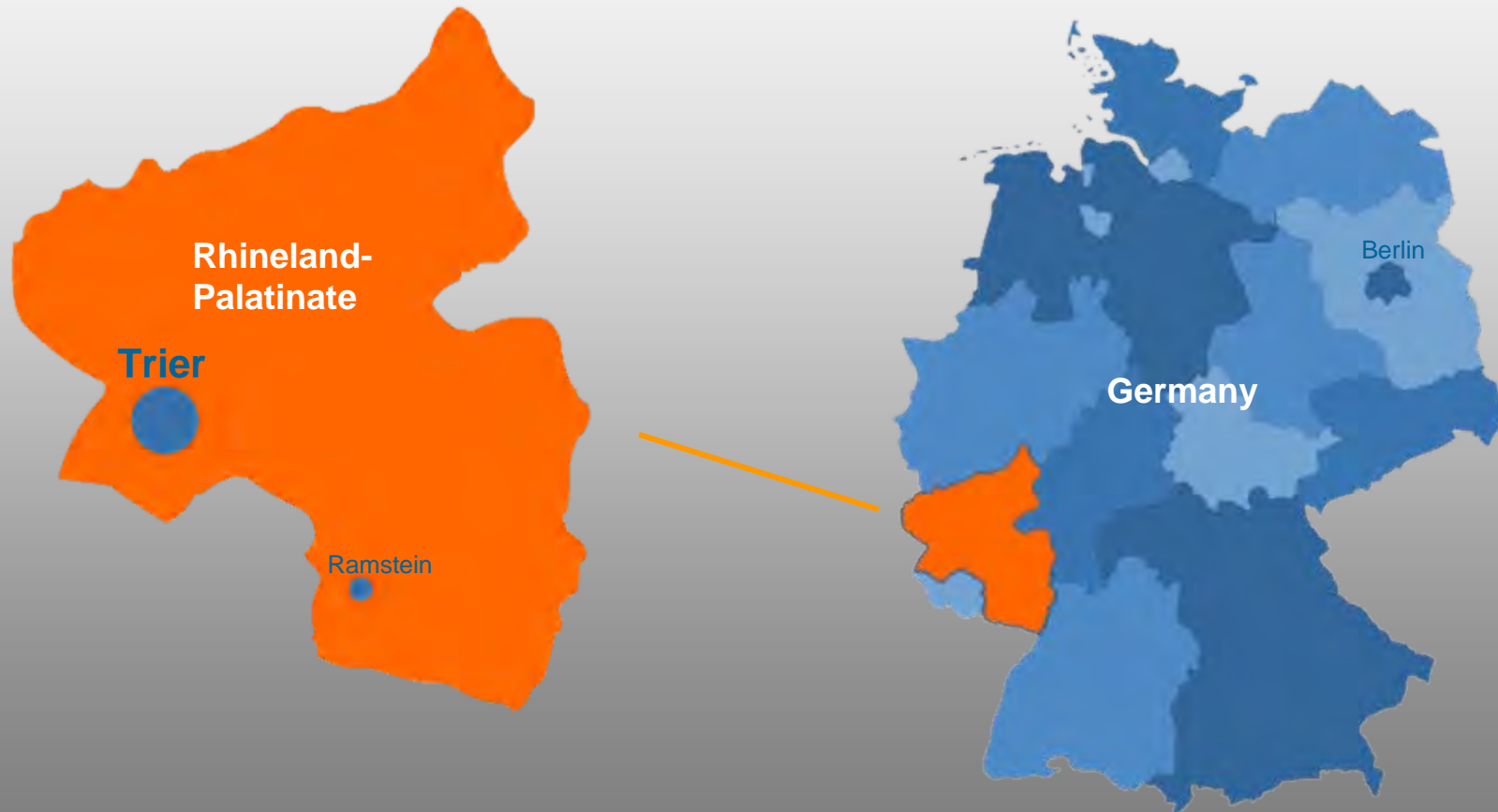
**Model housing Petrisberg in Trier, Germany**

**November 11<sup>th</sup> and 12<sup>th</sup> 2002  
Charlotte, North Carolina**

**Jan Eitel, managing director EGP GmbH  
J.Eitel@giu.de**

## Situation of Trier in the Rhineland-Palatinate, Germany

Trier



## Impressions of Trier – Porta Nigra

Trier



## Impressions of Trier – the cathedral

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## Impressions of Trier - Basilika

Trier



## Impressions of Trier – historic city center

Trier





## Impressions of Trier – market center

Trier



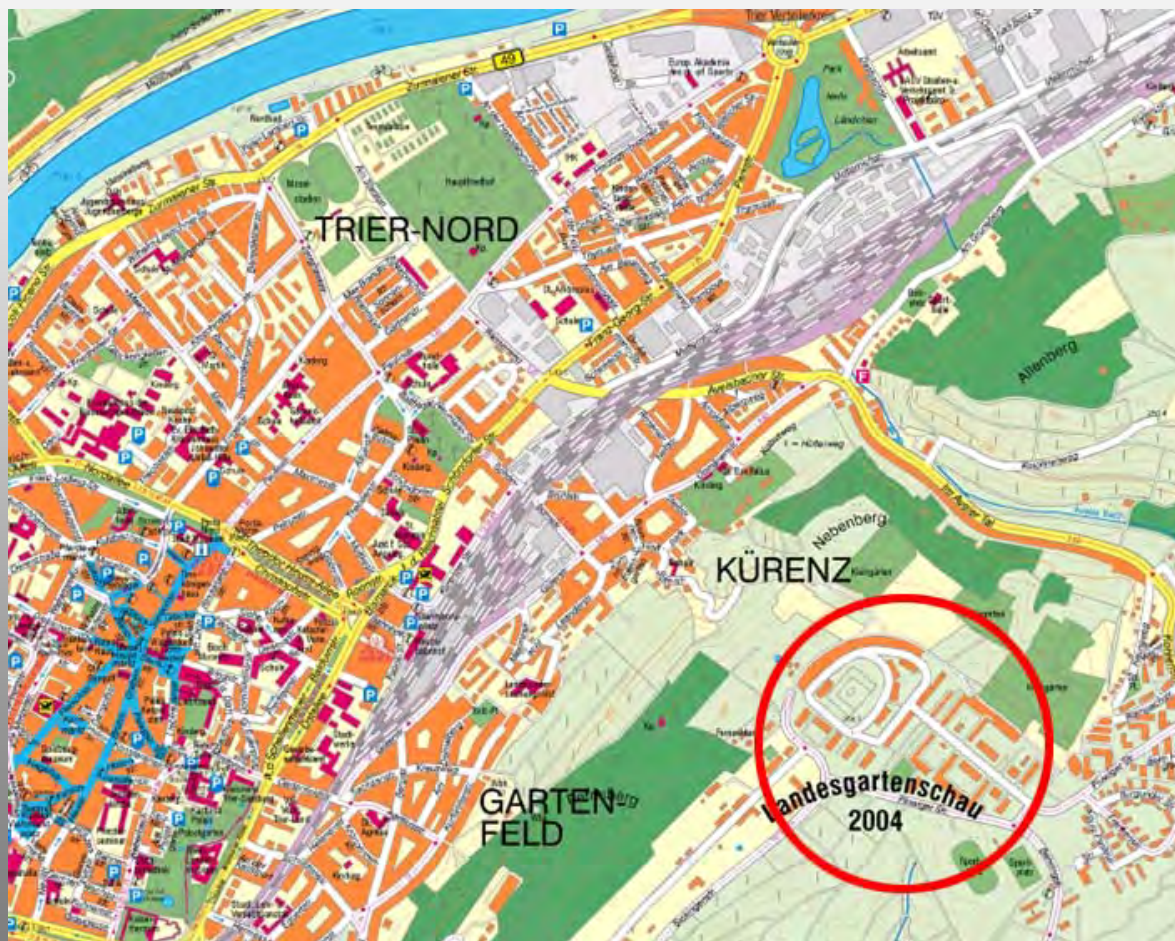


Bundesministerium  
für Bildung  
und Forschung



## City map of Trier – Location of Petrisberg

Trier





## The Petrisberg Development Company

EGP

### Stock holders

City of Trier 35%

GIU 25% (project  
development company)

Sparkasse (savings  
bank) 20%

Trier city works 10%

Drees & Sommer 10%  
(project development  
company)

## EGP

**Entwicklungs-  
gesellschaft  
Petrisberg  
(Petrisberg  
Development Company)**

### **Development**

- **Science park**
- **Business park**
- **Housing**
- **Management**

### **Capital Stock**

**€\$ 1 Million**

### Tasks for derelict area recycling of Petrisberg

- Acquisition of sites for conversion
- Processing soil/removal or securing of contamination
- Development/civil engineering
- Structural engineering (new construction/conversion)
- Restructuring
- **Marketing**
  - Housing lots
  - Commercial lots
  - Rental office and commercial space
- **Site marketing**
  - Themes and contents
  - Image and address building
- Contact to industry and science
- Economic assistance

## Petrisberg – Barracks circa 1900

## Petrisberg



Petrisberg circa 1900

## Petrisberg – current conditions

## Petrisberg

- Due to the reunification of Germany, French forces were withdrawn and the military site in Trier was given up in 1996.
- Suddenly the area in the area of the Belvedere Krone (crown) and the Belvedere storage facility, used militarily for decades, was available for civilian use.
- The area possesses highly attractive landscape and exposed location.



## Petrisberg – current conditions

## Petrisberg

- First plans for a science park in Trier initiated in the early 90s.
- Plans were then transferred to the freed-up conversion sites.
- Housing sites next to the science park
- Integrated into the concept of the state landscape exposition
- Realization of an attractive open area concept with nearby recreation and leisure-oriented use





## Petrisberg – current conditions

## Petrisberg



## Petrisberg – current conditions

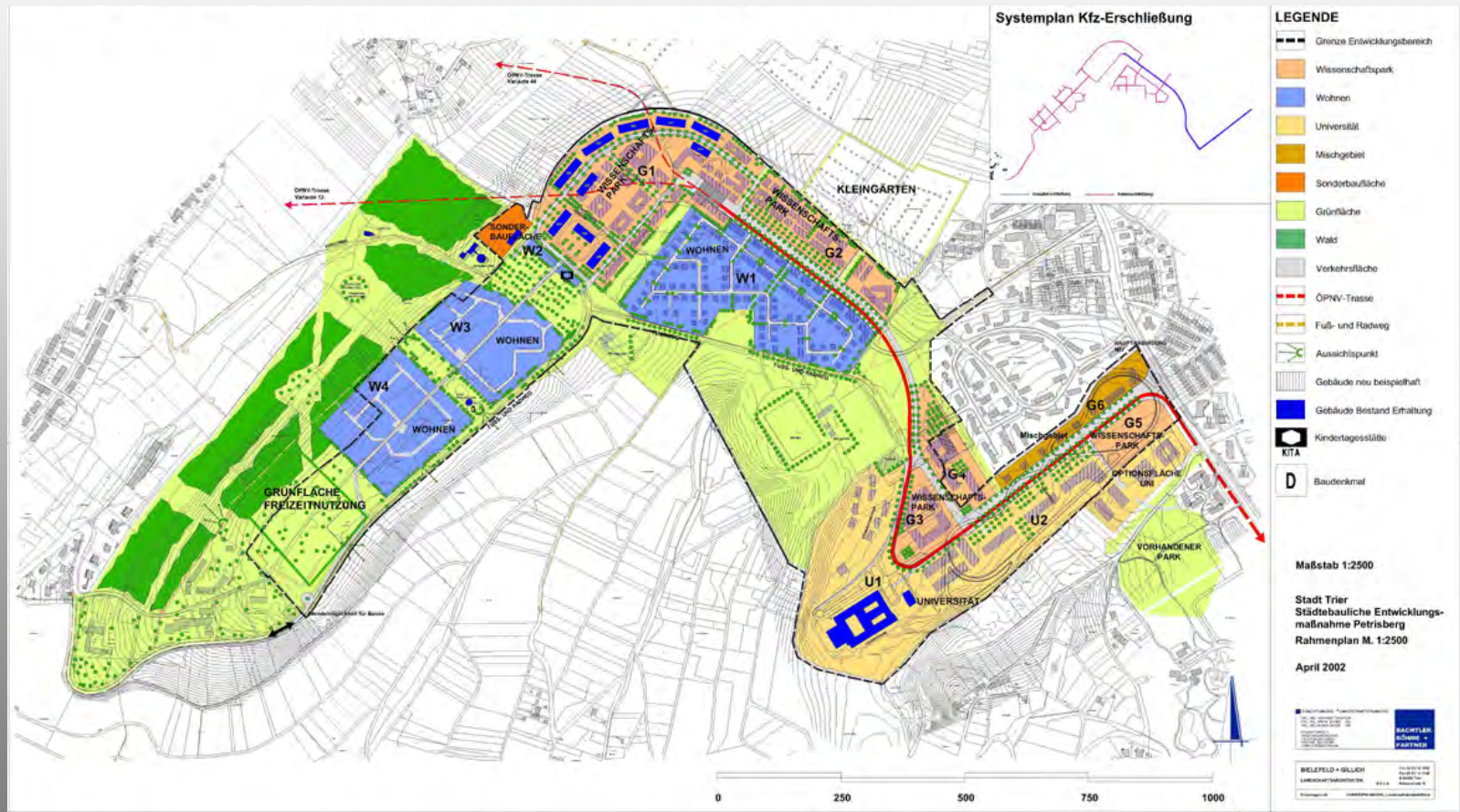
## Petrisberg





## Framework development plan for Petrisberg in Trier - EGP

## Petrisberg



## Landscape exposition

## Petrisberg

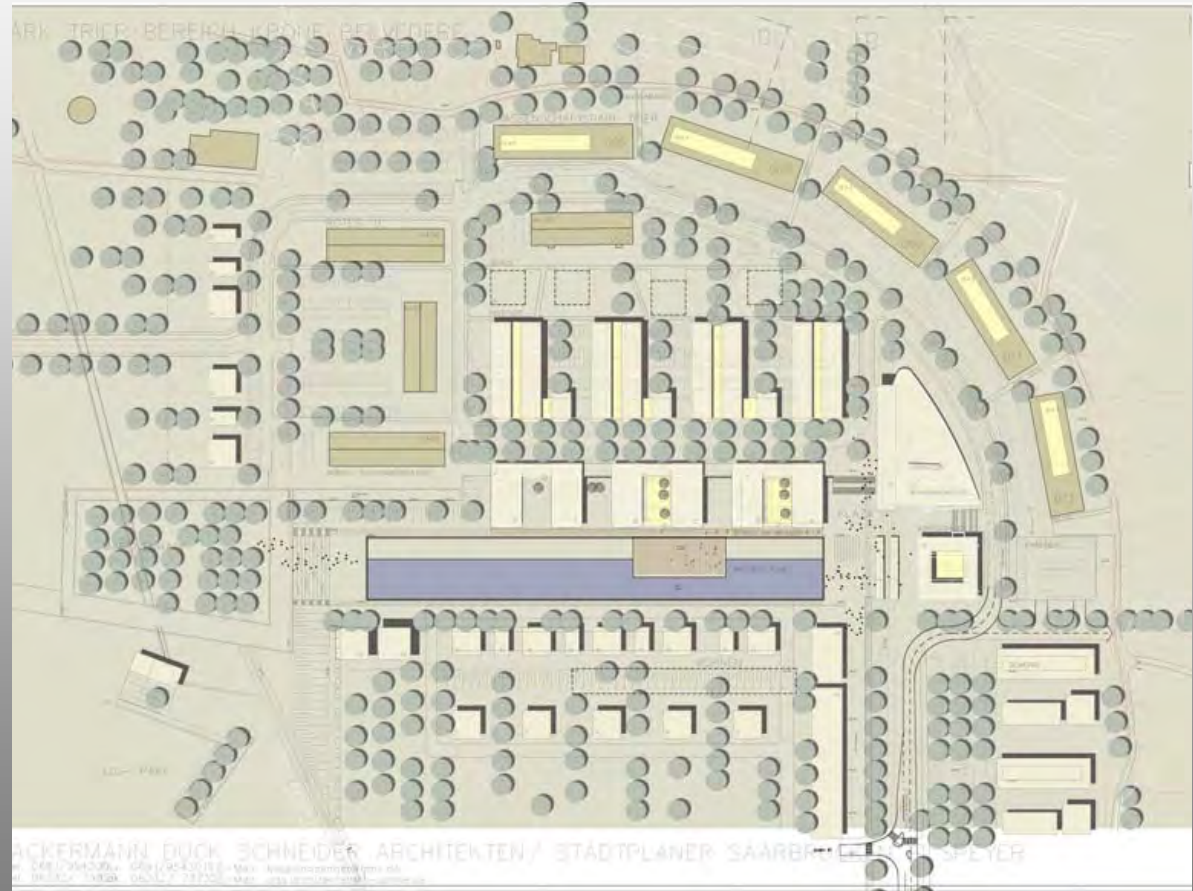




## Master plan

## Petrisberg

In 2001, in a multiple commissioning process, four architectural firms were asked to work up a high-quality urban development and architectural concept for the Petrisberg science park. From this competition, the Saarbrücken firm Hepp & Zenner Architects and City Planners was chosen as the first prize winner.



## Science park (in the so-called Belvedere crown and storage facility area)

---

Petrisberg

### User profile

- start-ups
- young enterprises
- established enterprises
- high-quality service enterprises in general
- research institutions and university research institutes

### Areas for profile raising

Information + communications technology

- Leisure / Tourism / Spa
- Construction and housing
- Design
- Life Science / Public Health Service

**Goal-oriented selection and acquisition of future renters and investors to reach a synergistic mix of uses and yield a “creative environment”.**

## Science park (in the so-called Belvedere crown and storage facility area)

Petrisberg



- The group of existing buildings set a positive urban development accent for later marketability.
- Preservation and renovation of barracks buildings costs less than demolition and new construction.



## Model

## Petrisberg





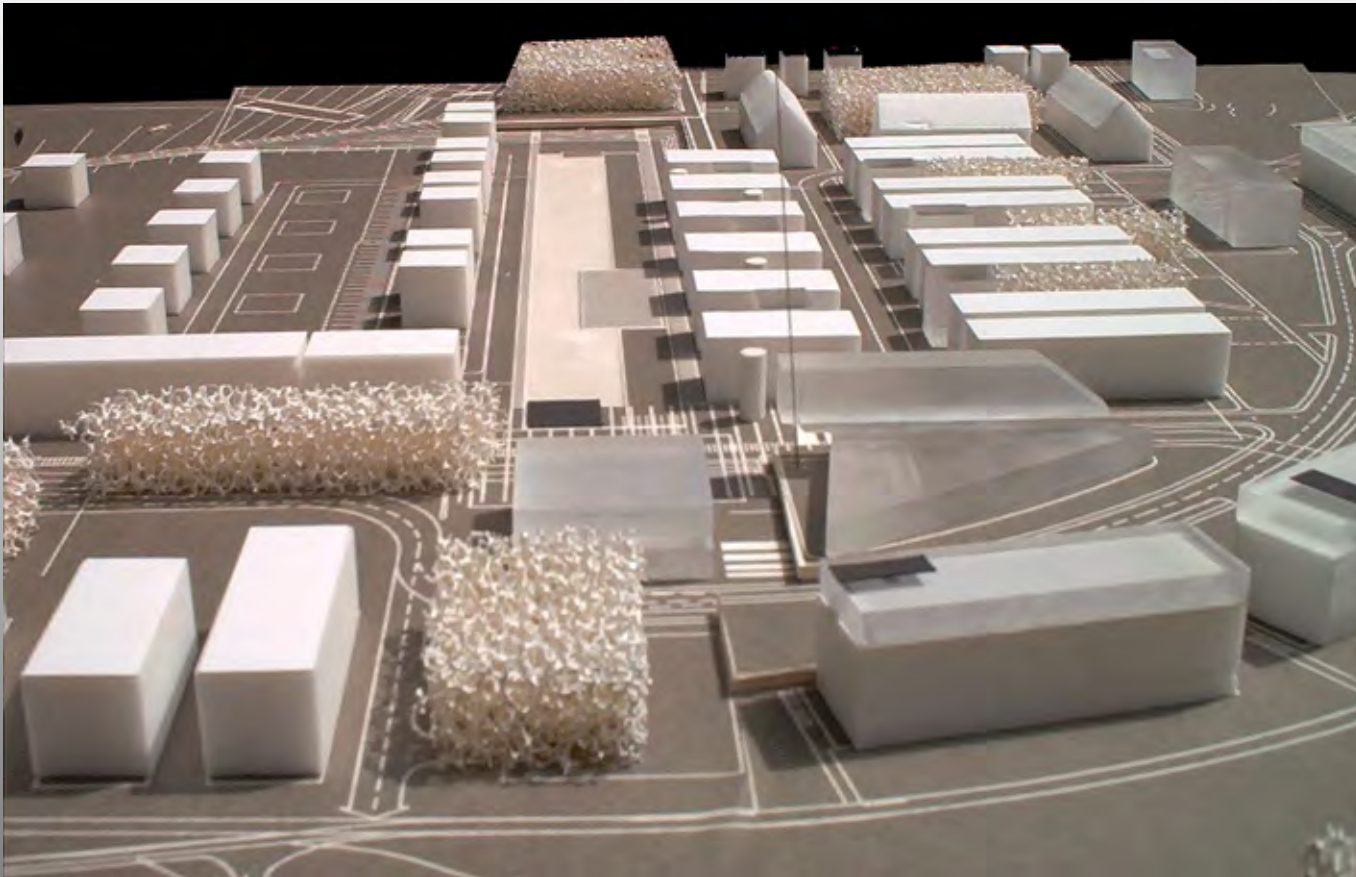
## Model

## Petrisberg



## Model

## Petrisberg



## Working/Living on the Waterfront

## Petrisberg





## Info box

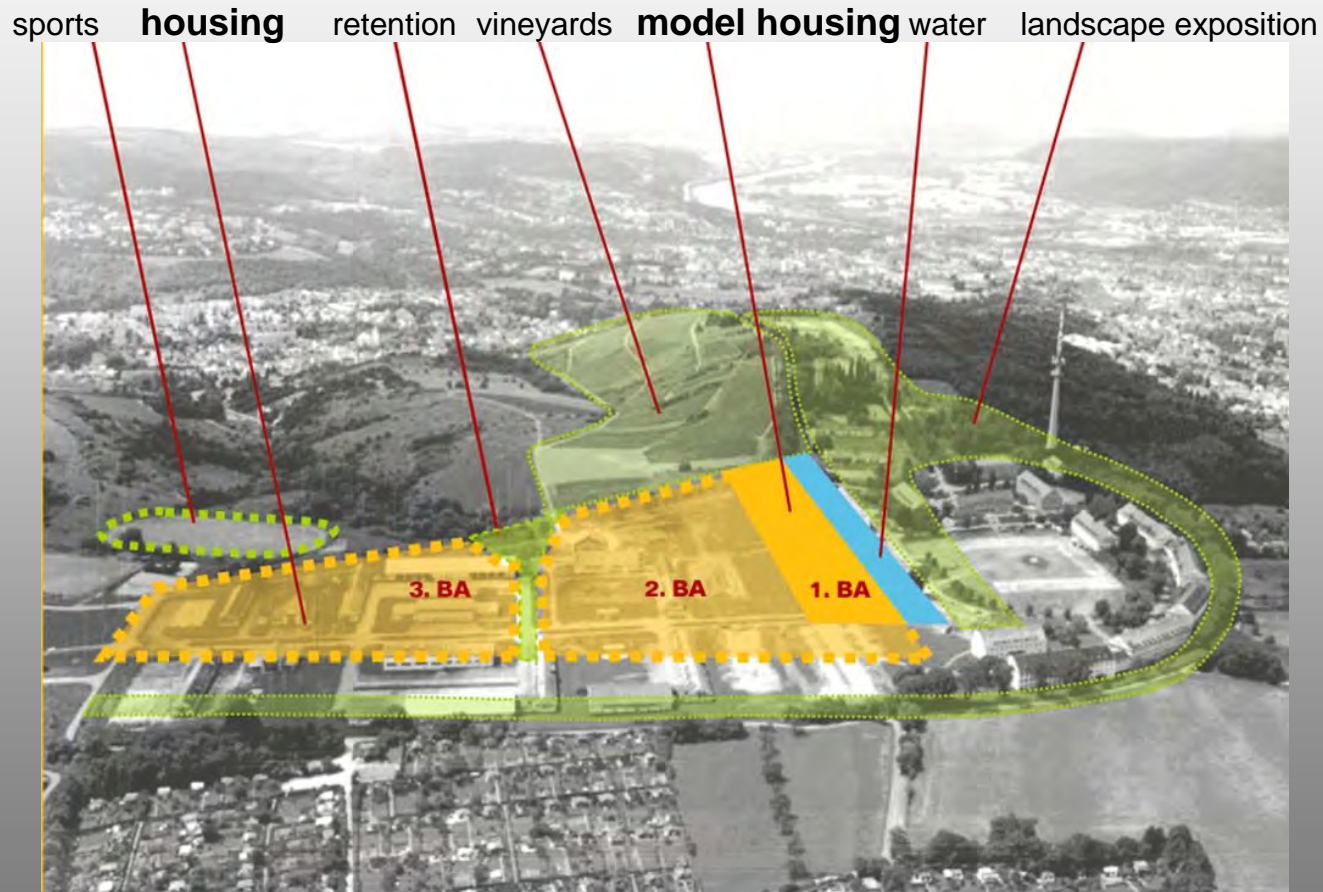
## Petrisberg





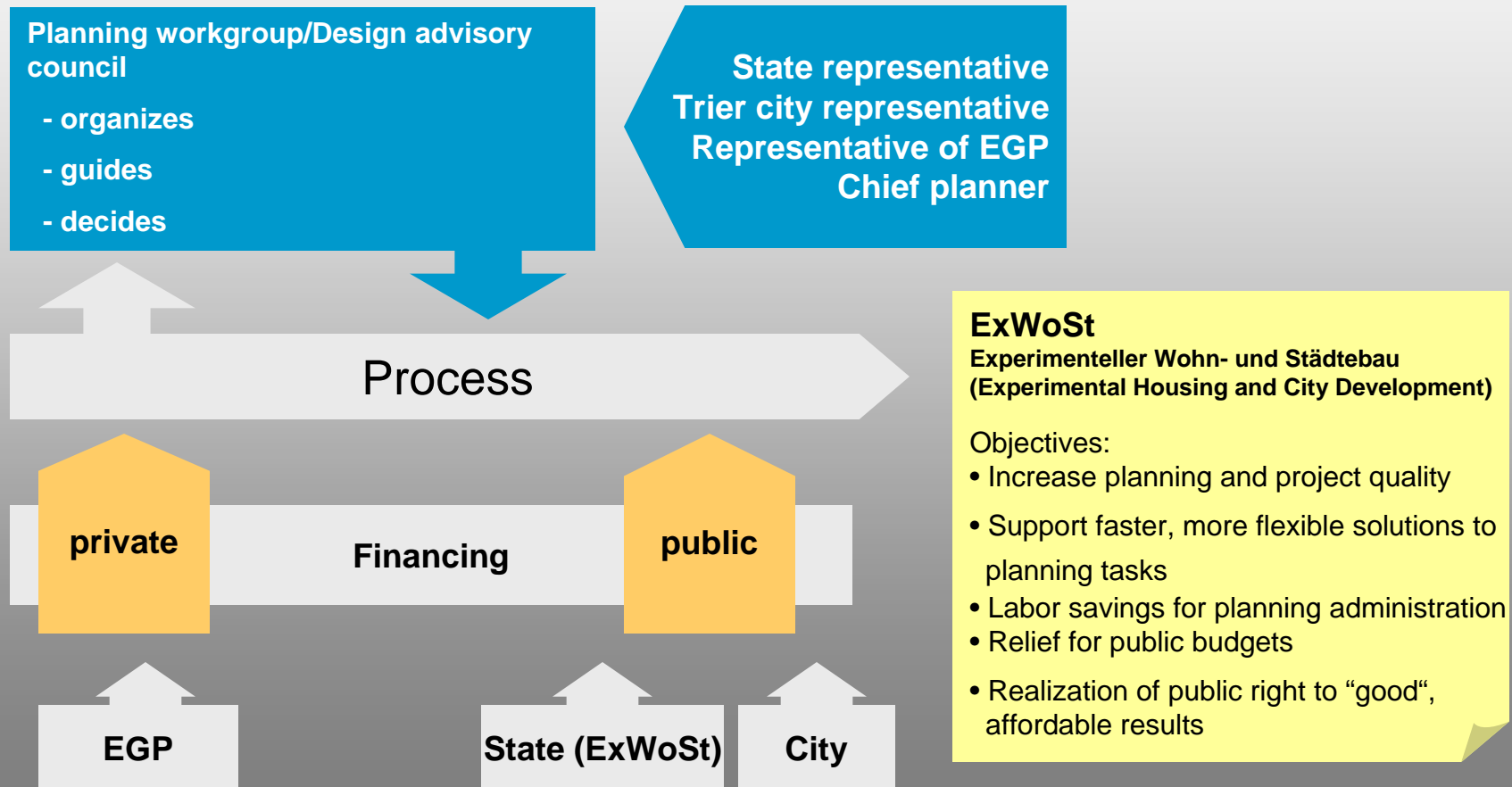
## Aerial view

## The project –Model housing



## Project approach

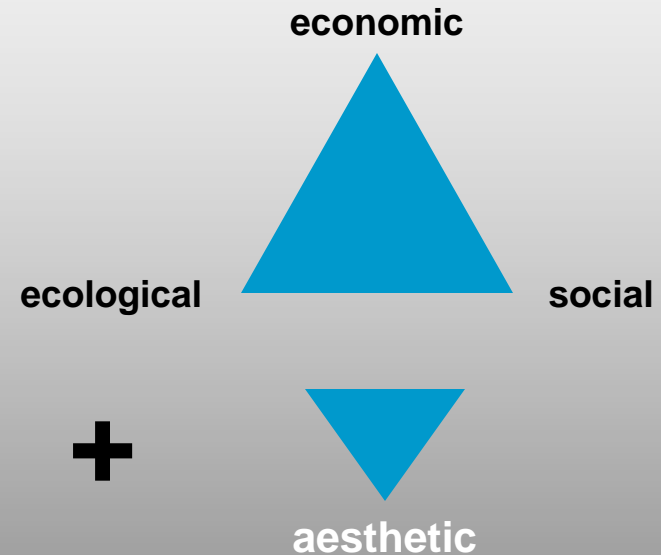
## The project – Model housing



## Architectural culture

- **Sustainability**
  - economic
  - ecological
  - energy-efficient
- **Identity**
  - originality
  - individuality
- **Regionality**
  - Polar opposite to rootless world architecture
- **History**
  - dialog
  - historical topography
- **Beauty**
  - prestige
  - intrinsic value instead of cost-producing external value
- **Functionality**
  - Privacy
  - Flexibility

## The project – Model housing



**Architectural  
building culture**

**Quality is produced through complexity**

## German single-family housing – current situation

## The project – Model housing



**Bilateral Working Group**

**Economic Tools and Finance for Brownfield Redevelopment Workshop  
November 11th and 12th 2002, Charlotte, North Carolina**

**Jan Eitel, EGP GmbH**



## New examples

## The project – Model housing



## Objective

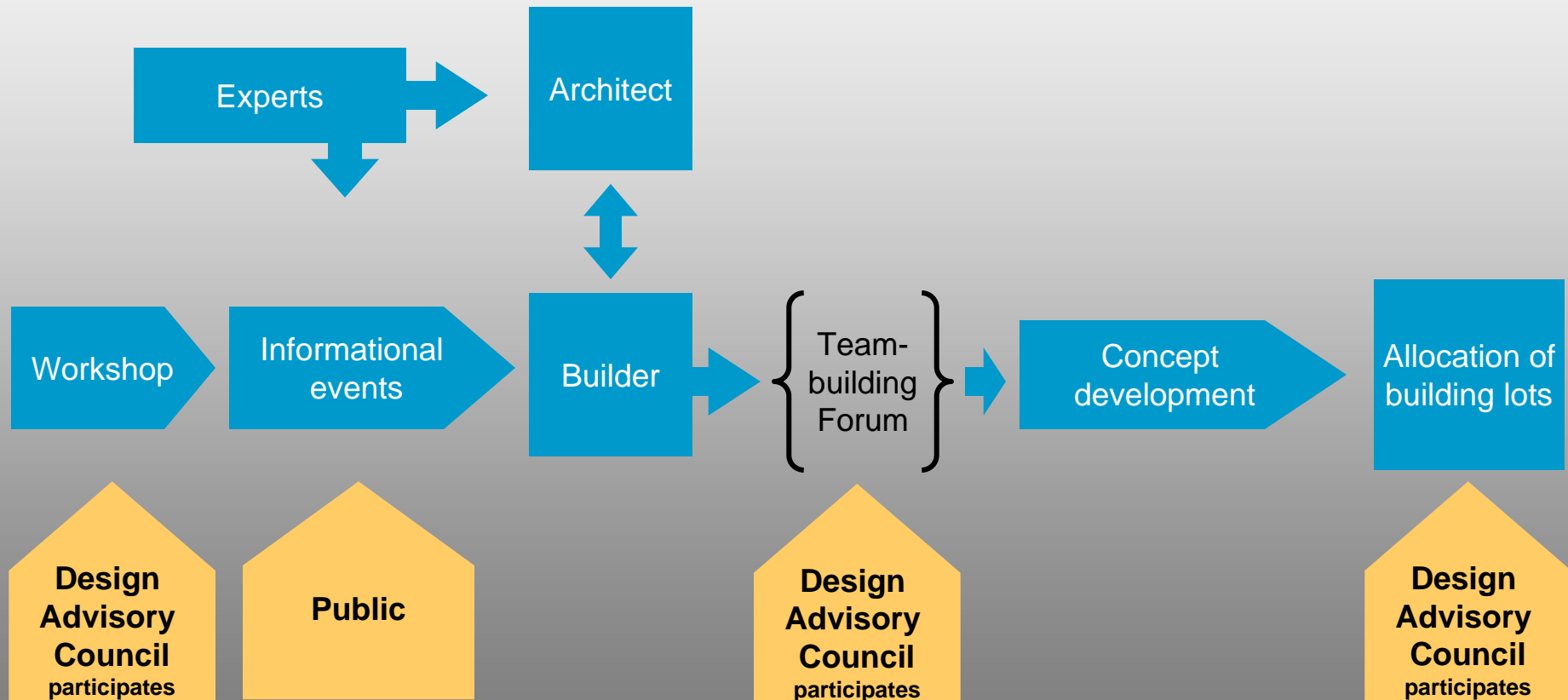
## The project – Model housing

- **city development solution** appropriate to the special situation between **city and nature** in Petrisberg.
- innovative / model building – **creation of architectural building culture**
- **avoidance of migration** of affluent and opinion-leading segment of the population from the city to surroundings
- the **process** should be taken beyond the establishment of the model housing and be transferred **as a model** to the other housing construction sites in Petrisberg.
- **unusual public-private-partnership project**
- **minimal public investment – maximum private follow-up investment**
  - ⇒ no large private investor who sells complete buildings constructed according to the rules for optimizing profit.
  - ⇒ instead, intensive assistance and guidance of individual builders by experts over the entire building process

## General procedure

## Process

**He who wants to innovate must violate usual procedures...**



## Procedure for architects

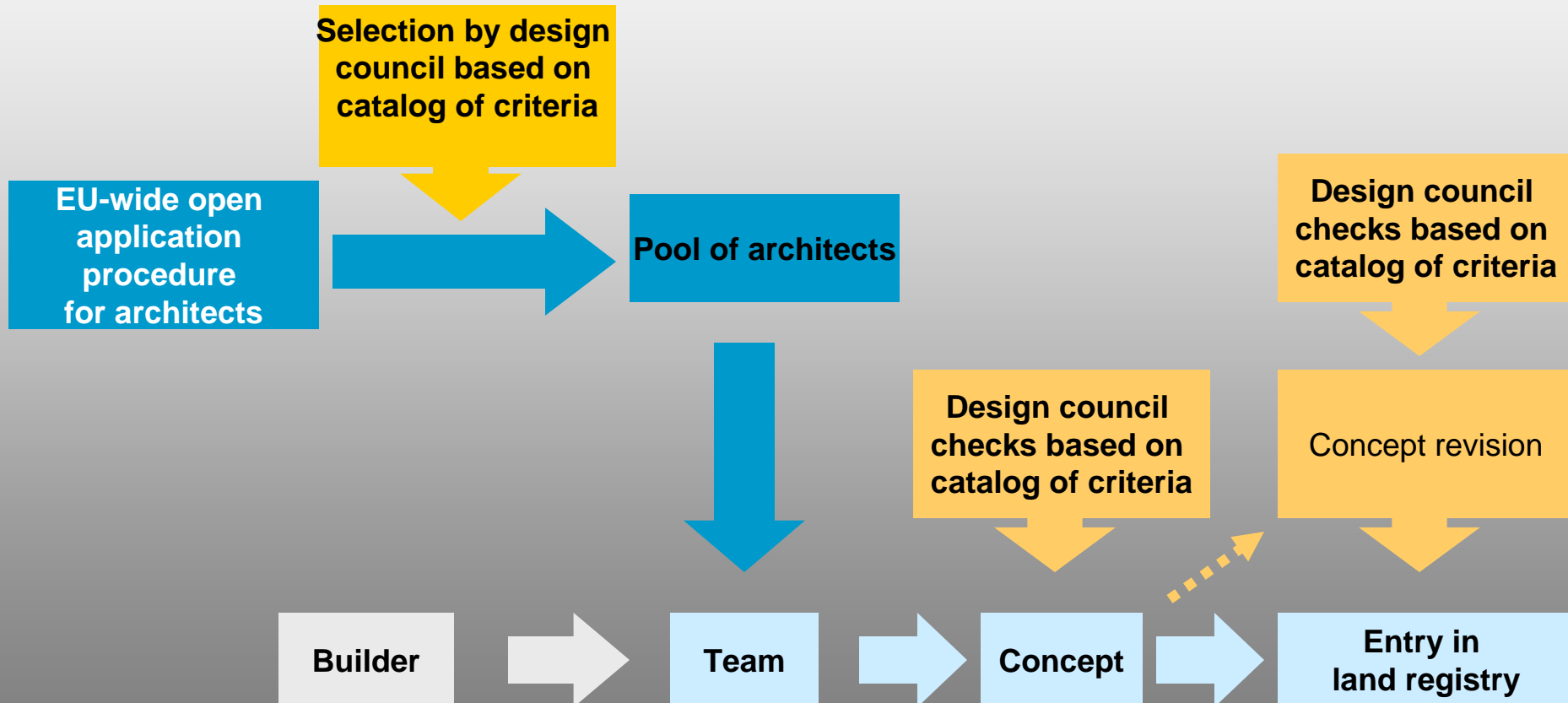
## Process

- EU-wide application procedure
- Architects apply with existing portfolio (reference projects)
- The design council chooses a pool of architects
- Builder + architect form a team  
(find each other independently or during informational events)
- Builder + architect develop a concept together
- Design council check based on a catalog of criteria/checklist
- Entry into the land registry only after the approval of the design council



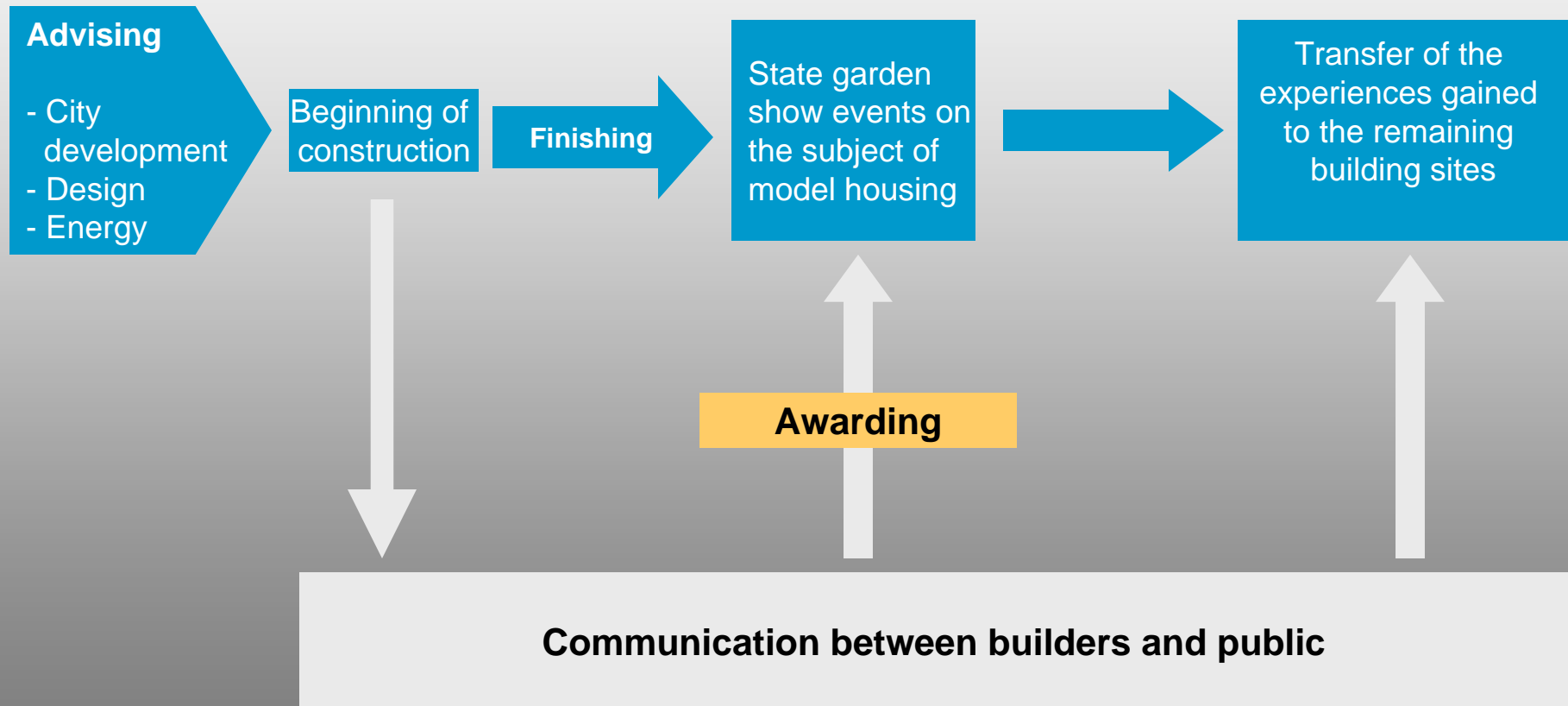
## Procedure for architects

## Process



## Process – building process for model housing

## Process



## Workshop

## Process

### Participants (approximately 40 people)

- Main moderator Prof. T. Sieverts
- Secondary moderator Ms. A. Skoupil
- Representative of the state of Rhineland-Palatinate
- Representatives of the city of Trier
  - head of the building department
  - head of the city planning office, and others
- Representative of the state landscape exposition
- Director of the EGP
- Representative of GIU (shareholder)
- Representative of Drees + Sommer (shareholder)
- Representative of the Rhineland-Palatinate chamber of architects
- Interested architects from the Trier area
- Representative of the chamber of craftsmen



## Workshop

## Process



### Objective

- Creating an unmistakable profile of the plan area
- City development requirements
- Definition of “model housing”
- Definition of design quality
- Requirements for energy saving and housing technology.
- Definition of a procedure acceptable to all participants for selection of criteria and allocation of building sites.

### Procedure

- Expert lectures – introduction of the topics
- Objectives
- Site visit
- Working on the topics in two workgroups – city development and design.
- Plenary intermediate results
- Processing of the intermediate results by the entire group
- Definition of the results



## The information event, Nov. 23- 24, 2002

---

## Process

- **Potential builders will be informed**
  - about the state of the planning process
  - about the application and allocation process for building lots
- **Ambitious architecture offices present their work**
  - make contact with potential builders
- **Presentation of the suggested development plan worked out during the workshop**
  - convey an idea to potential builders
  - inform interested architects
- **Expert lectures covering, for example**
  - architectural building culture
  - energy-efficient building
  - ecological building
- Media-effective visit of the finance minister of Rhineland-Pfalz
- Prize awarding for the children's drawing competition – “My Dream house”

## Suggested development plan from the city of Trier

## Criteria and draft



## Suggested development plan from the workshop

## Criteria and draft





## Suggested development plan from the workshop

## Criteria and draft



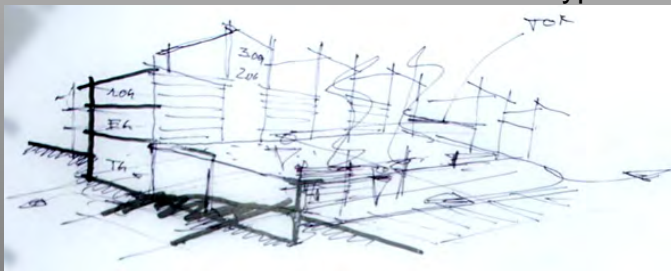


## Building typologies

## Criteria and draft



“stacked” maisonette types



### Loft living on the waterfront

- narrow (minimum 5 meters), deep building lots
- two-sided development
- high flexibility through different development stages (first along the water strip – later in the southeast)
- working + living / multi-generation living possible



### Multi-story residential building along the Magistrale

- “stacked” maisonette types – living quality of row housing
- underground garage
- smaller, private open areas facing the valley
- property developer model possible



### “Living in the Park”/ free living

- in a cluster around a semi-public, town square-like living path / restricted traffic street zoned for play
- characterized by green area structure, play streets and footpaths
- living without fences / common free areas

## Target groups

## Criteria and draft

### The discriminating builder:

- Exclusivity
- Design
- Flexibility
- Mixture of uses
- High-quality open areas, public and private



### ☐ Along the waterfront:

- desire for the house that grows with you
- binding, future oriented
- bound to the area
- living + working
- interest in city living

### ☐ Along the Magistrale

- flexible “global worker”
- temporary residence
- desire for small, private open area

### ☐ Individualized living in the park

- affluent families
- bound to the area
- desire for living in green areas in limited but existing community

## Architectural and city development design

## Criteria and draft

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### few stipulations:

- Volume
- Edges
- Building lines
- Building limits
- Levels

Good architecture cannot be defined by

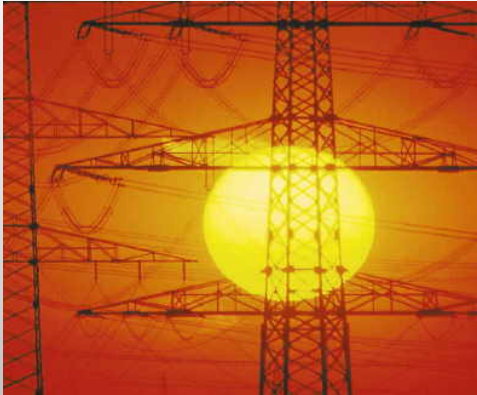
- Building form,
- Roof form,
- Material
- and color selection

### Coordination of the draft designs with the design council

- This can create a certain homogeneity while allowing freedom of design.
- Harmonization of neighboring buildings.
- “Bundling” of builders with similar design ideas.

## Energy

## Criteria and draft



### Energy-efficient building is state-of-the-art in Germany.

The German energy saving ordinance places high requirements on the energy consumption of buildings:

The maximum allowable values for **primary energy consumption** in residential buildings are between approximately 75 and 152 kilowatt hours/ma depending on the compactness of the building and the type of water heater.

Needless to say, innovative, model housing will exceed these already strict consumption regulations.

An energy consultation by an expert is therefore mandatory for all builders.

Community solutions for heating and energy supply should be made possible.

The positioning of the buildings according to city development plans allow energy savings through passive solar energy use.



## Who profits?

## Summary

- **WIN**      **The builder**  
few restrictions placed by the development plan and expert advice during the creation process result in high-quality architecture, in high-quality surroundings → Increase in living quality and value
- **WIN**      **The architect**  
few building restrictions create the possibility for image-building projects that attract especially great attention during the state landscape exposition → Advertisement
- **WIN**      **The state landscape exposition**  
a further highlight for the landscape exposition will be created with the integral approach – living in / at the park. → Advertisement / larger audience is being attracted
- **WIN**      **The city of Trier**  
The high-income, opinion leader segment of the city acquires an attractive alternative for living in the surroundings. The city is enriched by an additional object of prestige → socially sustainable / Advertisement
- **WIN**      **The EGP – Petrisberg development company**  
Petrisberg will be developed into a high-quality address for the housing market sector as well → Advertisement / Increase in value

## Who profits?

## Summary

- **WIN** Last but not least, the public wins through the mostly privately financed sustainability and architectural building culture in a park-like surrounding.

Thus, we have a

**win – win – win – win – win – win - situation**

**Thank you for your attention!**

contact: [j.eitel@giu.de](mailto:j.eitel@giu.de)

Jan Eitel, Managing Director of EGP GmbH

**Redevelopment of a former military base in Germany.  
Difficult and expensive: no money left for sustainability?**

In 2004, the Rhineland-Pfalz State Garden Show will take place at the Petrisberg in Trier. At the same time, the Petrisberg Research Park will be developed by a new foundation (EGP Entwicklungsgesellschaft Petrisberg GmbH – [“Petrisberg Foundation for Development Ltd.”]).

This innovative and qualitative conversion of the area also should provide the impulse for development of four residential areas. These residential areas will satisfy the demand for exclusive, large-area and individual single-family home building sites. The goal, however, also is to integrate model, sustainable housing concepts. Such worthy attempts usually fail because of a lack of private homeowners willing to finance them, economic pressures, and a lack of understanding of the aspects of sustainability.

In Trier, a model has been developed that promises to stimulate private involvement and private independent financing. The GIU and the EGP, in cooperation with the City of Trier and the State of Rhineland-Pfalz, have developed a “model housing” method that involves various investors, planners and users. The Petrisberg Derelict Area Project should be presented as exemplary, and along with the “model housing” cluster, a goal-oriented process for enticing investment in sustainable projects will be demonstrated.

**Brownfields Financing:  
Federal Tools to Support Project Reuse**  
*by*  
***Charles Bartsch***  
***Northeast-Midwest Institute***



## **Brownfields Financing: Federal Tools to Support Project Reuse**

Why are federal financing tools needed to support financing efforts for brownfield projects? A key lesson from the success stories in place is that public-sector financial assistance is often needed to make brownfield projects economically viable. Many brownfield projects do not work without some kind of involvement by the public sector. Site remediation and preparation costs make many sites economically uncompetitive, at least initially. Many of them have trouble putting a complete financing package together – especially the capital needed for 3 specific activities: (1) carrying out an early stage site assessment; (2) defining a site remediation plan (necessary if the owner wants to take the site through a VCP in order to get some finality on liability concerns, or to be able to use institutional controls; and (3) performing the actual cleanup itself.

The site reuser's challenge is dealing with these financing gaps and situations that make brownfield sites economically uncompetitive – at least initially – and pull together the technical and financial resources that can help them reverse financial course, have a chance to take hold so they can realize the full competitive advantage of their location and situation. This clearly can be done, if the more than 10,000 successful site reuses around the country prove anything.

For decades, federal development and finance mechanisms have been used to stimulate economic activity in certain geographic areas or industries, or under certain types of situations, when private capital markets chose not to participate. Brownfield projects at contaminated sites represent a logical extension of the mission of many of

## Brownfields Financing: Federal Tools to Support Project Reuse

the programs that federal agencies currently operate. The chart at the end offers a laundry list of federal programs that could prove most useful to brownfield projects. Several of these merit detailed consideration.

Several of **HUD's programs** offer communities considerable potential resources and the most flexibility. **Community Development Block Grants** are provided to cities of all size. How those funds are spent is a local decision, within broad HUD guidelines. HUD's **Section 108 loan guarantee program** is linked to the block grant program. Section 108 was authorized to help cities finance site clearance, property acquisition, infrastructure, rehabilitation, or related activities too large for single-year block grant funding. This can include removal of toxic contaminants as part of these site preparation activities.

Entitlement cities and counties may leverage up to 5 times their annual grant for large, capital intensive projects — typically, economic development projects needing considerable up-front cash for site preparation — the typical brownfield. Cities have up to 20 years to repay these HUD-backed loans. Most cities use the income generated from the sale or development of the site to pay off the debt. Both programs have great potential to support brownfield-type projects.

Block grant funds can also be lent to private companies for economic development projects under some circumstances. Coping with contamination has been defined as an eligible activity, and specifically put into law in 1997 as part of appropriations language. Since then more than 50 cities have used CDBG resources directly for brownfield purposes. Cities ranging in size from Chicago to Somerville, Massachusetts have used CDBG to clean up targeted city sites. Other cities have used CDBG to capitalize local RLFs for brownfield purposes. Youngstown, Ohio is using CDBG to pay for first year loan costs incurred by a new manufacturing plant attracted to a brownfield site. Dallas used \$155,000 in CDBG to

## **Brownfields Financing: Federal Tools to Support Project Reuse**

directly pay for cleanup at its McCommas Bluff site. And Wisconsin has been reserving \$2.5 million of state CDBG allocation for its small cities to provide them with resources to pay for site assessments – meeting a key need.

More and more cities are targeting Section 108 to brownfield projects. For example, Detroit has used it to pay for infrastructure improvements. Chicago has used it to cover the costs of cleaning and assembling small parcels into 25- and 50-acre tracts for new industrial development. Denver is using 108 for short-term construction loans on downtown projects, with the developers repaying the notes upon sale of the properties. Mid-sized cities such as Yonkers, New York have used 108 proceeds to create a brownfield revolving loan fund.

When considering use of HUD resources, though, communities need to do a reality check. First, funding allocations within cities are local decisions, out of the reach of HUD as long as they meet basic eligibility criteria. In many areas, groups such as community development and service organizations have been recipients of block grant support for many years, and they are concerned about the impact of any new activity on their own bottom-line. This may make it difficult for new activities, such as brownfield initiatives, to work their way into the local priority setting process. Moreover, block grant resources have simply not kept pace with demand, even in this time of surplus. The overall level of funding has been pretty constant over the past five or so years – even as the number of entitlement cities eligible to share in that pot grows, often by 5 percent a year.

In terms of Section 108 — the program's requirement that cities pledge their future entitlement grants as collateral — even if the chance of default is highly remote — causes political problems at the local level. Rightly or wrongly, state and local officials' concern about the political fallout of a failed project -- as remote as that prospect may be -- discourages use of the program. This is unfortunate, since the

## **Brownfields Financing: Federal Tools to Support Project Reuse**

108 program gets about \$1 billion in new authority from Congress each year – and it never gets applications for near that amount. In fact, Section 108's track record suggests that a well-conceptualized project based on solid market analysis has every likelihood of paying back the guarantee with no cost to the city or state. Thus, convincing mayors and city councils that it can work becomes the brownfield challenge.

Also with regards to Section 108 — small cities with less than 50,000 are not eligible on their own to apply. They must apply through their state or an urban county. To date, Glen Cove, New York is the only small city to gain access to this program. At this time, the states of Washington, California, and Connecticut are exploring greater use of Section 108 for small town brownfield projects, perhaps by setting up financing pools.

***Low-income housing tax credits*** are a federal tool with good local potential to support brownfield projects. There is growing interest in reusing brownfield properties for residential purposes, an interest which will be further fueled as state voluntary cleanup programs become more established, and the impacts of recent lender liability and cleanup expensing incentive provisions are absorbed by the market.

Low-income housing tax credits can play an important role in attracting capital for housing on brownfield sites. One of the first success stories is found in Trenton, New Jersey, where the Circle F project was developed on a contaminated manufacturing site that dated to 1886. Trenton officials selected a long-time local non-profit developer undertake the housing project. The developer fronted the \$500,000 for site cleanup and preparation, and applied for and received an allocation of \$8 million in federal low-income housing tax credits through the state of



## **Brownfields Financing: Federal Tools to Support Project Reuse**

New Jersey. These credits attracted a private lender, who helped finance the project, and assumed the role of a limited partner in the project in order to get the benefit of the tax credits. In the case of Circle F, the credits were linked to brownfield considerations without undermining the bank's profitability.

One of the newest federal financing tools is HUD's Brownfield Economic Development Initiative, or BEDI; Congress provided \$25 million for BEDI in fiscal 2000. These funds were awarded competitively, and in August HUD announced this year's 22 winners, which include: Buffalo, which will use \$240,000 in BEDI funds and a \$3 million Section 108 for site preparation and remediation at the Union Ship Canal commercial and office project; and Phillipsburg, New Jersey, which will use a \$500,000 BEDI and \$2.5 million Section 108 to acquire and redevelop 100 acres of the 385 acre former Ingersoll Rand site into a modern industrial park, doing soil remediation as part of site preparation work that will include road, rail, and utility upgrading.

BEDI has important potential to support brownfield projects. These grants are intended to improve the viability of projects financed with HUD's Section 108 loan guarantee program. BEDI can be used for any activity also eligible under CDBG. But BEDI grants must be used in conjunction with new Section 108 loan guarantees, with at least a dollar-per-dollar ratio — they will not be granted independently. This is proving to be a stumbling block for cities that have reached their limit on Section 108 — either in real dollar terms, or because of local political and community pressures. And again — small cities are, in practice, largely shut out of the BEDI process.

The ***Economic Development Administration*** provides grants to communities to support public works activities. EDA has emerged as one of EPA's strongest inter-agency partners. During the past 3 years, EDA has made brownfield redevelopment one of its program funding priorities, spending nearly 20 percent of its

## **Brownfields Financing: Federal Tools to Support Project Reuse**

project resources on brownfield-related activities. EDA's public works program supports industrial development activities. EDA's economic adjustment and defense economic adjustment programs can capitalize locally run revolving loan funds to enhance business development activities in distressed areas.

In 1999, EPA's 61 brownfield related projects included: \$923,000 in public works funding to renovate an old factory into a multi-tenant facility, in Uniontown, Pennsylvania; \$7.3 million in public works funding for a port expansion in New Iberia, Louisiana; and \$1.3 million in defense adjustment funding for utility system improvements at the former Memphis depot site.

Some communities have made creative use of **Department of Transportation** funds for brownfield purposes, although it was only 2 years ago that the agency acknowledged that its programs could even play a brownfields role. As a growing number of case studies show, transportation projects can be connected with brownfield projects in 3 ways: (1) situations in which the brownfield site itself may be a transportation facilities itself, in need of upgrading – this most commonly includes roads and rail yards; (2) sites where infrastructure improvements are needed to make them more marketable – typically by expanding access for vehicles, freight, or passengers; and (3) when part of the transportation solution is also part of the environmental solution, where roads, parking lots, and other transportation structures can be used as caps to limit exposure.

Most federal loan assistance is delivered by the **Small Business Administration**, either directly or through local economic development agencies or community-based corporations. And while SBA retains much of the broad decision making authority, specific projects are locally determined and driven. SBA can prove especially helpful to new or small firms that usually lack access to affordable capital from conventional sources -- the types of companies that likely to be attracted to cheap space in less-than-pretty places in distressed areas.

## **Brownfields Financing: Federal Tools to Support Project Reuse**

But as with the HUD programs, it is necessary to temper these descriptions with a reality check. First, EDA resources can work well in brownfield situations, but in practice it can be very difficult to get EDA to provide revolving loan fund resources to communities that have ever received them before -- even if “before” was 10 or 15 years ago, and for vastly different purposes. A key reason is that national need for and interest in EDA programs far outstrips available resources.

At DOT, the culture and mindset of the Metropolitan Planning Organizations that direct much of the program spending has proven to be a barrier in many places. Many MPO officials simply do not want to consider brownfield-related activities. In addition, the MPO process – with its long time frames and often lengthy reviews – does not fit well with the quicker time-frames of many brownfield reuse opportunities.

A reality check is also needed for SBA. To date, SBA programs have not directly addressed brownfield scenarios; in fact, some bank officials and local economic developers have complained that SBA tends to be more conservative with respect to contamination and liability concerns than private lenders themselves. SBA generally only looks at clean deals.

Finally, two other programs merit a quick mention. First, if a brownfield project can somehow be linked to water or water quality, it may be able to tap into programs of the Army Corps of Engineers or use a state clean water revolving fund to help pay for remediation. The former can help with site planning and remediation, although some communities may be constrained by the Corps’ matching requirements. In the latter, EPA allows states to use their RLF for brownfield mitigation to correct or prevent water quality problems – including those stemming from petroleum contamination.

## **Brownfields Financing: Federal Tools to Support Project Reuse**

Clearly, a number of federal program resources are available to communities wanting to promote brownfield reuse. But it is important to stress that private financing must play a bigger role if more extensive brownfield reuse is to be achieved. The public sector can provide critical seed money, plug some crucial capital holes, and help balance the economic scale between greenfields and brownfields. But the public sector can not do it all alone. Private investment must be sought and leveraged.

### **CHART 1: Federal Financial Assistance Programs Applicable to Brownfield Redevelopment Activities**

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#### ***Loans***

- EDA's Title IX (capital for local revolving loan funds)
- HUD funds for locally determined CDBG loans and "floats"
- EPA capitalized brownfield revolving loan funds
- SBA's microloans
- SBA's Section 504 development company debentures
- EPA capitalized clean water revolving loan funds (priorities set/ programs run by each state)

#### ***Loan guarantees***

- HUD's Section 108 loan guarantees
- SBA's Section 7(a) and Low-Doc programs



# **Brownfields Financing: Federal Tools to Support Project Reuse**

## ***Grants***

- HUD's Brownfield Economic Development Initiative (BEDI)
- HUD's Community Development Block Grants (for projects locally determined)
- EPA assessment pilot grants
- EDA Title I (public works) and Title IX (economic adjustment)
- DOT (various system construction and rehabilitation programs)
- DOT's transportation and community system preservation (TCSP) grant
- Army Corps of Engineers (cost-shared services)

## ***Equity capital***

- SBA's Small Business Investment Companies

## ***Tax incentives and tax-exempt financing***

- Targeted expensing of cleanup costs (through 12/31/01)
- Historic rehabilitation tax credits
- Low-income housing tax credits
- Industrial development bonds

## ***Tax-advantaged zones***

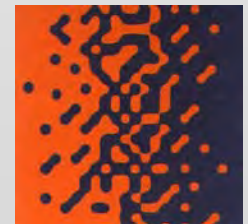
- HUD/USDA Empowerment Zones (various incentives)
- HUD/USDA Enterprise Communities (various incentives)

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# Funding instruments applicable for brownfield redevelopment – an Overview

**Dr.-Ing. Uwe Ferber,**

**PROJEKTGRUPPE STADT+ENTWICKLUNG  
FERBER, GRAUMANN UND PARTNER  
Leipzig**



# Why ?

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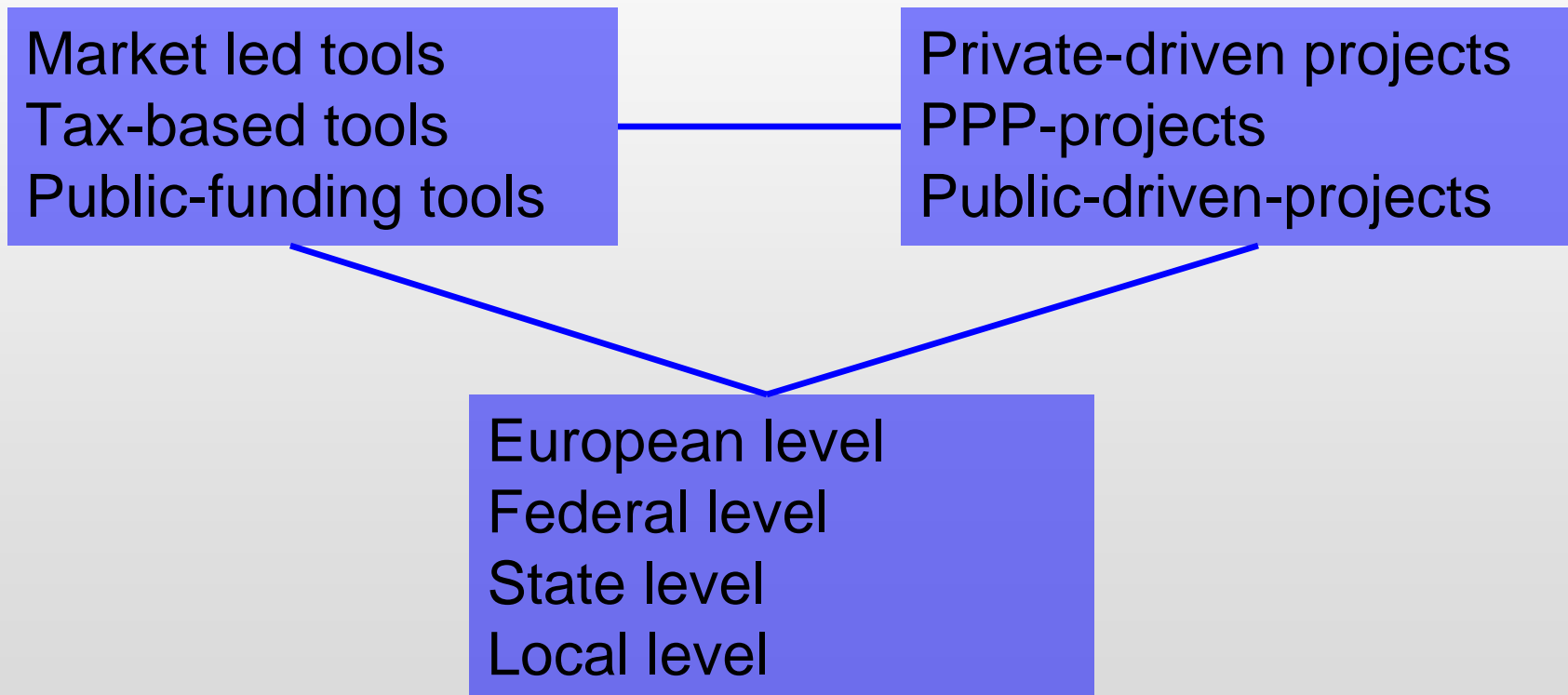
⇒ German urban and economic development policy principle:

„Preservation of equivalent living conditions“

(German Constitution, Art. 72 Par. 2 No 3)

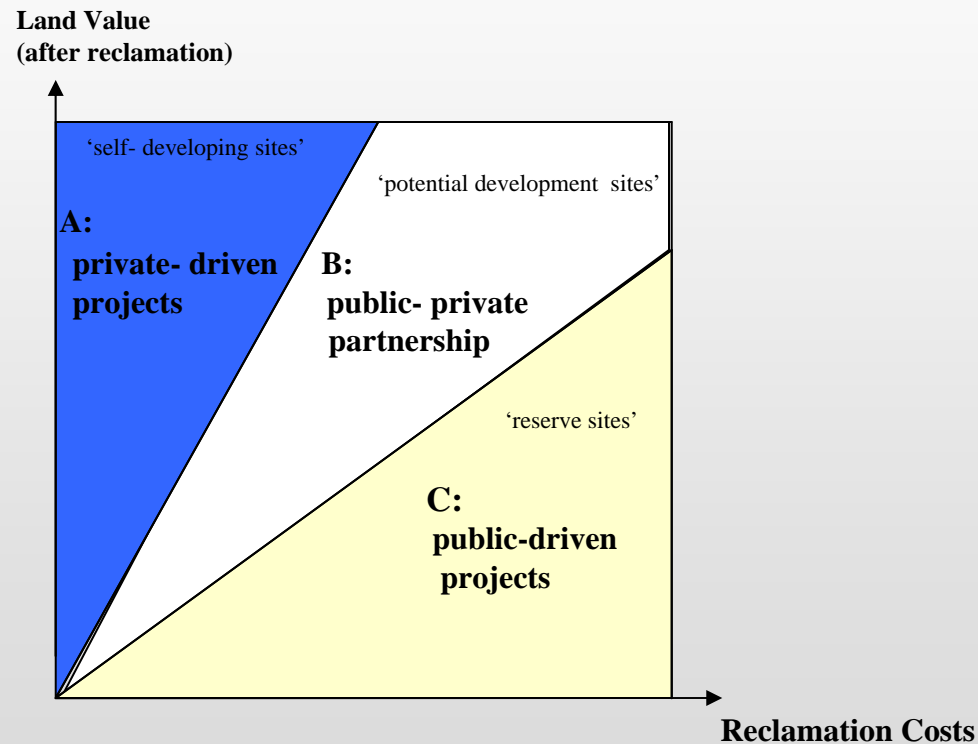
# How ?

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# Typology for funding



## Private-driven projects:

⇒ Balancing brownfield projects by the change of use and generation of planning gains, (new offers of insurance models)



Housing estate in Dortmund



Shopping mall in Oberhausen

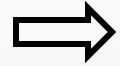
# **Bilateral discussion Input**

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Kienzle Site Dr. Eisele

# Public-private-partnership:

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Integrated in general urban renewal and economic regeneration policies with a mix of tax based tools and direct public co-funding

e.g. Tax deductions for the renovation of industrial heritage buildings and for investments in Urban Renewal Zones

(Europe: Enterprise zones e.g. in GB, F)



Discothek in a former briquet works



Future individual housing area in Leipzig



# **Bilateral discussion Input**

Case studies: Saarbrücken, Duisburg, Leipzig



Saarterrassen Saarbrücken



Harbour Duisburg

# Public driven projects

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## European Union:

- EU-Programms (ERDF, KONVER, URBAN), 50 - 75% direct funding for eligible projects e.g. Brownfield program in Saxony



Conversion: Olympic village in Berlin



Starter building in Leipzig

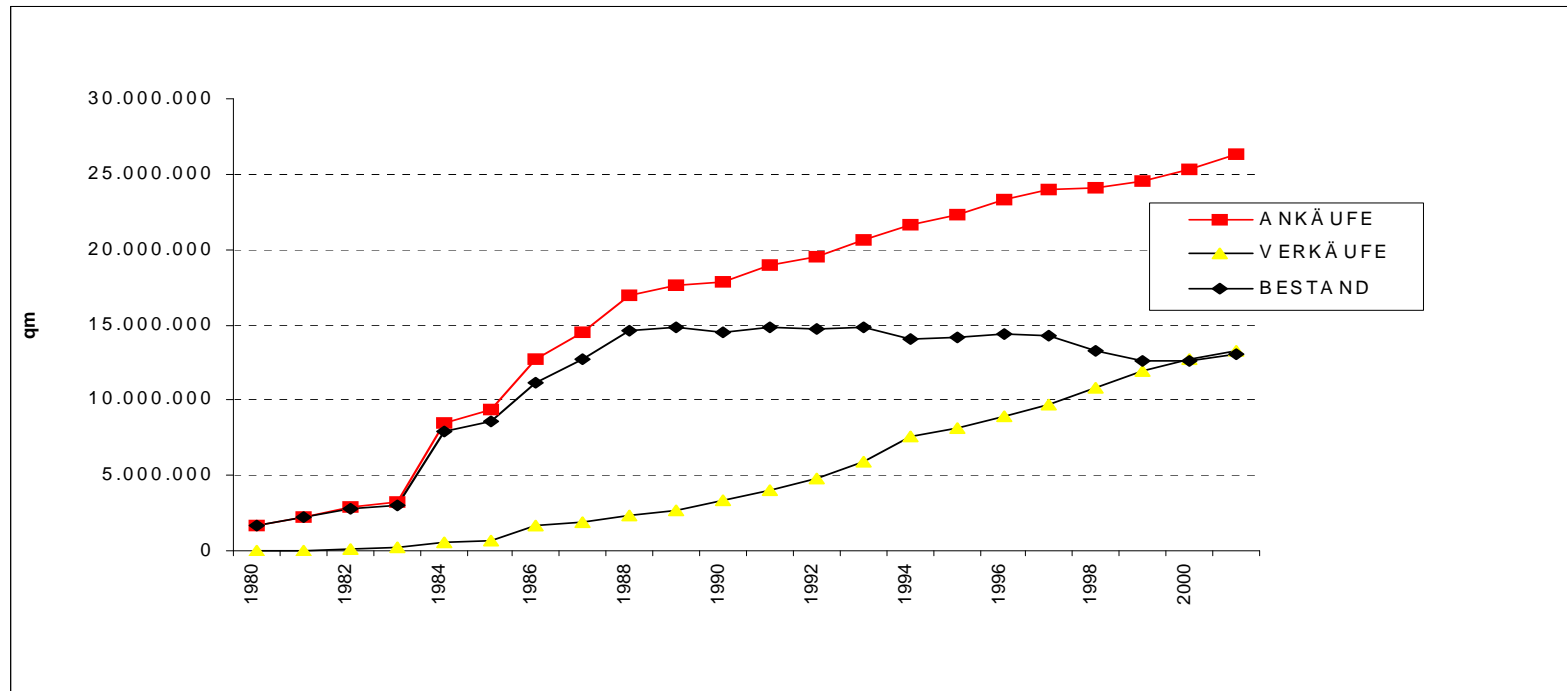
## Public driven projects - Federal and state level:

- Federal economic regeneration fund (GA)
- Urban renewal programmes
- Employment initiatives
- „Grundstücksfonds Nordrhein-Westfalen“
- Contaminated land programmes



# Bilateral discussion input

„Grundstücksfonds NRW“





# Summary

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- Several funding instruments are available
- General Goal: Minimising public by maximising private funding
- Enhancing private investment: e.g. Urban renewal schemes: 1:5,
- Mix of instruments in project practice depending on drivers and types of redevelopment
- Problems: Transparency of funding and cash-flow, EU-Competition policy, Bank policies (see HVB-Group)

# German-American Workshop discussion topics?

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- Transparency in approach to funding
- „Trust building“ in funding institutions
- Future of insurance models
- Benchmarks for performance
- .....

# **Abstract**

Dr.-Ing. Uwe Ferber, Funding instruments for brownfield redevelopment

The use of funding instruments in Germany depends on different types, backgrounds and drivers for the individual brownfield redevelopment project. The main influence is by project costs and benefits.

Private projects, public-private partnerships and public projects at the European, federal, and state level - are presented in relation to market-led tools, tax-based tools and direct public funding. The use of these instruments is illustrated by the case studies. Based on the experiences in Germany, general problems are identified and proposals are made for the discussion in the Bilateral Working Group.

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**Karsten Gerken**  
**City of Leipzig, Germany**

## **Federal and State Urban Development Programmes**

—

**Funding Experiences for Brownfield  
Redevelopment in the City of Leipzig**



# The Peaceful Revolution



Bilateral Working Group

Karsten Gerkens (Germany): *Federal and State Urban Development Programmes – Funding Experiences for Brownfield Redevelopment in the City of Leipzig*

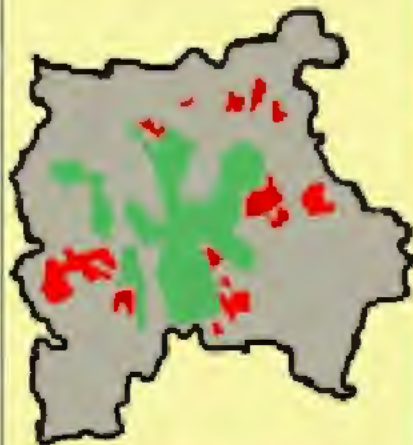
November 11, 2002



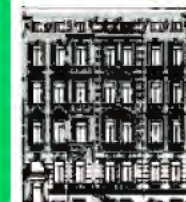
# Building Types in Leipzig

## “Gruenderzeit”

Areas with  
“Gruenderzeit” buildings



Large areas with  
multi-storey prefabs

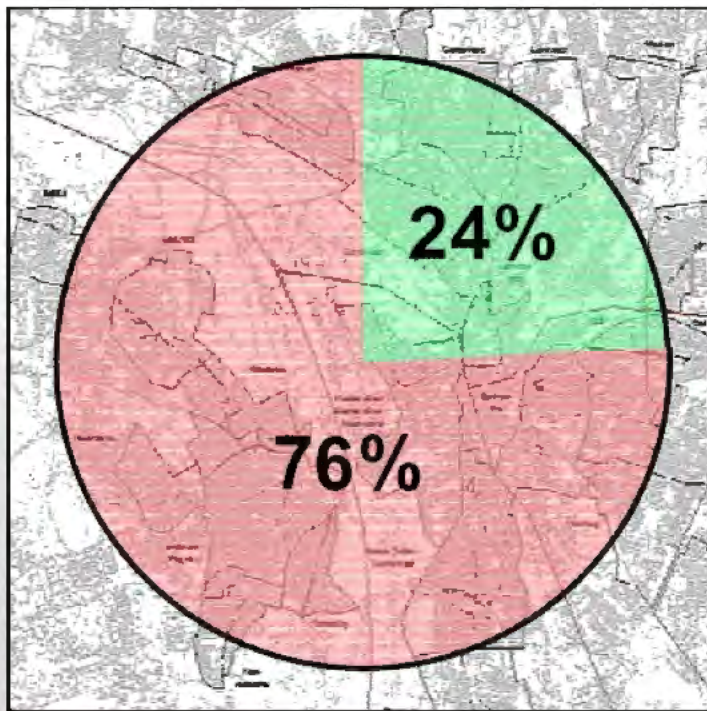


## Multi-storey prefabs

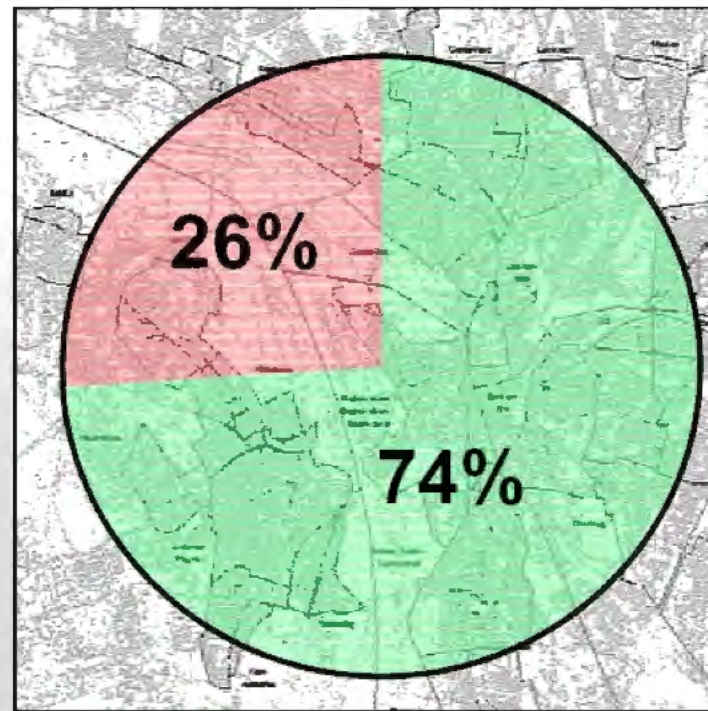


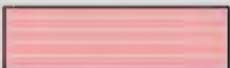
## Revitalisation of the City

1990



2000



 Unrefurbished

 Refurbished





# State Aid for Urban Renewal 1990–2000

(in DM million)

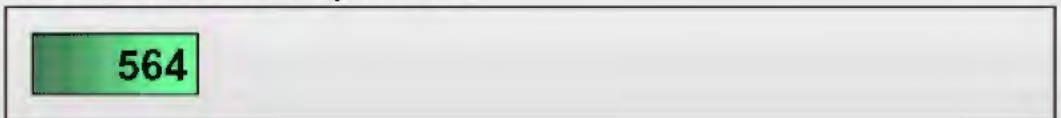


## Subsidies:

### Housing construction



### Urban development



## Tax:







## Park on a Former Railway Station



A disused railway station  
is converted into a park





## Park on a Former Railway Station

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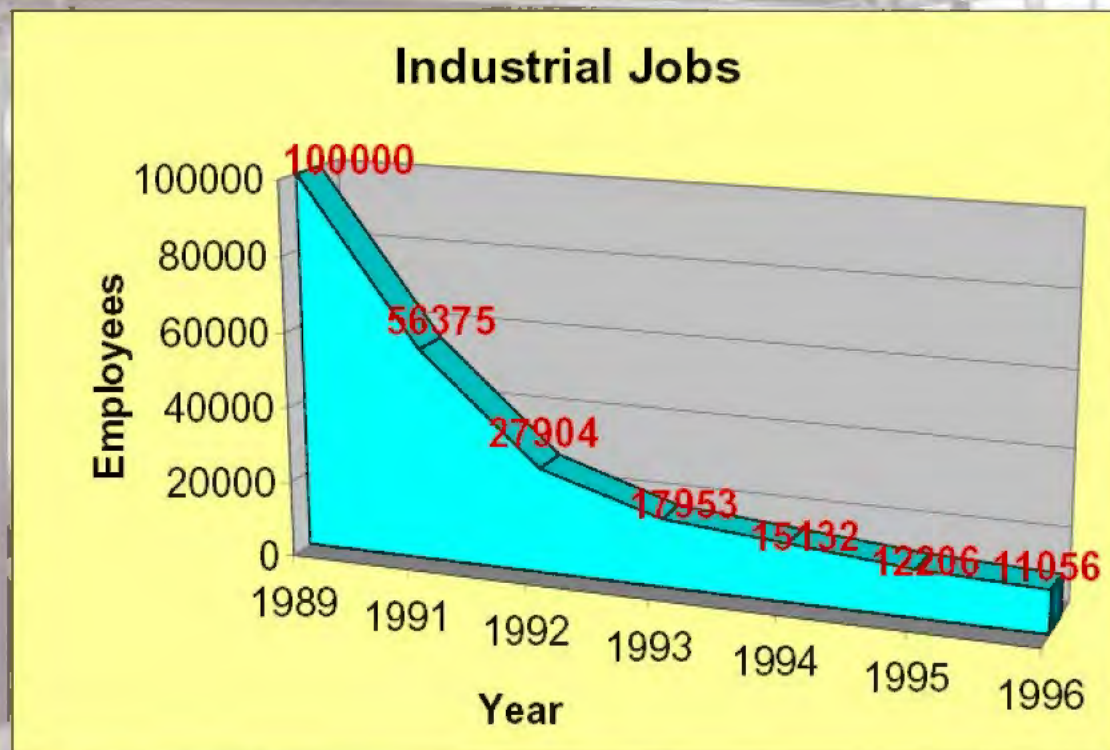
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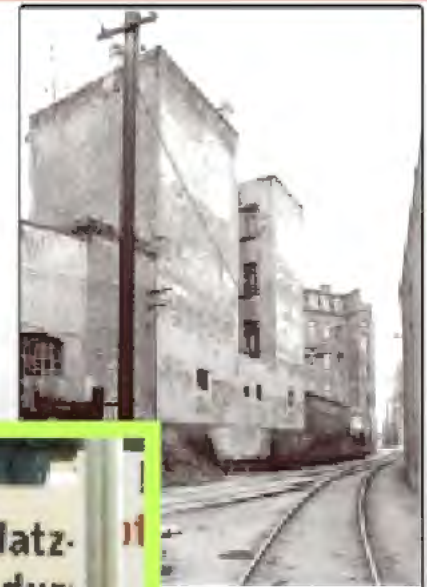
## Lost Industrial Jobs







## Decline of east German Industry







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## Plagwitz in 1992

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## Plagwitz in 2000

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# From Crane Factory to Manual Trades Center

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# Nuclei for New Work



Media Offices



Business Innovation Center



Start-up Business Center



Youth Technology Center

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# EXPO 2000



## EXPO Park (prior to redevelopment)

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## EXPO Park Planning (now implemented)



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## From a sewer to an waterway







New and refurbished  
bridges, new footpaths  
and cycle tracks



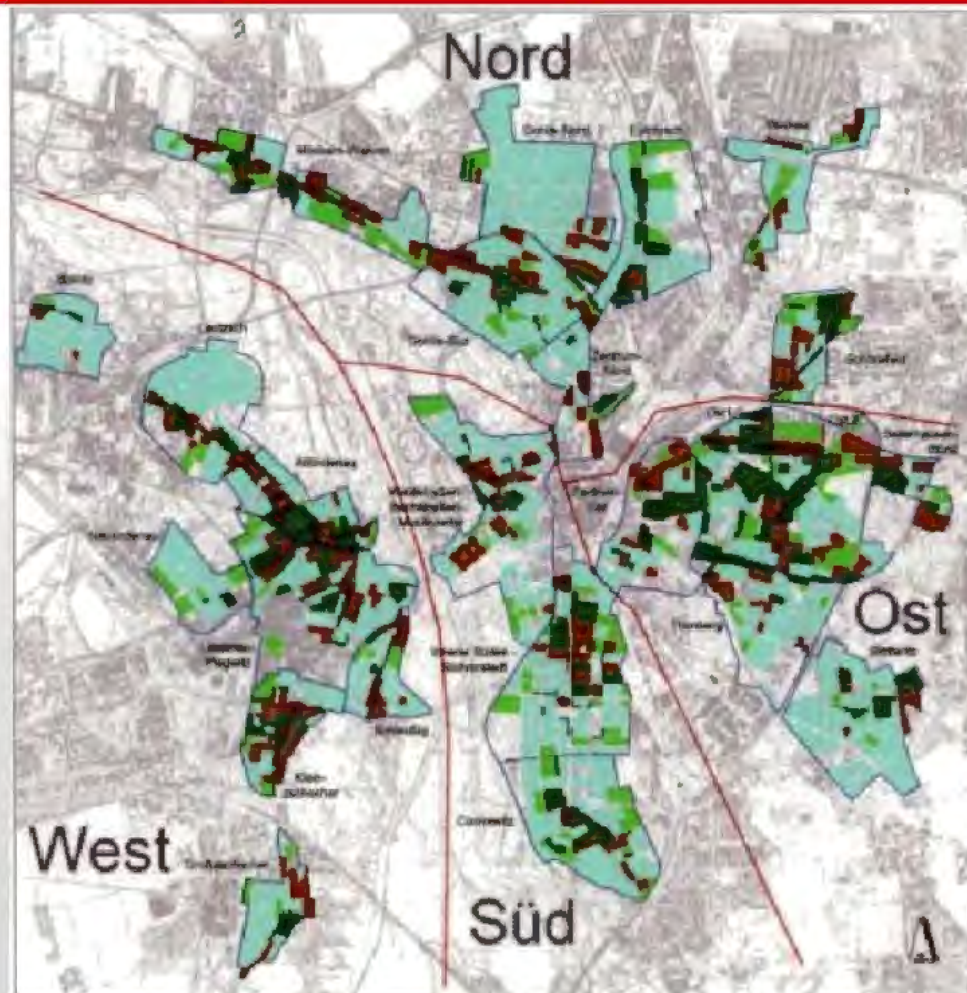


## Reasons for Moving Away

	25,000	Migration to western Germany	
	50,000	Migration to the surroundings	
	25,000	Population decline	



# Urban Development Plan



## Aim categories:

- Consolidated district
- Preservation district
- Priority restructuring district
- Restructuring district

- Area of investigation
- Borough

0 1 2 km

City of Leipzig  
Urban development plan working party  
Revised: December 2000





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## Visions for East Leipzig



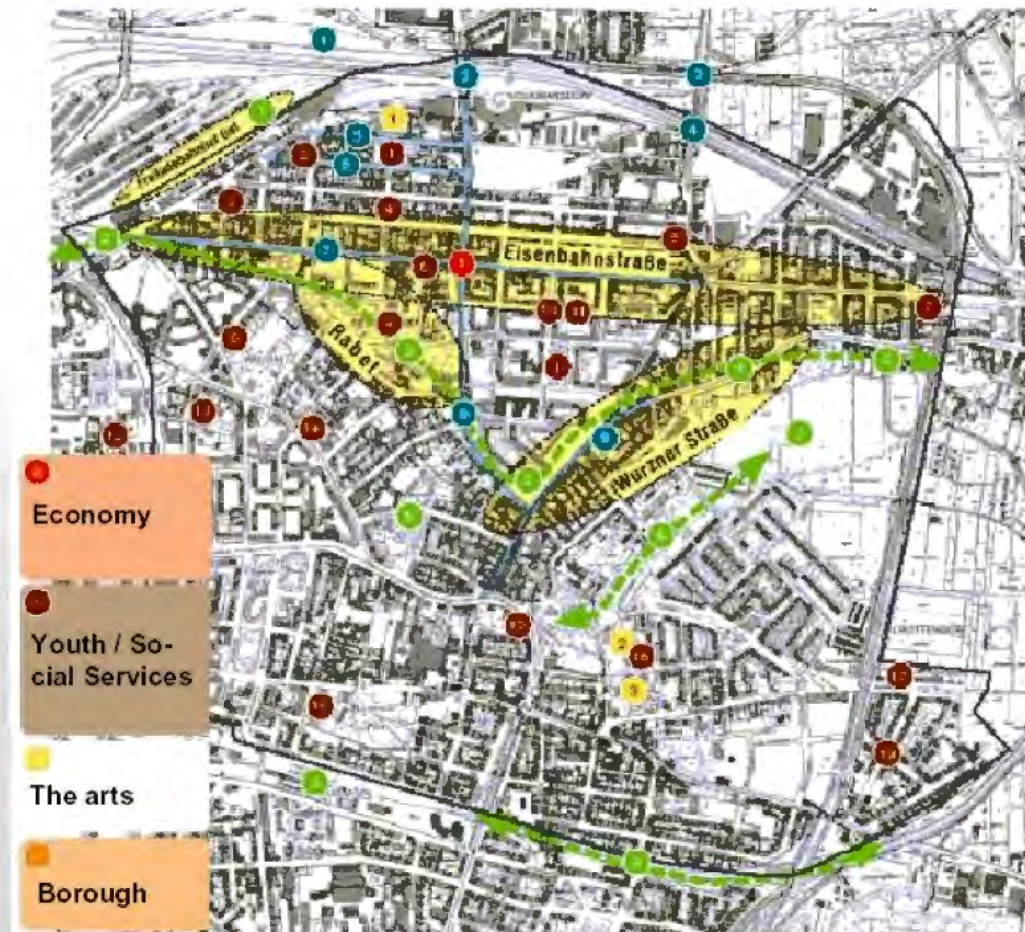
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# Unified Activities



 City of Leipzig

Council schemes in  
East Leipzig

 Key funding areas

Schemes in areas:

- Business and employment
- Transport
- Youth, social services, healthcare
- The arts, schools
- Green and open spaces / urban regeneration

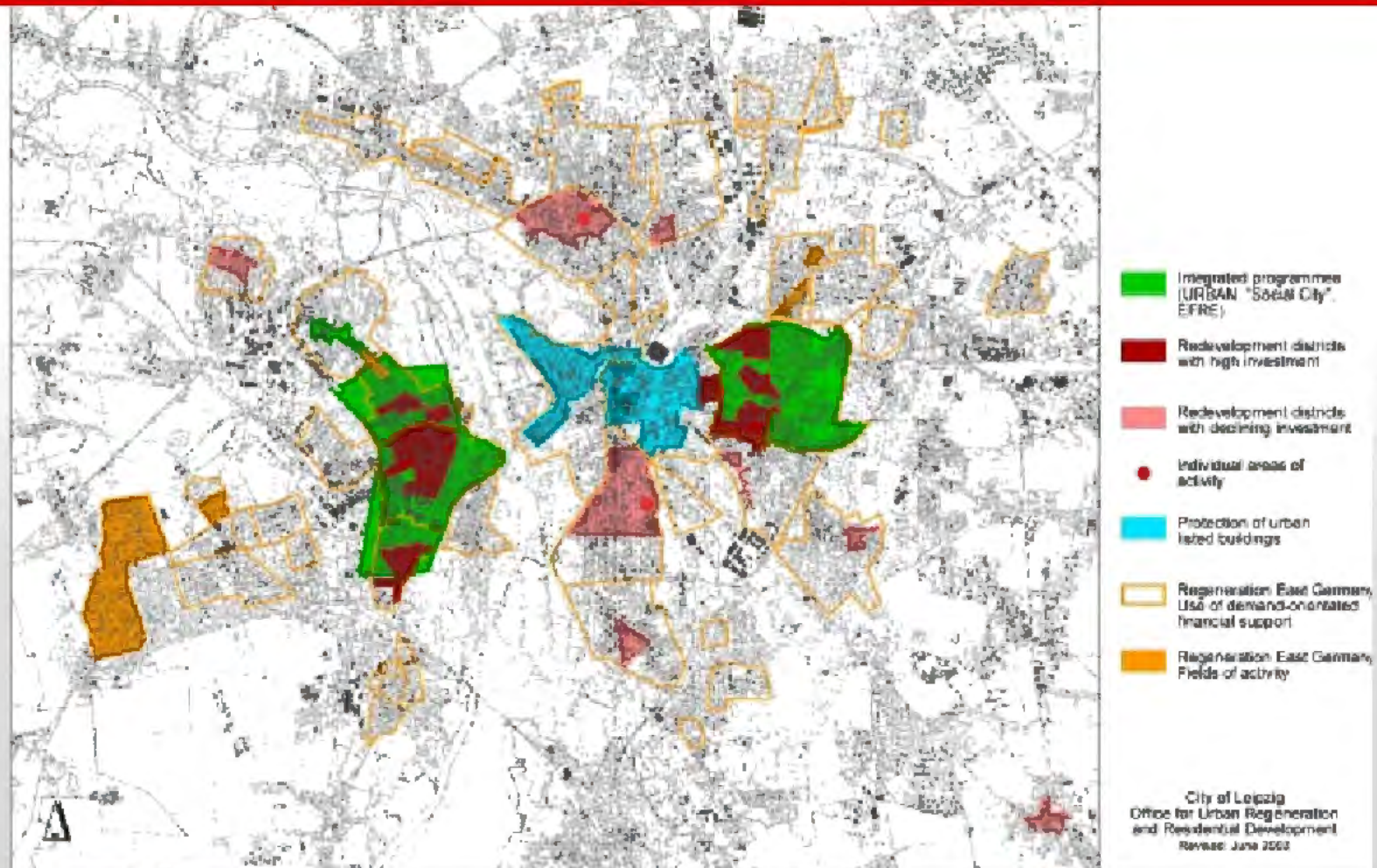
 "Social City" programme district







# The New Funding Areas





## Better Quality in Public Space

**This site was made available by the owner to the local residents as a green space under a scheme financed by public money.**

Dieses Baugrundstück wurde vom Eigentümer der Nachbarschaft temporär als Grünfläche zur Verfügung gestellt.  
Die Maßnahme wurde mit öffentlichen Mitteln realisiert.

Betreten auf eigene Gefahr!  
Kein Winterdienst!

Der Platz ist von 08.00 Uhr bis 20.00 Uhr öffentlich zugänglich.

Eigentümer:

Information:  **Stadt Leipzig**  
Gesamt Stadtentwicklung und Bau  
amt für Wohnentwicklung und Wohnungsbau  
Telefon: 0341/ 123 5410

**DAS NEUE LEIPZIG**





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# Fresh Opportunities through Demolition



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# Planting Vacant Sites with Greenery



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## Goals for URBAN

- **Business and jobs**
- **Sustainable urban development**
- **Identification**
- **Equal opportunities**



The diagram illustrates the institutional framework for integrated borough development in Leipzig. At the top, logos for the German Government, Free State of Saxony, and European Union are displayed. The central focus is the **Advisory Committee for Integrated Borough Development**, which receives input from various stakeholders:

- Top Level:** European Union, German government (BMVBW, BMWi, BMFSFJ\*), and Free State of Saxony Regional Administration Office Leipzig.
- Networks:** Network of URBAN II cities, EFRE network, and Social City network.
- Stakeholder Groups:** General public local stakeholders, Working parties, West Leipzig Forum, East Leipzig Forum, Programme steering, and Borough management.
- Local Institutions:** Contact centre, Administration Mayor of Leipzig, City council Councillors, Stakeholders' representatives (public, business, social work bodies, associations, academia), Local institutions' board in east Leipzig, and Project developers representatives.

\* BMVBW = Ministry of Transport, Construction and Housing; BMWi = Ministry of Trade, Industry and Technology; BMFSFJ = Ministry of the Family, Senior Citizens, Women and Youth

## New Industry in Leipzig : BMW

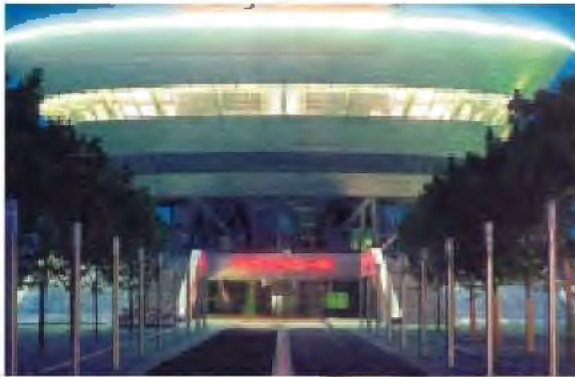
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## New Industry in Leipzig : PORSCHE

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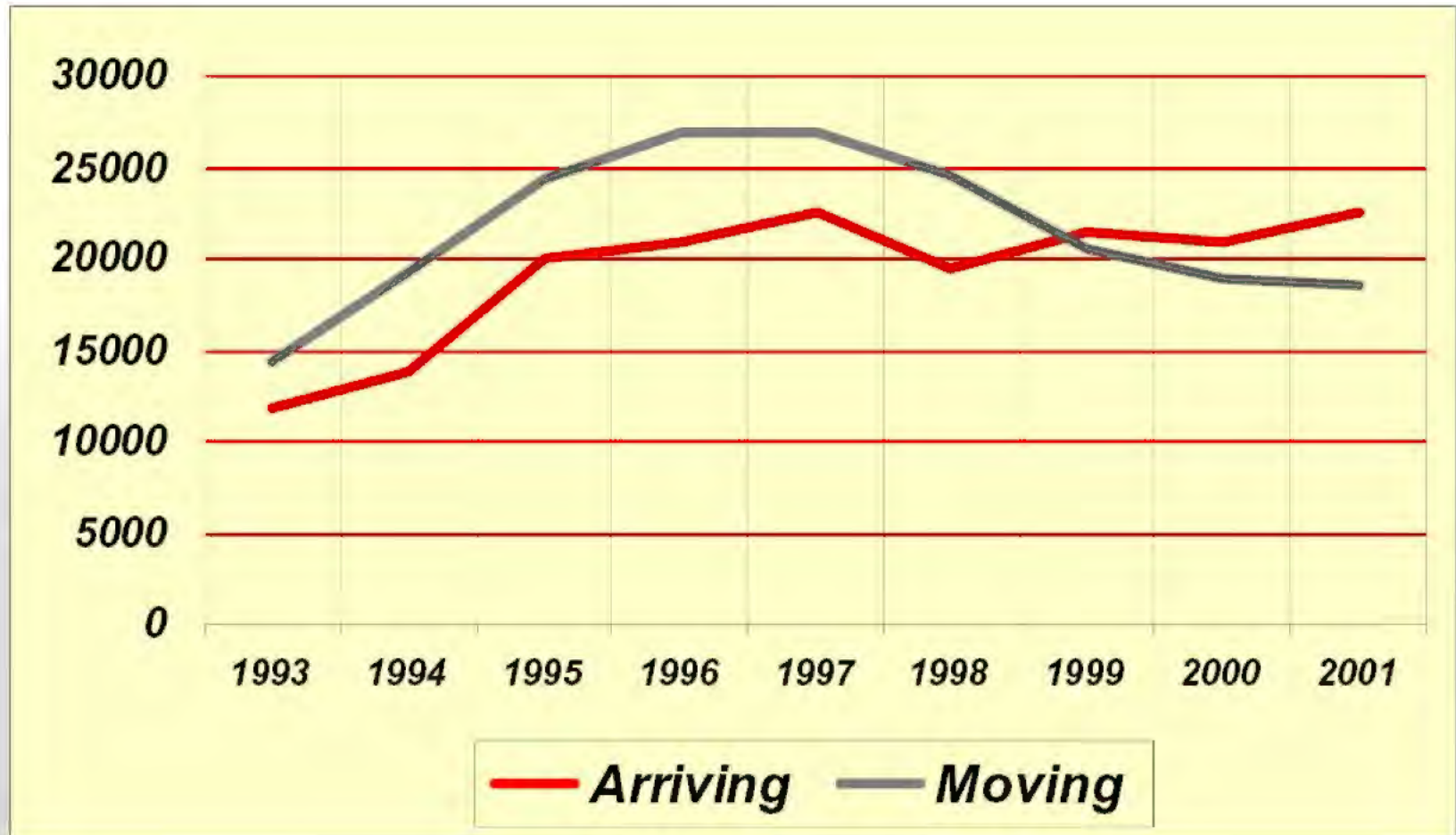
## City Marketing

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## Migration has been stopped



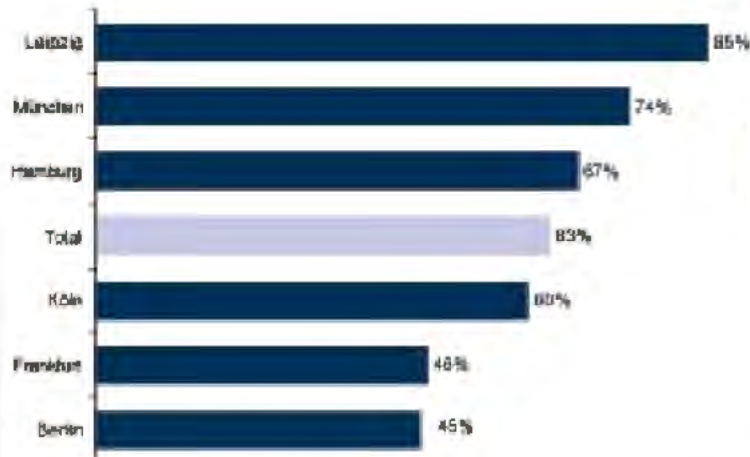


## Our Advantages



ECC KOHTES KLEWES

### Assessment of the urban surroundings

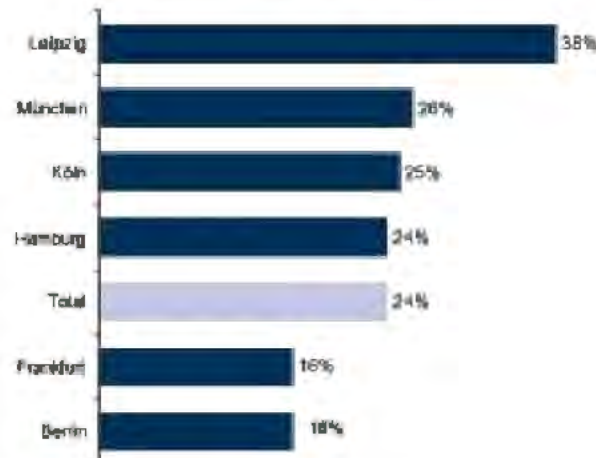


Study of an agency ordered  
by the French car producer  
“RENAULT”



ECC KOHTES KLEWES

### Assessment of the quality of life for families







## New Infrastructure : Airport

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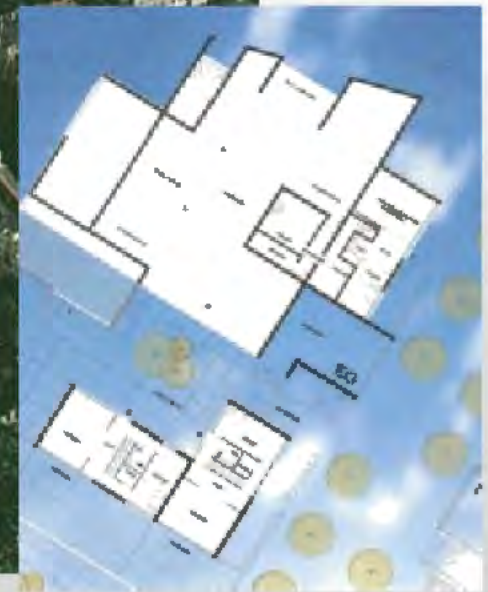
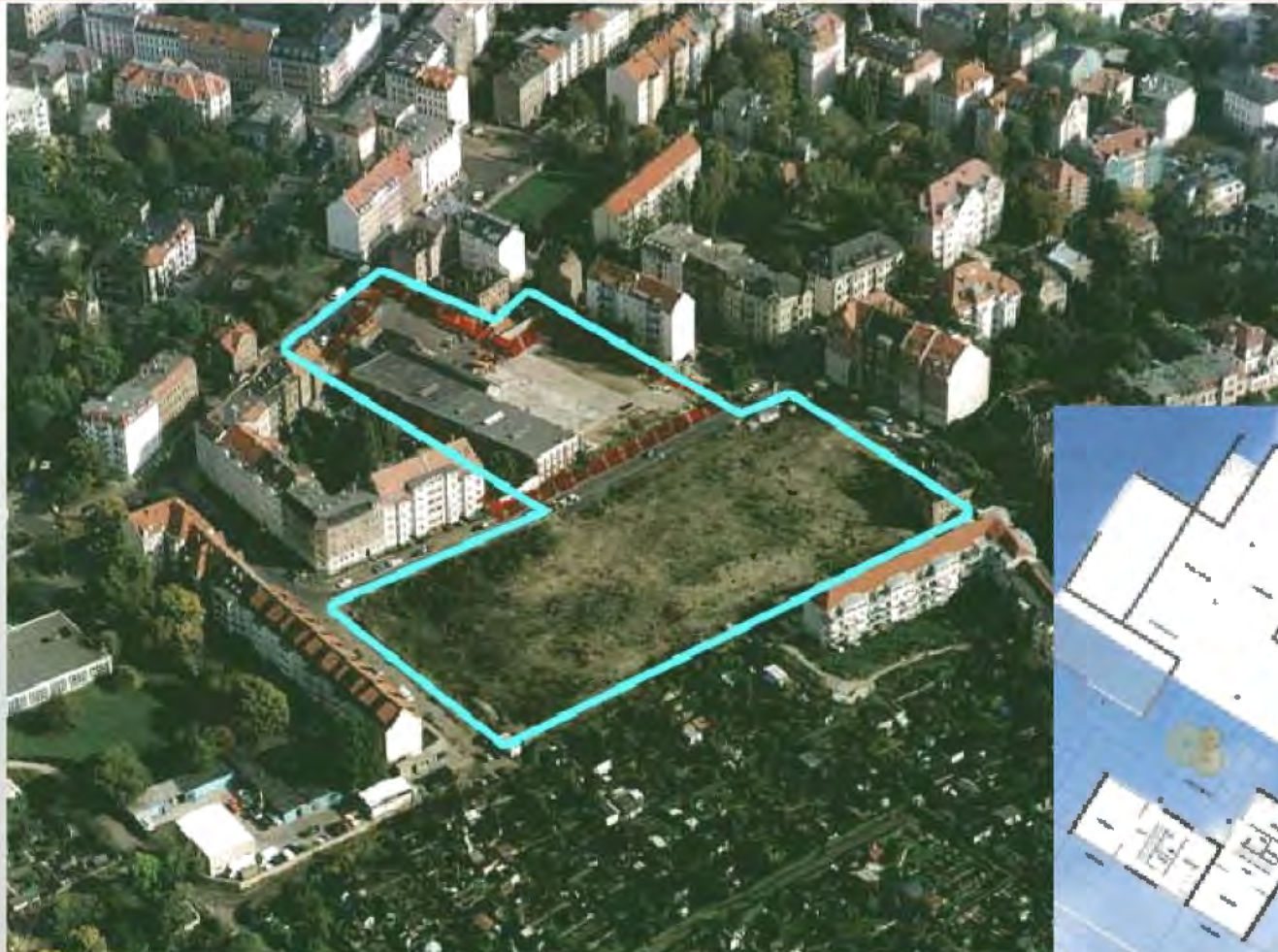






# Individual Family Housing in the City

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Bilateral Working Group

Karsten Gerkens (Germany): *Federal and State Urban Development Programmes – Funding Experiences for Brownfield Redevelopment in the City of Leipzig*

November 11, 2002





## Individual Family Housing in the City



### Sites for Town Houses:

35 Sites

520000 m<sup>2</sup>

2300 Houses







Bundesministerium  
für Bildung  
und Forschung



# Art Project “stadt<sup>halten</sup>“



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Stadterneuerung und Wohnungsbauförderung)

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Dipl. Ing. Karsten Gerkens  
Head of the  
Office for Urban Regeneration and Residential Development  
of Leipzig City Council

**Federal and State Urban Development Programmes  
Funding Experiences for Brownfield Redevelopment  
in the City of Leipzig**

**Brownfield Redevelopment in Leipzig**

<b>I</b>	<b>Previous development</b>
I.1	The situation in eastern Germany
I.2	The housing market
I.3	The development of old industrial areas
<b>II</b>	<b>New demands</b>
II.1	The shrinking city
II.2	Urban redevelopment
<b>III</b>	<b>Cooperation</b>
III.1	Development

# **“Economic Tools and Finance for Brownfield Redevelopment” Workshop**

**November 11 and 12, 2002**

**Charlotte, North Carolina, USA**

**I Previous development**

**I.1 The situation in eastern Germany**

The development of brownfield sites in eastern Germany is an issue of particular significance. In the late 1980s, the housing stock was in a lamentable state. Of the 258,000 dwellings in the city, around 25,000 were actually in danger of collapse, while all in all 196,000 homes had to be refurbished. The maintenance of the housing stock had been badly neglected for decades starting with World War I, during World War II and in particular during the 40 years of the DDR (East Germany/German Democratic Republic). In East German times, entire areas of housing dating back to the late 19th century were demolished and partly replaced with buildings made from prefabricated slabs: “new homes for the new people”. The city began to dissolve.

The situation was equally bleak in manufacturing industry. For decades it was largely restricted to 19th-century factories using obsolete machinery, and the products were not competitive on the world market. Moreover, industry frequently ignored environmental concerns such as pollution of the air and the soil, as well as layers of chemical foam on rivers and lakes.

The political situation was doubtless the main factor leading to the changes which took place in eastern Germany. Yet the hopeless conditions in people’s living environment also spurred on protest. It was no coincidence that the dramatic changes in eastern Germany began with the Peaceful Revolution in Leipzig.

## I.2 The housing market

Preserving the late-19th-century building stock was the first, most pressing aim following German reunification. Nowadays following a decade of refurbishment, the initial situation has been reversed. Whereas 74 per cent of the housing stock in 1990 needed refurbishment and 26 per cent was in order, nowadays 74 per cent has been refurbished leaving 26 per cent still in need of modernisation.

This development has been aided by massive state support. Over €300 million was invested in redevelopment districts. Tax relief and high rents prompted high investment in rented accommodation. Housing construction support was available throughout the city. However, it was almost impossible to steer the use of subsidies into certain areas and this approach proved to be the equivalent of blanket support for reconstruction.

By contrast, funding under urban development support was much easier to control. Leipzig City Council decided on the districts to benefit and also the aims involved.

Urban development support is basically a revolving fund. It assumes that investing public money in roads, footpaths and squares as well as helping owners to repair and modernise their buildings will make the district concerned more attractive and push up the land value. Following the completion of redevelopment, the increase in land value caused by redevelopment is supposed to be paid back to the state. At least, that's the theory: so far in Germany there are only very few districts where the state has 'settled up' with the owners.

Until 1994, the focus was on maintaining the status quo. Subsequently, attention was increasingly switched to changing local ground values. The development of brownfield sites was a key problem. But rather than developing inner-city brownfield sites with a view to new construction projects, instead it was felt to be more important to convert brownfield sites into green areas. The creation of these new green spaces was relatively inexpensive and initiated numerous modernisation projects nearby which didn't need public financial support. For example, the transformation of the brownfield site Eilenburg Station into Eilenburg Park completely changed the local ground values and opened up new opportunities for the surrounding buildings.



### I.3 The development of old industrial areas

German reunification and the switch to hard currency suddenly made products from eastern Germany unaffordable to customers in Eastern Europe. Yet their quality was often insufficient for them to be sold in Western Europe. Moreover, the cessation of eastern Germany's isolation meant that companies there were suddenly hit by the crisis which had long afflicted the West European coal, steel and heavy machinery industries.

As a result, 60,000 industrial jobs in Leipzig rapidly disappeared. Furthermore, the previous East German economic structure comprising enormous 'combines' was abolished. The impact of these changes was especially felt in west Leipzig, where huge areas suddenly became brownfield sites more or less overnight.

The counterstrategy focused on small and medium-size enterprise and the establishment of new businesses. In the first few projects, some old factory buildings formerly used by the combines were transformed into business centres. This created better conditions for the manual trades and service sector. Nevertheless, huge areas were left with no real function.

Individual sites were amalgamated through urban development schemes, which also financed demolition and improvement. Funding from organisations such as the European Union led to the erection of new facilities such as the Business Innovation Centre, other business centres and a youth technology centre. Like redevelopment, urban development schemes assume that the project costs can be refinanced by the transformation of a brownfield site into a development zone. To enable this, the land prices are frozen at the beginning of the scheme.

The transformation of the old industrial districts into an area of thriving start-up businesses is still in progress. Considerable support was provided by Expo 2000, which brought the conversion of these areas to broad public attention. One key measure was the conversion of a brownfield site, the old loading station, to create suitable surroundings for the new development. The enhancement of an old canal also helped to improve the district, which has since become a popular housing area thanks to the usage of lofts.

This pattern of development is to be elsewhere in west Leipzig, which still contains a large proportion of old industrial brownfield sites. Many of them featuring huge opportunities such as Lindenau Port are eminently suitable for mixed use. The key is to make the distinctive quality of each site usable – in this case its water location. Development projects at Lindenau Port are currently being carried out in international cooperation with Birmingham City Council and British Waterways.

**II**                    **New demands**  
**II.1**                The shrinking city

Like all towns and cities in eastern Germany, Leipzig was affected by serious migration. The reasons were initially the social gap between eastern and western Germany and the lack of jobs in the east. Migration continued in the mid-1990s with considerable numbers of people moving to homes of their own in the nearby countryside. This was especially attractive because home ownership in inner cities in East Germany was virtually unknown. As a result, Leipzig lost 100,000 inhabitants, nearly a quarter of the population.

This population decline reduced demand for housing construction and also cut lower turnover for retail and business. As result, the situation for housing which had not yet been modernised became critical. Oversupply depressed rents, making profitable refurbishment almost impossible. Furthermore, oversupply gave tenants enormous choice, meaning that areas of dense housing or loud traffic were avoided. This led to the urban structure in dense central districts crumbling; the city was ‘rotting at the core’.

This situation was carefully analysed through the housing construction and urban regeneration development plan. Market forces mean that only limited counteraction can be taken. Nevertheless, as investment declines, the public sector must take action to formulate at least the framework conditions.

This is now being done by the housing construction and urban regeneration development plan. The plan states which urban districts are to be regarded as consolidated, lays down where restructuring needs to be carried out, and also lists the areas where restructuring has been deemed hopeless. For the first time, something is appearing in German planning which is already well-known in the USA – a type of redlining. The difference is that the areas concerned are being designated not by banks but rather by the city council. We assume that the falling land prices in the districts concerned will create the conditions necessary for restructuring.

The seemingly negative framework conditions actually represent an enormous opportunity for the city. Numerous vacant and brownfield sites as well as the demolition of dilapidated housing stock have created a chance to tackle structural problems and to use the current situation as a basis for the construction of the city of the future characterised by more greenery, less density and more individuality.

Below the level of the urban development plan, the long-term development possibilities of disadvantaged districts in east and west Leipzig are formulated by conceptual borough plans. In the next step, these conceptual plans are underpinned by concrete planned measures which outline the medium-term action framework, specify priority projects, and are given financial backing. These plans of measures are being extensively used in east Leipzig – for example to transform a traditional shopping street into the edge of a park.

At present, the redevelopment activities are not yet sustained by the free market. Following highly speculative deals during the days of high tax depreciation, the market has since had to return to normal investment behaviour. Local ground values are regaining their old levels.

In some cases, however, these local ground values must first of all be created. The public sector is involved in this process. In order to cope with urban redevelopment, the entire system of public subsidies has been reorganised by Leipzig City Council. In the first stage of urban regeneration, we designated relatively large redevelopment zones in the belt of late-19th-century housing surrounding the city centre. Wherever the problems could be largely solved within the zones themselves, we have succeeded. This is the case in 9 out of 13 redevelopment zones, where population growth has been achieved. However, in those zones subject to serious structural problems affecting various areas simultaneously, the public funding measures previously available geared mainly to building work were not sufficient.

In order to prepare for the new system of subsidies, under the housing construction and urban regeneration development plan the entire district of Leipzig was analysed and requirements identified using uniform criteria. The findings indicated that efforts needed to be concentrated on east Leipzig, west Leipzig, the boroughs of Leutzsch and Schönefeld, and the WK 7 and WK8 districts in Leipzig-Grünau.

These findings were taken into account when drawing up the new system of subsidies. In particular, large sections of east and west Leipzig have been awarded ERDF and URBAN funding. The redevelopment zones within the areas are being altered and positioned wherever the tool of Special Urban Development Law is needed in order to achieve the transformation of the urban structure. Hence these urban areas contain different overlapping support districts. We believe this will enable us to meet the complex demands existing in these urban areas.

The new programme entitled Urban Redevelopment East plays a key role in this scenario, which developed from discussion with the housing sector. We assume that the necessary reduction in density and in particular the creation of new housing opportunities hinge on the implementation of model projects. Completed examples are needed to stimulate the market.

In order to meet these demands, it must be possible for model projects to receive support throughout the area covered by the urban development plan. We also want to initiate subsidy competitions to enable the implementation of committed examples.

Simultaneously, newly developed instruments are being used which help us to remove dilapidated housing stock, brownfield sites and other wasteland. Agreements have been signed with building owners which grant permission for their buildings to be demolished. The owners retain the right to build on these areas; we organise the planting of greenery or other usage and shoulder the maintenance work, thus helping to create jobs for the unemployed.

We also run a district service which, staffed by local unemployed, lays out and tends newly created public areas. The activities of these district services are partly determined by the local residents. Unemployed people are involved in these demolition, greenery and construction projects under the guidance of professional firms. As well as cutting costs, this close involvement with the primary labour market has led to subsequent employment in 18 per cent of cases.

The most important step in organising urban redevelopment is changing the views and the previous approach to the development of the city. A major role is played by the European Union's subsidy philosophy. The programmes are based on combining resources and funding from different subsidy programmes, and take an integrated view of district development. It is becoming increasingly apparent that restructuring disadvantaged districts greatly depends on coordinating different policies. Construction policy, the arts policy, labour market policy and economic development policy all need to be coordinated so that they can jointly take effect.

Another change possible is the closer involvement of stakeholders. Associations and professional chambers are increasingly feeling jointly responsible for the development of districts and are contributing material and personnel resources. Work on the various aspects of urban redevelopment are discussed by 'civilian' forces in these areas through the Advisory Committee for Integrated Programmes.

Another area in which the public is becoming increasingly interested is home ownership. This is supported and encouraged by Leipzig City Council. Special assistance is granted for the purchase of owner-occupied housing by groups of people. The aim here is to revitalise as many vacant old buildings as possible. The key word is 'homesteading' – an approach which enabled the first steps of revitalisation to get off the ground in places such as New York City. The new owners are given support by architects and consultants as they draw up their plans and during construction work.



### **III Cooperation**

#### **III.1 Development**

Leipzig is a city full of opportunity. It is the only city in eastern Germany where following the phase of migration a stable trend of immigration has been recorded. Enormous efforts have been expended to fundamentally improve the public infrastructure. The intercontinental airport, the widening of local motorways, and major projects such as the city-centre tunnel designed to greatly improve rail links are all location factors which are greatly appreciated by industry. For example, Porsche and BMW have both chosen to invest in Leipzig. The city is being made increasingly attractive by lower land prices, low rents and a diverse range of high quality housing and business premises. The Renault study showed that Leipzig can compete with other German cities and is in many respects near the top of the table. The city's diversity and the local opportunities for children are for instance rated more highly than in many cities in western Germany. The city marketing slogan "The freedom of Leipzig" is not an empty saying but a genuine opportunity.

Leipzig has applied to host the 2012 Olympics. Assuming Leipzig is chosen by the German Olympic Committee, the city has a good chance of actually staging the games. Arguments in favour of Leipzig include the fact that there is plenty of land still available which would enable the games to be organised within a compact area. Here, too, enormous opportunities are afforded by brownfield sites. For example, old port facilities could be transformed into a magnificent backdrop for the Olympic village, simultaneously closing a development gap between the old and new city. Moreover, this instance of urban repair would create fundamentally new qualities.

Yet not everything needs to be on an Olympic scale. As an urban redeveloper we're seeking partners for smaller projects such as the construction of detached and terraced houses on inner-city brownfield sites. Suitable areas are being made available by the city council. The first tranche comprises 35 sites with room for 2,340 dwellings. The state supports private ownership in this area; Leipzig City Council reduces land prices, provides assistance in finding users, and also improves the surroundings.

We are seeking pioneers willing to seize the opportunities provided by this new market and to set new trends. These areas harbour the possibility of developing a new type of housing estate which exploits and reinforces the qualities of the European city but with less density, and which represents an alternative to land-eating suburbanisation. Brownfield sites are the key.

Moreover, brownfield sites also enable the development of new commercial premises. Old industrial areas, previously in the suburbs but following urban expansion now almost in the city centre, are an opportunity to develop intelligent production, research and mixed usage in an urban setting.

This direction of development is not the mainstream. We are trying to draw attention to these opportunities with PR activities. For example, campaigns in which Leipzig artists have decorated vacant sites have received awards from Eurocities, the organisation of European cities.

During EXPO (2000), the millennium field was something of a sensation. This cornfield on an inner-city site with a size of 23,900 square metres (257,000 square feet) in an urban setting underlined the unique opportunities of this situation. We are now developing a future energy park on this site, which will be home to related businesses.

As you can see, brownfield sites are the key!

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**I know a great Brownfield. Can you give me  
a loan?**

**Evan Henry  
Bank of America  
Environmental Services Department**

# Brownfields as a Site Preparation Cost

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	Brownfield Example	Greenfield Example
Condition	Contamination	Unstable Soils
Cost to Cure	Clean Up	Grading and Compaction
Financial Impact	Property Value	Property Value



# What makes Brownfields different?

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- Liability for cleanup
  - US environmental laws impose the risk of not being able to stop the “site preparation” related to cleaning up once the developer has taken ownership
- Increased consequences of uncertainty
  - Technical uncertainty (How big is the problem and can it be fixed?)
  - Legal uncertainty (How much do I have to do even if the project does not go forward?)
  - Timing uncertainty (Will this take forever?)

# Consequence of Uncertainty

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- Known and quantified problems can define where the overall project is in the range of economic viability (“tan” to “brown” to “black”)
- Possibility of unknown problems increase uncertainty – result is to narrow the range of economic viability

# **What is the role of government in the US system of private development?**

- Reduce the unknowns to widen the range of economic viability
  - Technical Assistance
  - Assessment Grants
  - Liability Relief
- Subsidize the restoration of the economically less viable sites

# Limitations to the role of Government in the US system

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- Cannot use public funds to enrich the private sector
- Cannot use public funds to help a polluter restore a Brownfield
- US laws are set up to “find”, not “fund” Brownfields
- Government brownfield programs are aimed at working around the liability situation. Arguably, a change in the liability scheme would stimulate private redevelopment of brownfields more than government assistance approach



# What about Private Financing?

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- Three categories
  - DEBT
  - EQUITY
  - INSURANCE
- Insurance is not financing – it is a risk management mechanism that can reduce the uncertainty of financing with either debt or equity

# Debt versus Equity

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	Debt	Equity
Risks	<ul style="list-style-type: none"><li>➤ Repayment</li><li>➤ Collateral Value</li><li>➤ Direct Liability</li></ul>	<ul style="list-style-type: none"><li>➤ Loss of Investment</li><li>➤ Direct Liability</li></ul>
Rewards	<ul style="list-style-type: none"><li>➤ Repaid fixed amount (no share in “upside”)</li></ul>	<ul style="list-style-type: none"><li>➤ Gain is proportional to success of project (share in “upside” )</li></ul>

# Summary Point of View

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- US emphasis on private sector brownfield redevelopment
- Fixing actual contamination conditions are complicated by the US legal liability system
- Government actions aim at tempering the impacts of the US liability system (reduction in uncertainty)
- Lending is not a key player in early stage financing of brownfields redevelopment

# Abstract

**I know a great Brownfield. Can you give me a loan?**

**Evan Henry**

**Bank of America**

**Environmental Services Department**

The environmental conditions that make a Brownfield can be thought of as an added site preparation cost. However, in contrast to fixed costing of engineering aspects, the legal uncertainty related to environmental liability, especially as imposed by the US system, increases the overall uncertainty for financiers of Brownfields redevelopment. The role of government is discussed relative to the reduction of uncertainty to stimulate private investment in Brownfields, the cornerstone of Brownfields redevelopment approach in the US. Private financing may be enhanced by understanding the relationship of debt and equity as well as how insurance can be a factor. Government stimulation of investment may be more effective with a focus on equity investment.



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# **The U.S. - German Bilateral Working Group Economic Tools for Sustainable Brownfield Redevelopment**

The State Property Fund  
("Grundstücksfonds") in North-Rhine  
Westphalia and the Role of State  
Development Agencies

# The State Property Fund in North-Rhine Westphalia

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- **Deindustrilisation**

- With the closure of many coal-mines in the 70's the deindustrilisation began.
- The deindustrilisation began specific in the Ruhr-Area.

## The State Property Fund in North-Rhine Westphalia

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- **Deindustrialisation**

- The former owners had first no interest to develop the sites.
- For the cities these sites were very important for their own development, because they had a good and central position.

# The State Property Fund in North-Rhine Westphalia

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- **Problem**

- But they didn't want to buy these sites because
  - of the price
  - they didn't had the man-power to handle these sites
  - They thought it's a job to be handled by the government in Düsseldorf



# The State Property Fund in North-Rhine Westphalia

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- **Solution**
  - So the „State Property Fund Ruhr“ was established on the first Ruhr-Area-Conference in 1979

## The State Property Fund in North-Rhine Westphalia

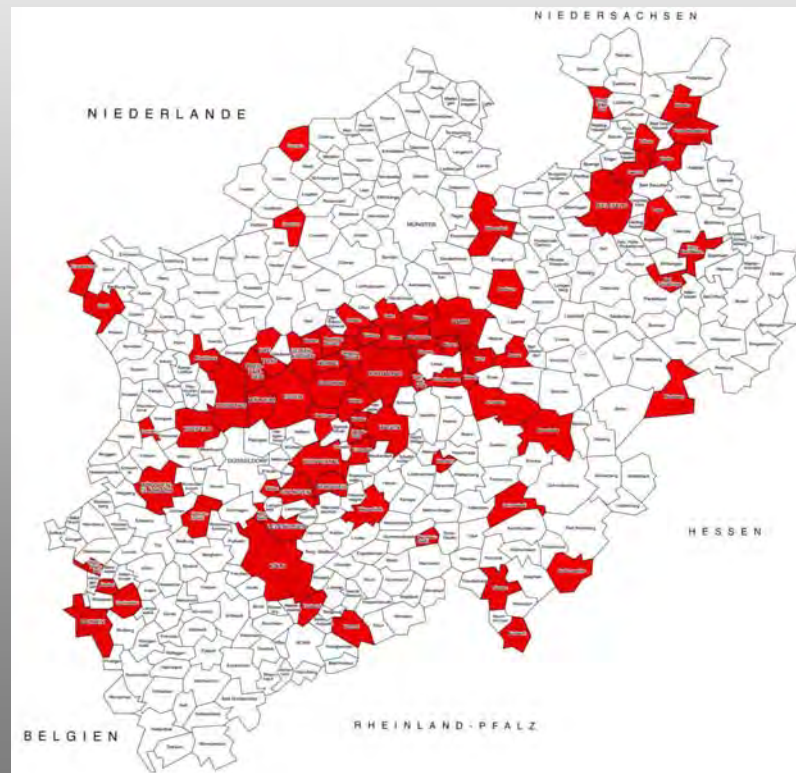
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- Function of the fund
  - The fund started in 1980 to buy the first sites and spent about 11.5 Mio. \$.
  - The fund is managed since the beginning by the LEG NRW (State Development Agency of North-Rhine Westphalia).

# The State Property Fund in North-Rhine Westphalia

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- Area of the fund



# The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - Between 1980 and 1987 the LEG had to do the following things for the fund:
    - Building up a cost-benefit analysis for the development of the site
    - Building up a time table for the development



## The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - After the decision on buying the site by the State Department for Towndevelopment the LEG had to discuss the final price with the former owner and had to buy the site.

# The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - After buying the site the LEG then had to organize the demolition of the buildings and the cleaning of the sites.

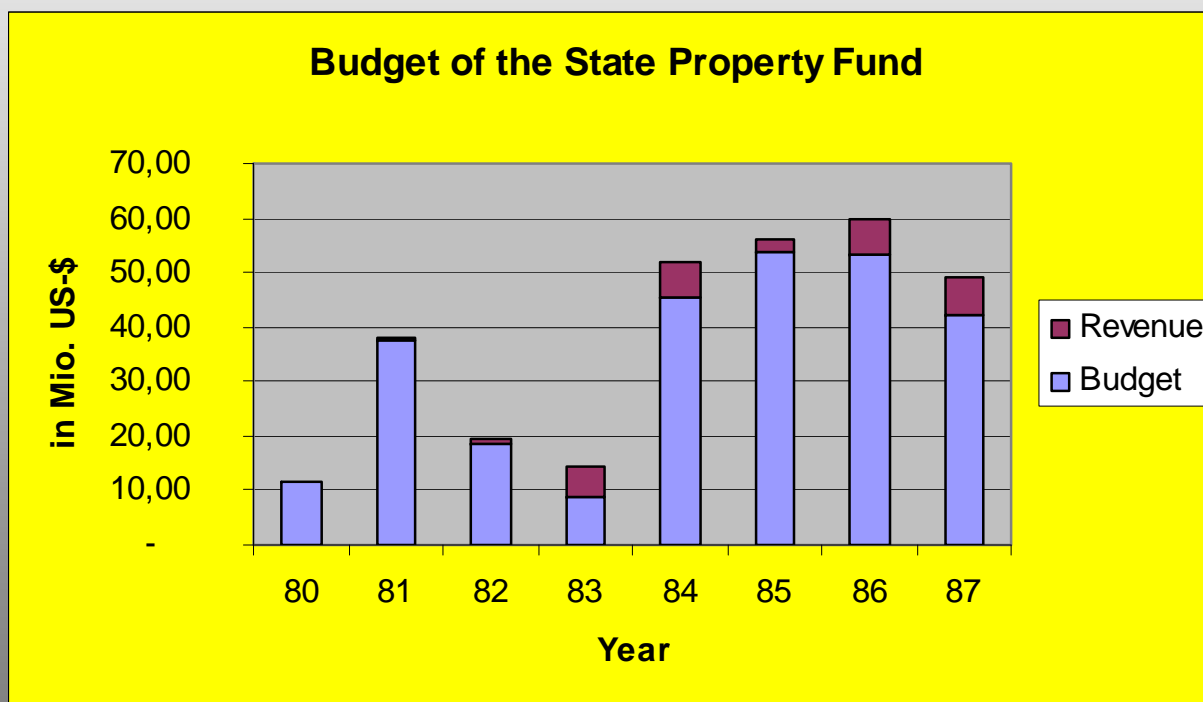
# The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - In the responsibility of the cities was the planning of the development plan. Also they have been put under an obligation to buy the infrastructure surface for 5 \$ per squaremeter and for 4 \$ per squaremeter for public green surface. For parts like slagheap they have to pay 1 \$ per squaremeter. They also had to do the marketing for the sites.

# The State Property Fund in North-Rhine Westphalia

- Budget of the State Property Fund 1980-1987





# The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - In 1987 the guidelines for the meanwhile 2 Funds, the second one is for the rest of North-Rhine Westphalia, changed. LEG was allowed to
    - Planning and realization of infrastructure
    - Create the Development and a Marketing plan

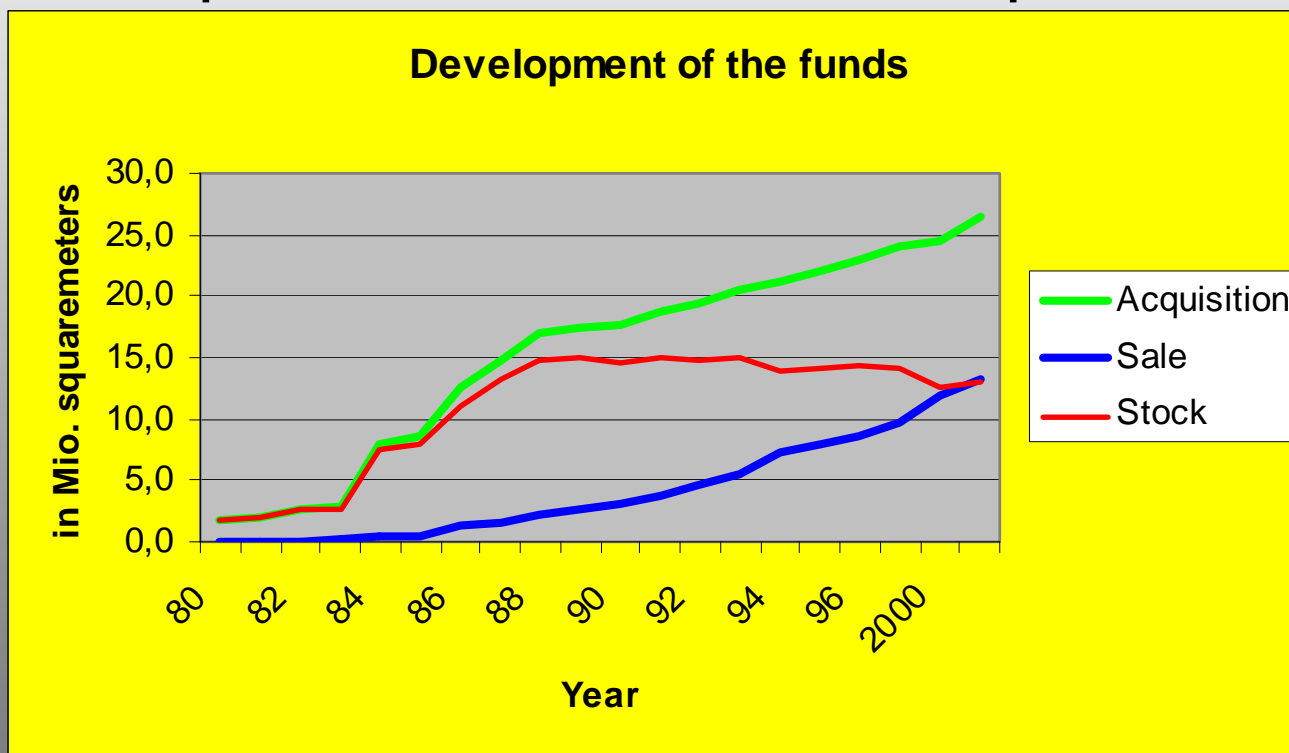
# The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - From this time the funds started to sell sites for about 20 Mio. \$ each year.

# The State Property Fund in North-Rhine Westphalia

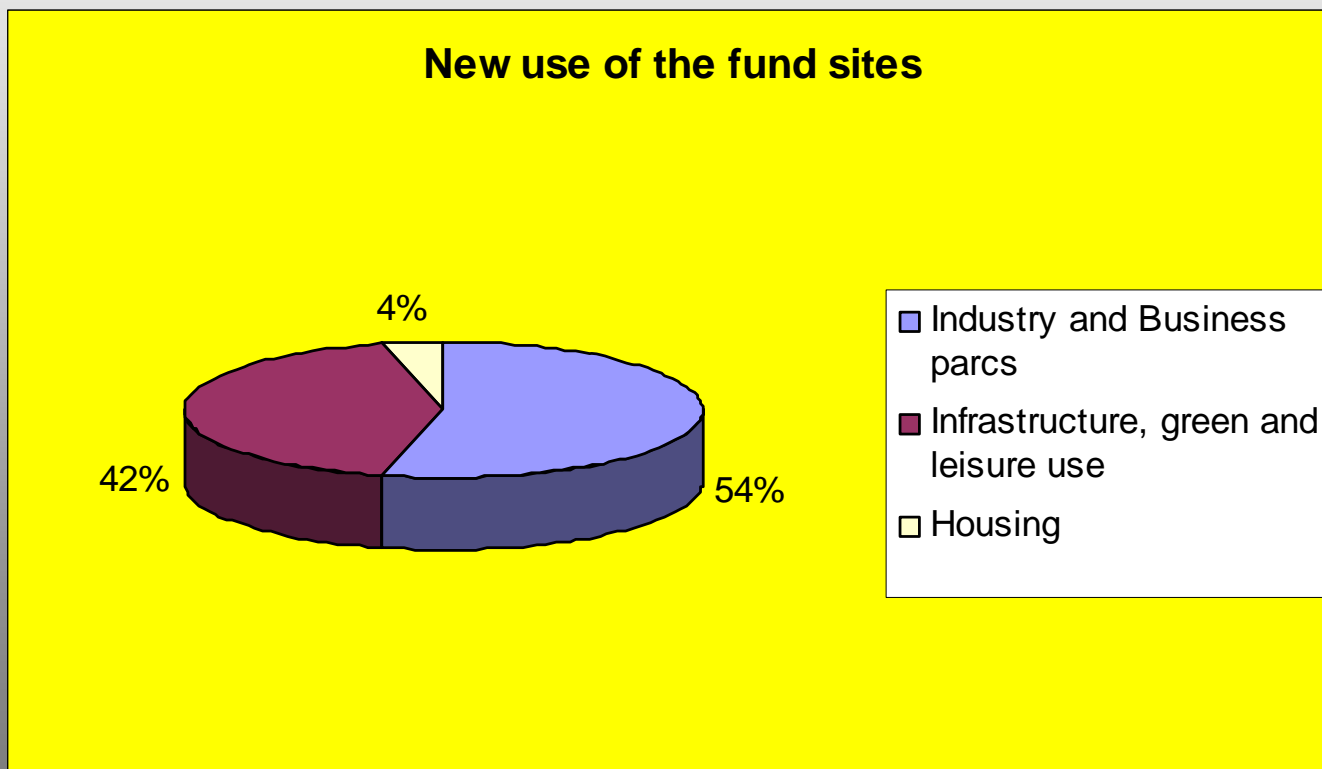
- Development of the Funds in squaremeters



# The State Property Fund in North-Rhine Westphalia

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- New use of Fund sites





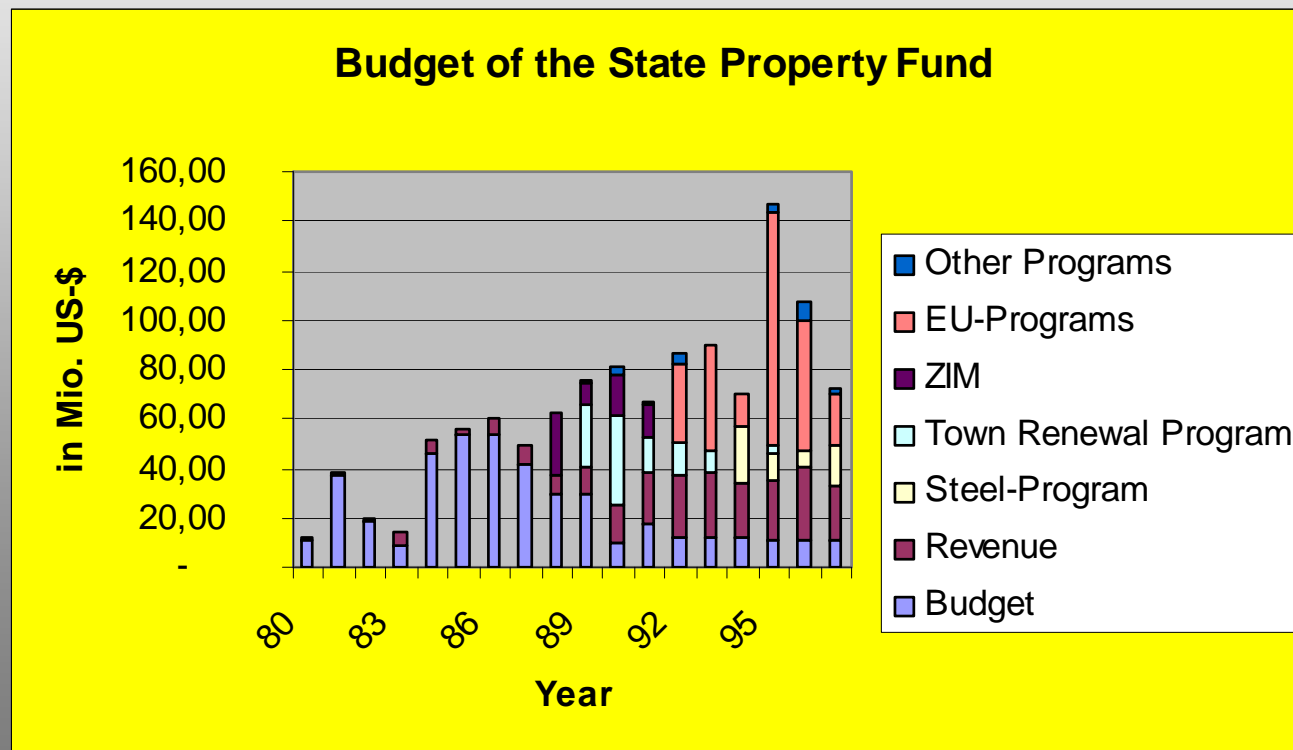
## The State Property Fund in North-Rhine Westphalia

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- Function of the fund
  - Because of missing money in the budget of the State of North-Rhine Westphalia in the 90's the financing of the funds changed. So they received also money from our major government in Berlin and from the European Union from Brussels.

# The State Property Fund in North-Rhine Westphalia

- Budget of the State Property Fund 1980-1987



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Disteln



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Disteln





# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Disteln



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Disteln



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Scherlebeck



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Scherlebeck





# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Scherlebeck



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Herten Scherlebeck



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Zeche Waltrop



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Zeche Waltrop





# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Zeche Waltrop



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Coal-Mine  
Zeche Waltrop



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Chemical processing plant in Herne



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Chemical processing plant in Herne





# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Chemical processing plant in Herne



# The State Property Fund in North-Rhine Westphalia

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- Examples
  - Former Chemical processing plant in Herne



# The State Property Fund in North-Rhine Westphalia

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- Summery
  - The funds play an important role in the economical change in Northrhine-Westphalia
  - They also play an important role in the ecological development of brownfields

# The State Property Fund in North-Rhine Westphalia

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- Summery
  - The time for the development is too long.
  - The financial situation changes from year to year.
  - They have many sites with no economical use.



## **Abstract:**

### The State Property Fund Northrhine-Westphalia

As a result of deindustrialization, the State of Northrhine Westphalia opened this fund in 1979.

You will receive an overview of the history of the fund. Guideline changes and their effects on the fund are explained. After a view on some projects, I will show the actual problems with the fund. This will end in a final discussion on the pros and cons for the fund.

### PPP Development and Finance Strategies

Compared with the state property fund, the Westdeutsche Landesbank (WestLB) started PPPdevelopments in the early 1980's in Northrhine Westphalia. In 1984, WestLB founded a company in Hilden (near Düsseldorf ) to develop old industrial sites in Hilden. Until now, this company has developed about 380.000 square meters and currently is developing about 250.000 square meters. I will show how the financing of these projects work and which differences we can offer in a public-private partnership. A short explanation of the calculation of risk-management will be given. Finally, I will show a new project that we will realize in 2003.

### Contact Information:

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# **The U.S. - German Bilateral Working Group Economic Tools for Sustainable Brownfield Redevelopment**

PPP development and finance  
strategies

# PPP Development and finance strategies

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- Public-Private Partnership
  - Since the late 80's developments in the form of a Public-Private Partnership started. Reasons for this are:
    - The cities don't have enough money to finance the projects
    - They also don't have the people to work on these projects.

# PPP Development and finance strategies

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- Public-Private Partnership
  - So this kind of work is good for 2 or more partners:
    - Public: The project will be done, and they can earn part of the profit
    - Private: They can manage the project professionally and get money out of their work and also out of the profit



# PPP Development and finance strategies

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- Public-Private Partnership
  - For the cities it is important to develop sites for their own future development. The sites they can develop are:
    - former agricultural sites
    - former industrial sites and
    - former military sites

# PPP Development and finance strategies

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- Public-Private Partnership
  - They must buy the sites before the development starts, because then they are inexpensive. But for the cities comes now the problem, because they don't have the money for the site and the development.

# PPP Development and finance strategies

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- Public-Private Partnership
  - In this case private companies like us can help the cities with their development problems.

# PPP Development and finance strategies

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- Public-Private Partnership
  - It starts with a cost-benefit analysis for the project. In this analysis we calculate the complete costs and the revenue of the project. Costs for planning and infrastructural building are easy to calculate. But costs for pulling down buildings and cleaning the sites have a higher risk in the calculation.



# PPP Development and finance strategies

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- Public-Private Partnership
  - So we work here together with Partners like  
AIG Engineering Group Ltd.- Germany.  
They explore the site and give us calculated  
costs, which they guarantee (Cleanup Cost  
Cap). So the risk for the partnership will be  
calculable.

# PPP Development and finance strategies

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- Public-Private Partnership
  - We can also insure the risk of unknown contaminations. This insurance is important for the future marketing of the site.

# PPP Development and finance strategies

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- Public-Private Partnership
  - When the partners agree to the cost-benefit analysis the partnership can be founded in two ways:
    - Foundation of a PPP-company or
    - Working together with a PPP-contract

# PPP Development and finance strategies

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- Public-Private Partnership
  - Risk sharing in Partnerships
    - City Modell: The city takes the complete risk. All partners get only money for their work.
    - Investment Modell: Every partner shares the risk belonging to his investment capital.



# PPP Development and finance strategies

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- Public-Private Partnership
  - Jobs done buy the Private Partner
    - Buying the site inclusive financing of the complete costs (in these projects we normally get communal credits, which is the most reasonable way to get money).
    - Arranging the planning and the revitalization of the site.

# PPP Development and finance strategies

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- Public-Private Partnership
  - Jobs done buy the Private Partner
    - Planning and building of infrastructure
    - Marketing of the site

# PPP Development and finance strategies

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- Public-Private Partnership
  - Examples
    - GKA Hilden
    - Because the State-Property Fund worked in the first years only in the central Ruhr-Area the town of Hilden had to find a solution for the future development in Hilden by themselves.

# PPP Development and finance strategies

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- Public-Private Partnership
  - Examples
    - So together with us they founded a small company called „GkA Hilden“. The risk in this company is completely on the site of the city, but now after 20 years of work we can say that there is no big risk in the company. The company makes every year a small profit. For the next years a profit of about 1.000.000 \$ is planned.



# PPP Development and finance strategies

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- Public-Private Partnership
  - Example
    - Sites developed by the GkA Hilden:

• Mannesmann	265.000 m <sup>2</sup>
• Forstweg	46.430 m <sup>2</sup>
• Schlieper & Laag	32.540 m <sup>2</sup>
• Mühlenbachweg	41.447 m <sup>2</sup>
• Marie Curie Str.	3.900 m <sup>2</sup>
• Giesenheide	250.000 m <sup>2</sup>

# PPP Development and finance strategies

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- Public-Private Partnership
  - Example
    - For the development of these sites we received partly public funding, but we have to pay it back now, because we made every year a small profit with these sites.

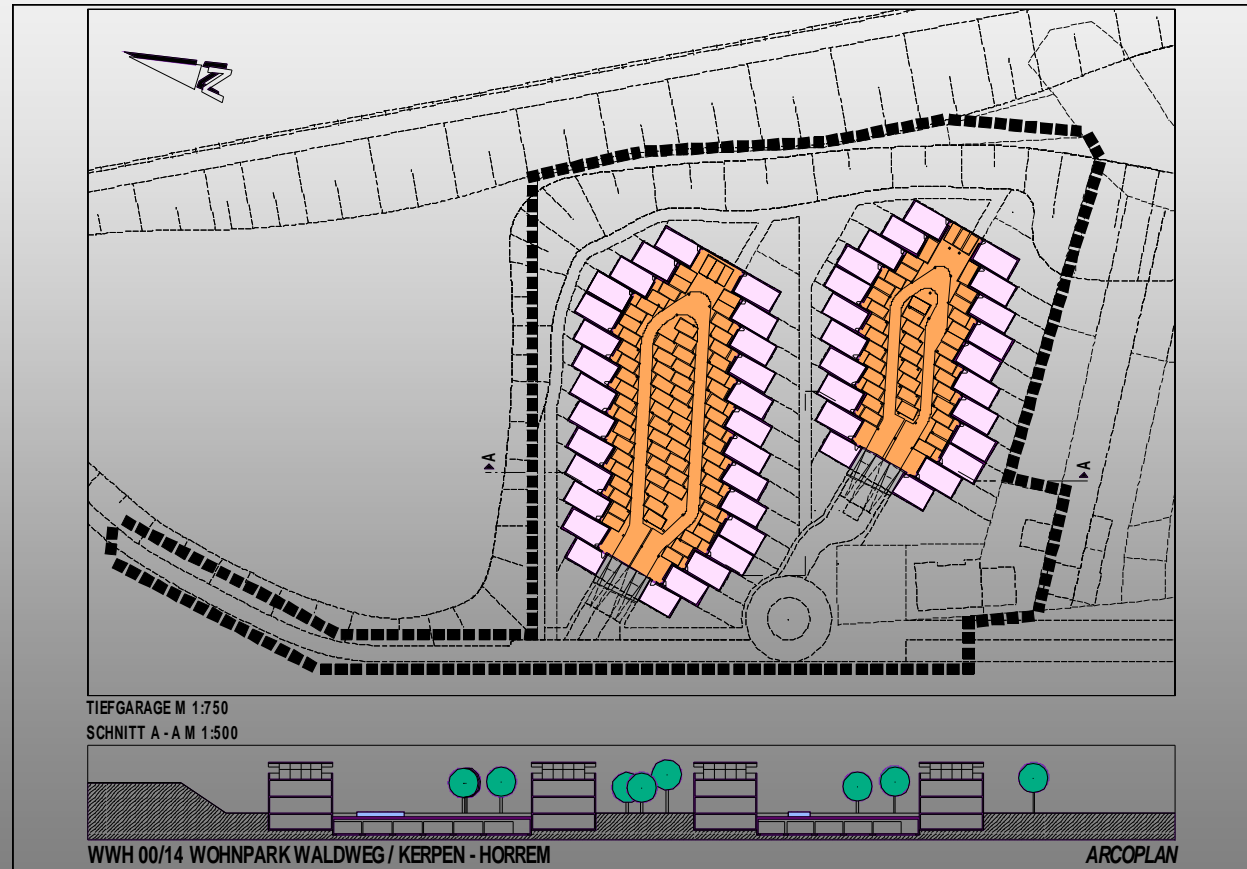
# PPP Development and finance strategies

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- Public-Private Partnership
  - Example
    - Kerpen
    - For the development of this site we have a contract and haven't founded a company.

# PPP Development and finance strategies

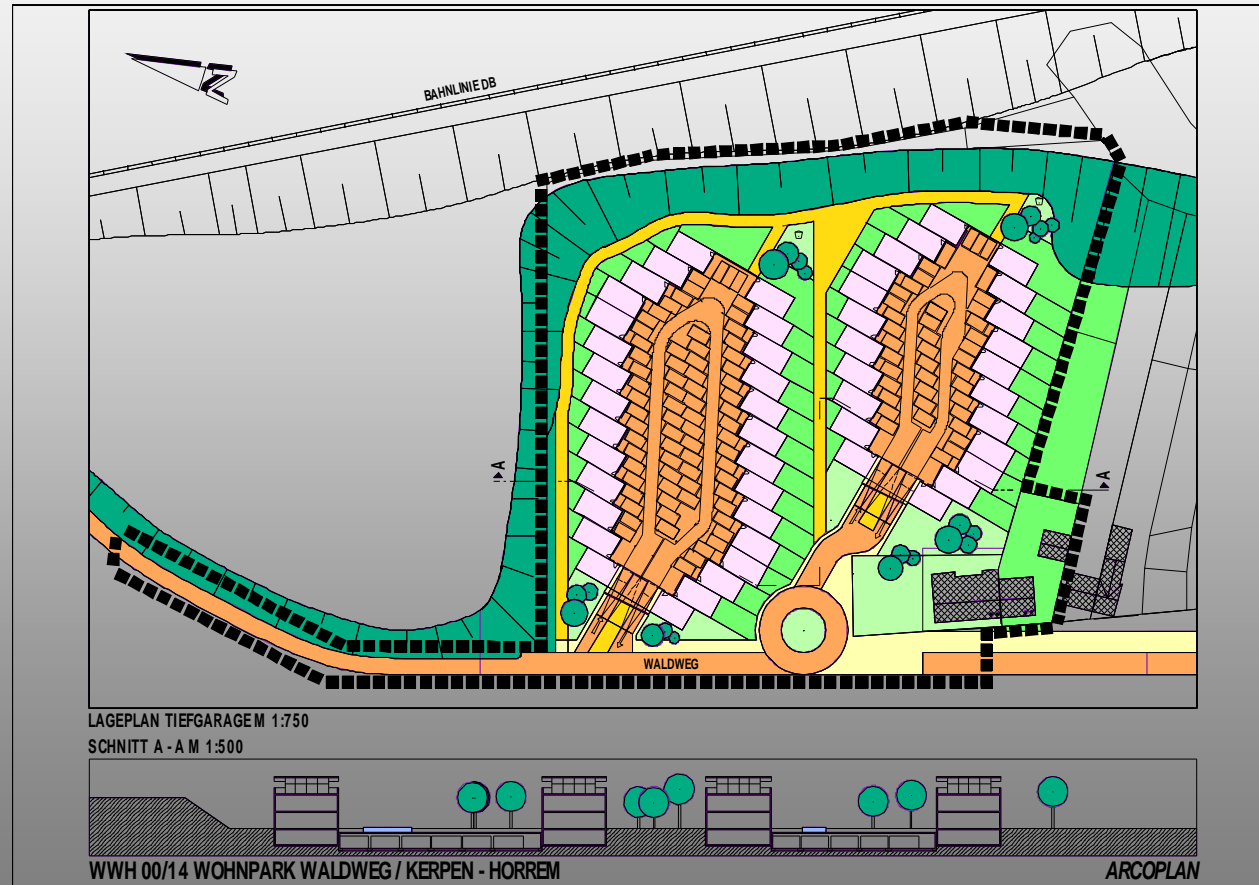
- Public-Private Partnership
  - Example
    - Kerpen





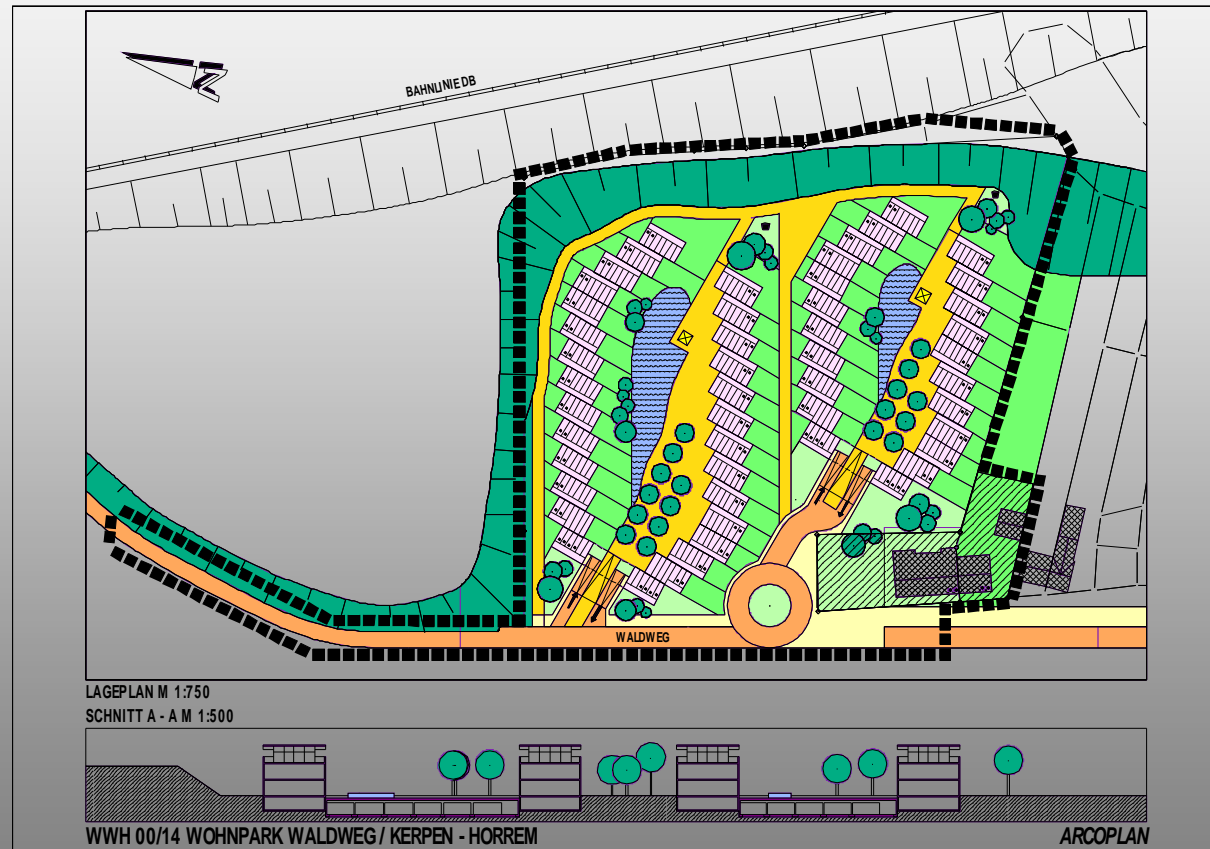
# PPP Development and finance strategies

- Public-Private Partnership
  - Example
    - Kerpen



# PPP Development and finance strategies

- Public-Private Partnership
  - Example
    - Kerpen



# PPP Development and finance strategies

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- Public-Private Partnership
  - Summary
    - For the future PPP-projects will be very important for both the public and for the private partner when they
    - have an exact contract with a good description of the targets of the project
    - have an exact sharing of competence and work
    - and a high involvement of all partners.

## Ken Cornell - Abstract

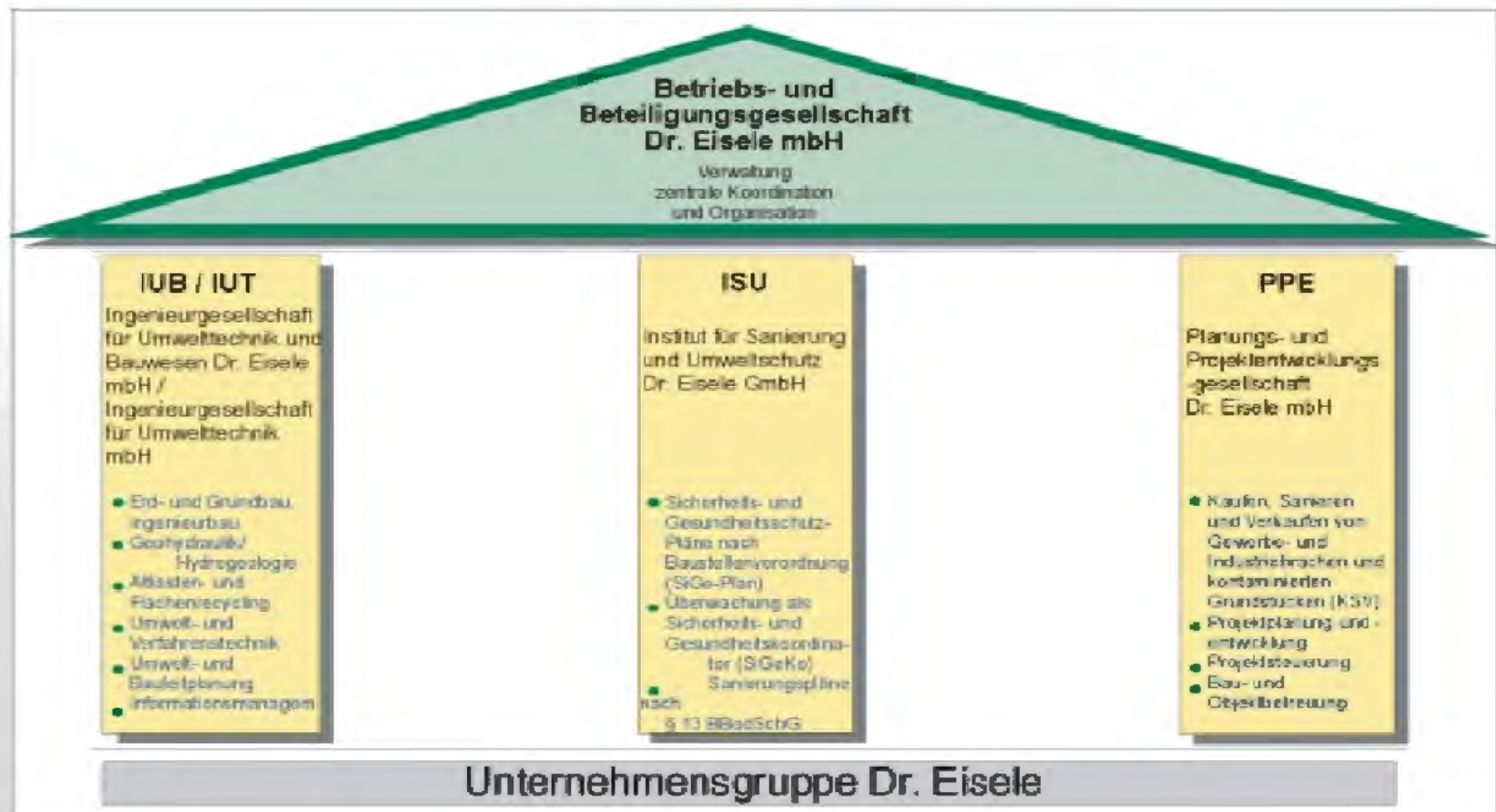
This presentation identifies the environmental liability issues associated with brownfield redevelopment and how they can be overcome. The existence of these liabilities can delay or prevent certain transactions from taking place, even within the framework of the new common sense brownfield regulations promulgated by the federal government and many state governments. The presentation describes how environmental insurance can be used as a tool to overcome environmental liability problems in transactions. Examples of how insurance was utilized in transactions are also provided.



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# German Case Studies

## The OKAL Site in Titisee Neustadt





# The OKAL-Site: Aerial photograph

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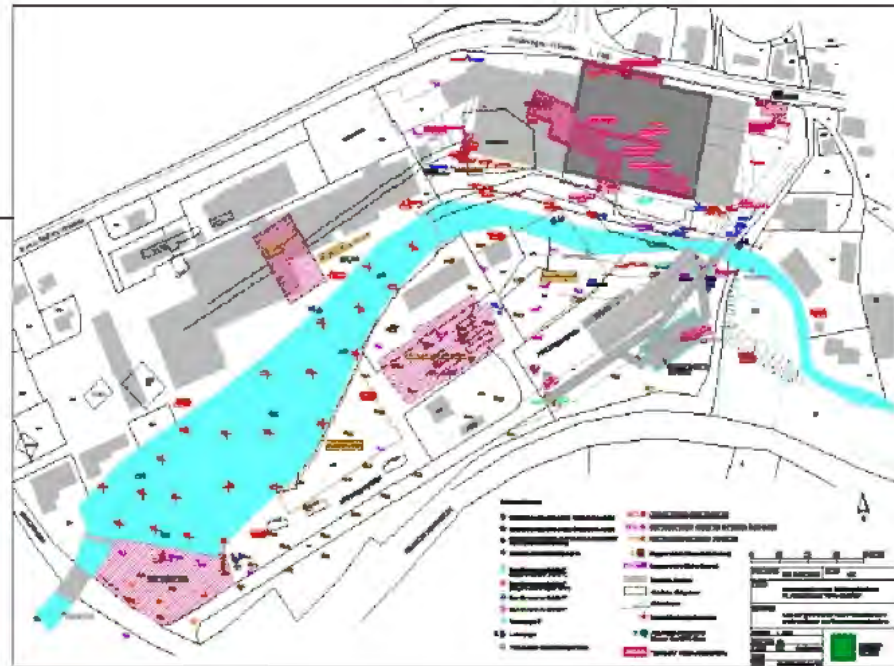






# The OKAL Site - Contaminations

- 90 years of wood-processing.
- Groundwater and soil massively contaminated with mercury and arsenic.
- Fish in the river Gutach found with traces of mercury.







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~~Fa. Himmelsbach~~



OKAL



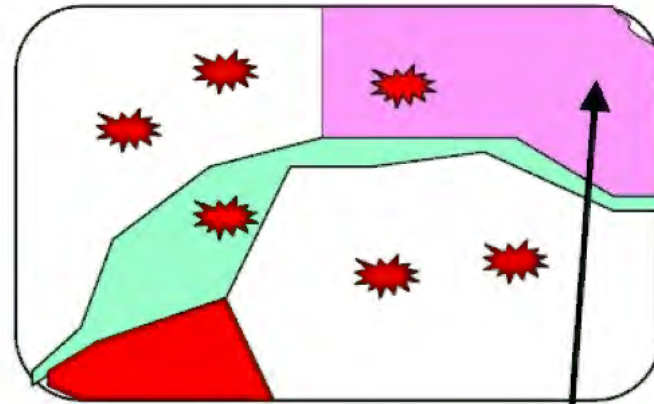
TN-Immobilien



Unternehmensgruppe Dr. Eisele



Edeka & Aldi



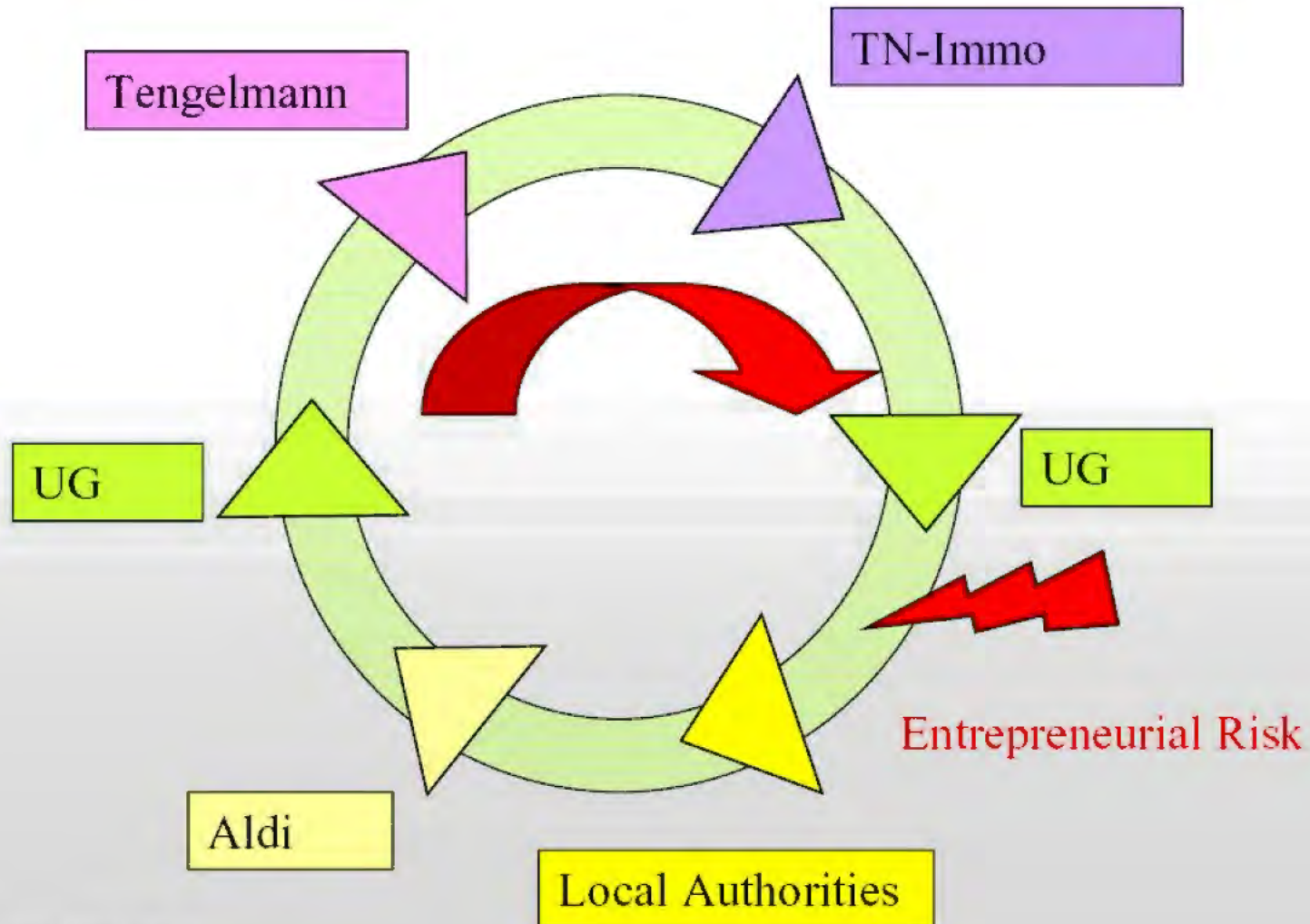
Tengelmänn



All levels of government  
involved:  
Ministry of Environment  
Local authorities



Bilateral Work





## Privately funded initial investigations: **500,000**

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- **Entrepreneurial Risk includes funding of:**
  - waste evaluation
  - creation of remediation plan
  - preliminary investigations for development scheme
  - legal fees for urban development contracts
  - cost estimation and planning of dismantling
  - cost estimation and planning of surface modeling



## Governmental funded Investigations: 400,000

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- Investigations of health risks and danger to Public Order, primarily to determine the extent of:
  - soil contamination
  - groundwater contamination
  - Pollution of fish in the Gutach river



# Development measures

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- Dismantling of the industrial buildings
- Modeling of the terrain to obtain a planed subgrade
- Public development measures (traffic circle, sidewalks)
- Construction of new private and public sewers.
- Cleanup according to the remediation plan.
- 15% of entire investment went towards remediation

# Cleanup measures

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- Cleanup measures required for the entire site.
- Long term ground water remediation
- Long term monitoring programs
- Hot spots excavated for offsite remediation.
- Former industrial waste dump secured.
- Approx. 60,000 tons of material removed.

## Future use of the site

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- Edeka and Aldi revive previous plans for supermarket and department store.
- Remaining property zoned for industrial use.
- Remediation goals limited to industrial use.



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## Main Characteristics of the OKAL Site

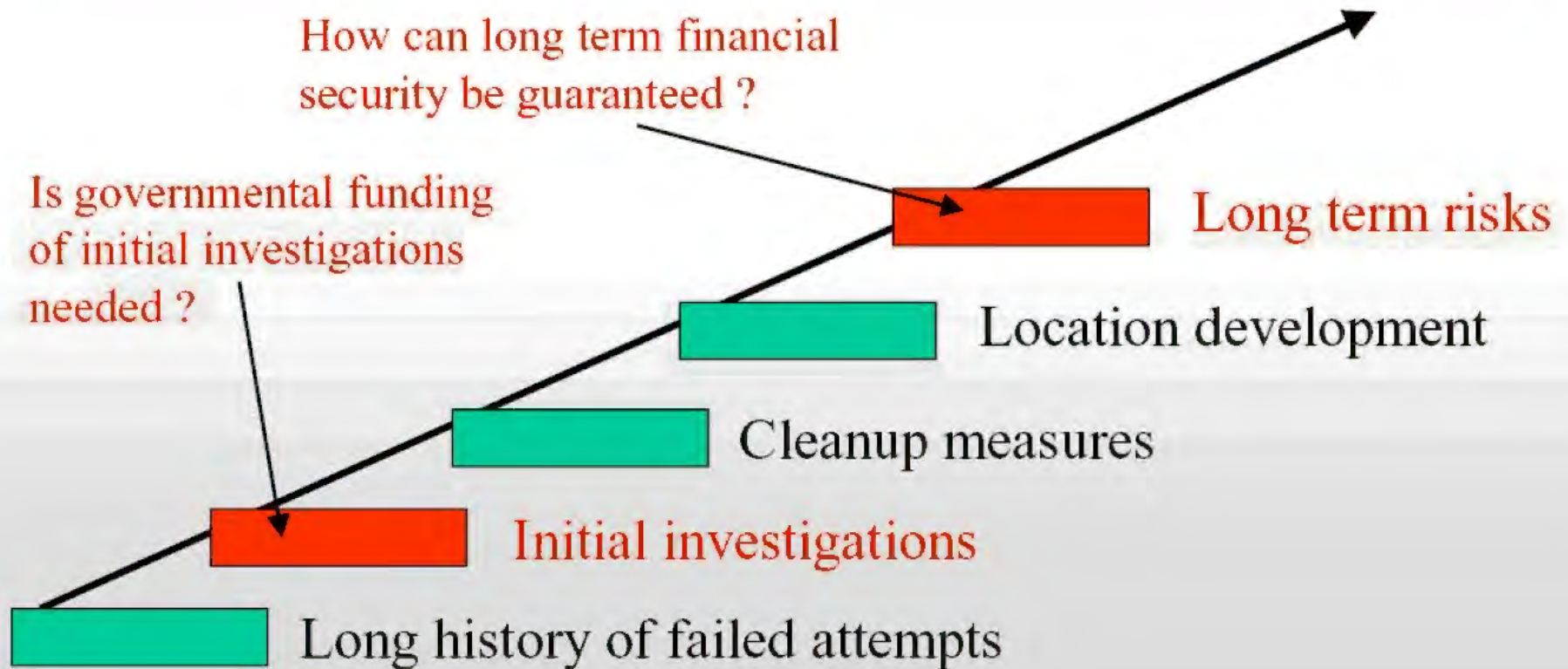
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- Unspecified contamination was the greatest hindrance to redevelopment
- public health was seriously endangered
- All the governmental agencies were highly motivated to find a solution.
- Initial governmental funding of investigations was considerable but concerned solely with public health hazards
- Uncomplicated conditions of ownership.
- Previous attempts to resolve the problem had failed



# Critical Steps

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Deutsch Amerikanischer Workshop, Economic and Finance Tools for Brownfield Redevelopment.  
12 – 13 November 2002  
Michael König, Unternehmensgruppe Dr. Eisele (Dr. Eisele Group)

**Abstract: The OKAL Site in Titisee-Neustadt, Black Forest as an example for Brownfield Redevelopment in middle-sized Communities.**

The Dr. Eisele Group consists of three engineering companies and one company for planning and project development (PPE). The PPE company acts as an investor in brownfield Redevelopment projects. The structure of the group reflects the liability risks inherent in Brownfield projects. Redevelopment works effectively only if one person is responsible for the project. In this sense, Dr. Eisele Group serves appears as a coordinator of all necessary investigations and steps and develops all necessary contacts with the involved authorities. The group organizes projects with tight schedules and a pattern of option contracts to reduce the required equity capital.

The OKAL Site, in the outskirts of the city, includes about 14 hectares, with the northern bordering on the small river Gutach. Two wood processing companies were resident on the property for about 90 years. As a consequence, the area is contaminated with heavy metals, in particular, mercury and arsenic. Contamination includes soil and groundwater.

In this example, the Dr. Eisele Group acted as an investor to solve the problems. Two critical steps involved in the redevelopment process are financial and liability risks. At the beginning of the projects, as a first step, all investigations are funded by the Dr. Eisele Group. At the end of the project, liability for remaining risk is a critical point. Governmental funding in Baden-Württemberg should be improved to close these funding gaps so that more projects of this type would be possible. The first step of Brownfield development project investigation is to check the feasibility of co-financing by government funds.



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# **Economic Tools and Finance for Brownfield Redevelopment**

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## **Workshop**

**November 11 and 12, 2002 - Charlotte, North Carolina**

### **German Case Studies**

### **Duisburg – “The Inner Harbor Project”**

**Martin Linne**

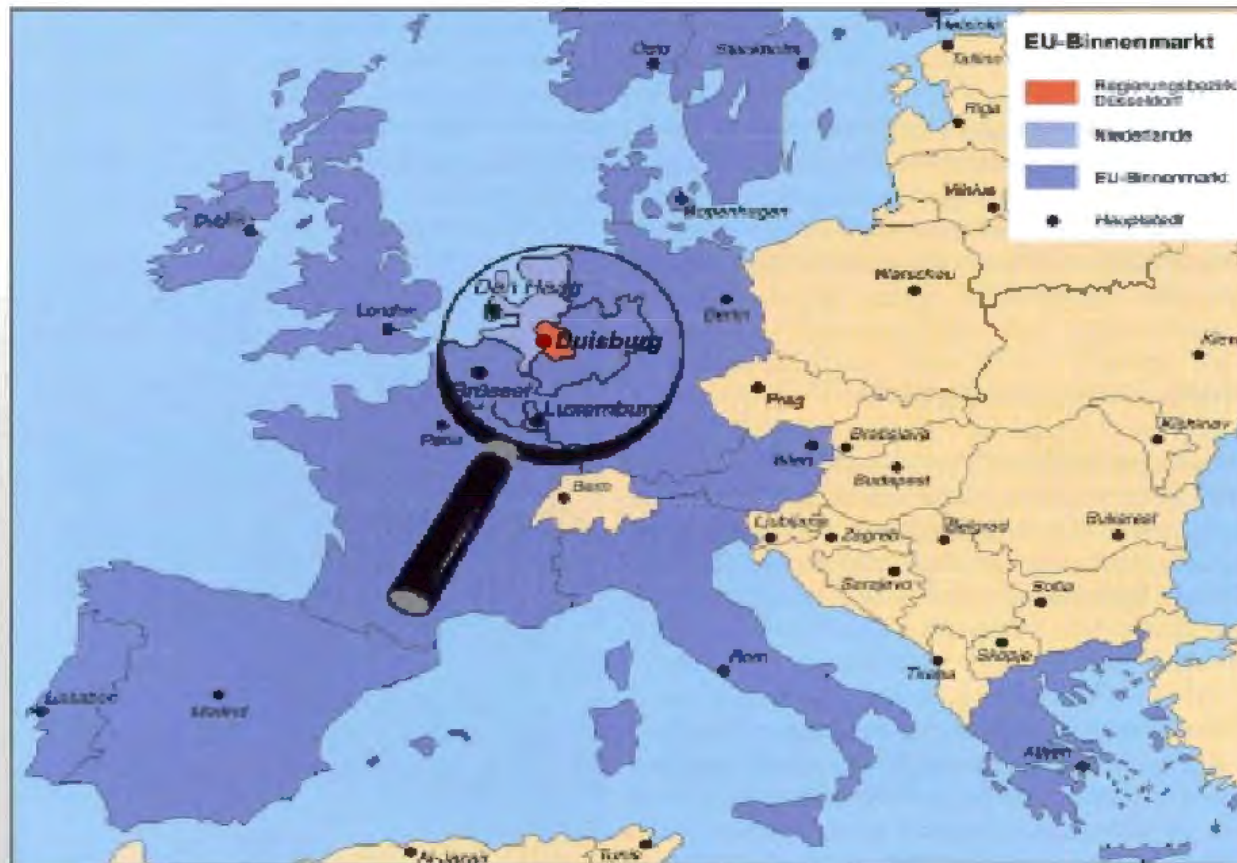
**City of Duisburg**



# The city of Duisburg

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## Central position in West-Europe





## Duisburg on the Rhine

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the Logistic and service center of european standard  
with approximately 512.000 inhabitants (*No. 12 in Germany*) has

- Europes largest inland port with sea port opportunities, free port, a terminal for multi-modal traffic ...
- 25 junctions linking to 6 national motorways
- more than 100 Highspeed Train stops daily
- and only a few miles to The International Rhine-Ruhr-Airport-Düsseldorf – the position two airport in Germany
- is an important part of MetroRapid (*magnetic Highspeed Train*) planning through the Rhine-Ruhr-Area



## Outstanding traffic facilities in Germany, Europe ...





## ... and naturally - **in** Duisburg ...

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... as a basis for the  
economical  
development of the  
city.



## Duisburg on the Rhine ...

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- ...is now as ever the most **modern steel location** in Europe (e.g. *Thyssen-Krupp-Stahl-AG*)
- ... develops in cooperation with the industry and the university to a **future orientated material location**
- ... catches up substantially within the **service sector**, after decades of the dominance of the large-scale industry. In the sector of call center services there has been created approximately 4000 new jobs in the last two years.
- .... today tries to get **more benefit out of the outstanding geographic position** in one of the most important conurbations in Europe





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# Duisburg Inner Harbor

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## today already a success story



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# Aerial view and location plan

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Size: ~900.000 sqft over a length of about 1 miles





# History

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- Until 1960 the 'Granary of the Ruhr region'
- Until 1970 flourishing grain and timber trading



Inner Harbor around 1900

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Timber and grain trading - Inner Harbor around 1910

## Development strategy

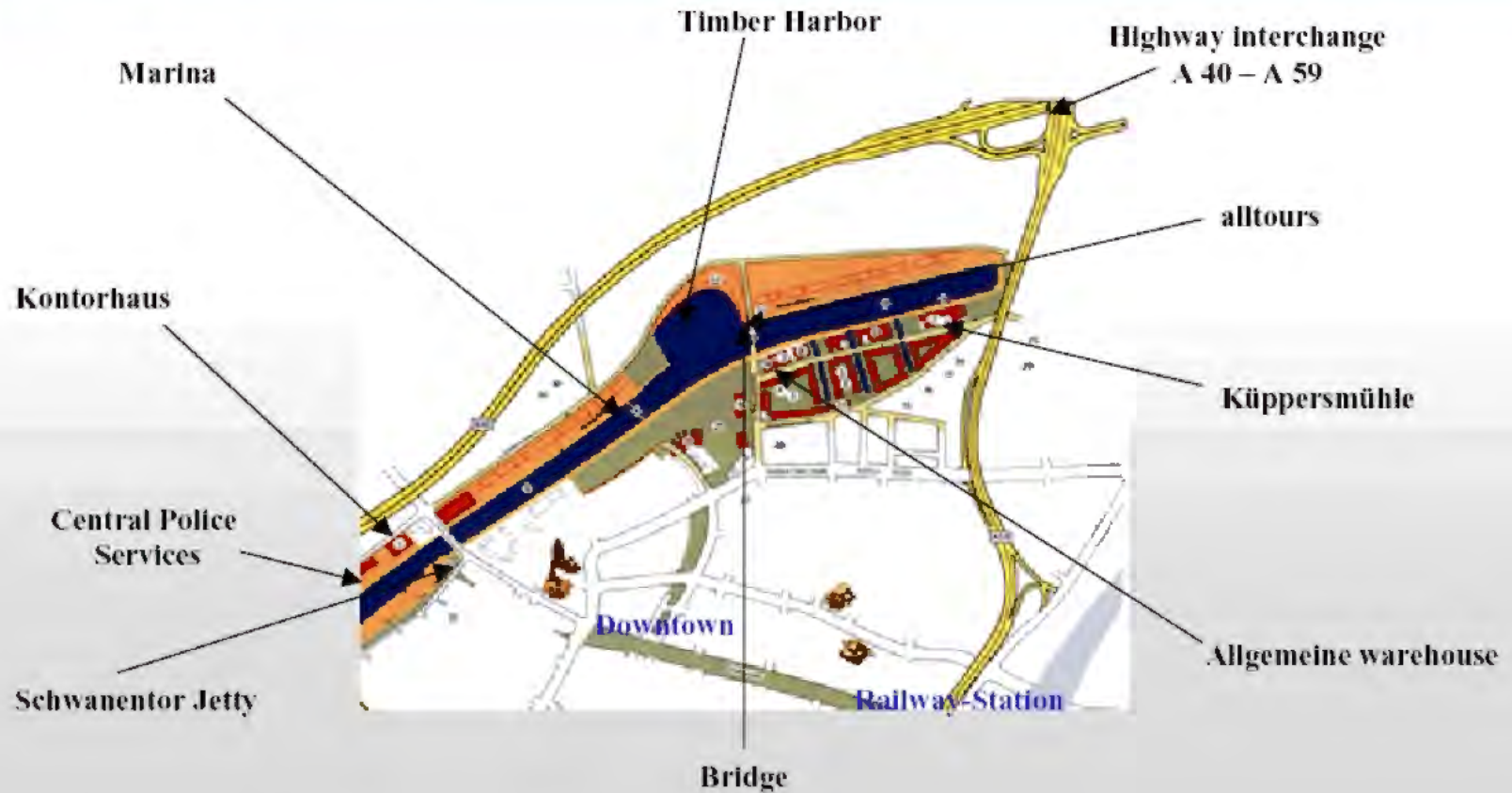
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- **An increase in functionality and attractiveness by means of public investment on the basis of the 1991 master plan of Sir Norman Foster - the result of an international planning competition**
- **Implementation of concept and marketing by the establishment of a project company IDE - in co-operation with the IBA (International Building Exhibition) and the City of Duisburg in 1993**





# The Result of an international planning competition



## **Central, attractive location provides additional incentive for new development**



**Schwanentor/Swans Gate – gateway to the Inner Harbor**

## **Development stimulus and enhancement by public investment**



### **Historical city wall**

- Built at the end of the 12th century
- Demolition of the city gates 1815-1833
- Reconstruction 1960
- Public funding 1986:  
**€ 1 million**



### **Museum of Culture and Civic History**

- Built at the end of the 19th century
- Use as a mill until 1940
  - Conversion to a museum in 1989 – 1991
  - Funding: **€ 4 million**



### **Garden of Remembrance**

- Public funding: approx.: **€ 2 million**
- after demolition of unused warehouses
- laid out by Dani Karavan in 1996-1999
- Inclusion of warehouses released for demolition





**Marina, 1st construction phase:**

- Constructed: 2000-2002
- Public funding - approx.: € 6 million



**Bridge ('crossing structure')**

- Built 1995-1996
  - New link between Schifferstr. and Philosophenweg embankment structure
  - Additionally dams up the eastern harbor basin for ecological water management
- Public funding:  
**approx. € 5.5 million**



**Grachten and apartments**

3 grachten with public subsidies of approx.:  
**€ 75 million**



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## 2 examples of the exemplary combination of private investment and public funding

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### Allgemeine warehouse

- Built in 1936 as a 10– story silo grain warehouse of the company of Rhenania Allgemeine AG
- A 'modern building with the old outer shell' was obtained in 1999 after investments by 'Kölbl Projektentwicklungen' (project development company) (**€ 15 million**) with support from urban development promotion funds (**€ 3 million**)

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### Küppersmühle Museum

- Constructed in 1908 – 1912
- Complete curettage and conversion 1997 – 1999
- Investors: Hans Grothe and Gebag – Gemeinnützige städtische Baugesellschaft (Municipal construction company)
- **Investment volume: € 18 million** (62% promotion funding for the museum)

# Private Investment

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**as a consequence of meaningful urban development  
promotion**



## Private Investment: Faktorei 21

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**98-99:** Conversion by the LEG (Regional development corporation)

**2002:** 4500 m<sup>2</sup> of office space have been 100 % let in the building which is under a preservation order as a historical building.





## alltours travel center 2001

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**2001 – 2002:** Construction of the alltours headquarters in  
the Inner Harbor with a staff of about 350  
**Investment volume: 20 million euros**





## Kölbl project developments 2001

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**Office building with about 150 work places and a private investment of approx. € 12 million**



## Private housing construction in attractive surroundings

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... more than 400 units.

## Current construction projects

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### **Central Police Services for North Rhine-Westphalia.**

- Construction time: 1999 – 2002
- Approx. 500 work places
- Investment volume:  
approx.: **€ 50 million**





## Current construction projects

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- Wehrhan warehouse:**
- 1896** Constructed by the Cohen family
  - 1936** After the Cohen family had fled from the Nazis the warehouse is taken over by the company of Rheinische Mühlenwerke Wehrhahn
  - 1969** Closure
  - 2003** Completion of the office complex with gastronomy (Business Office as well as the Children's Museum 'Atlantis')



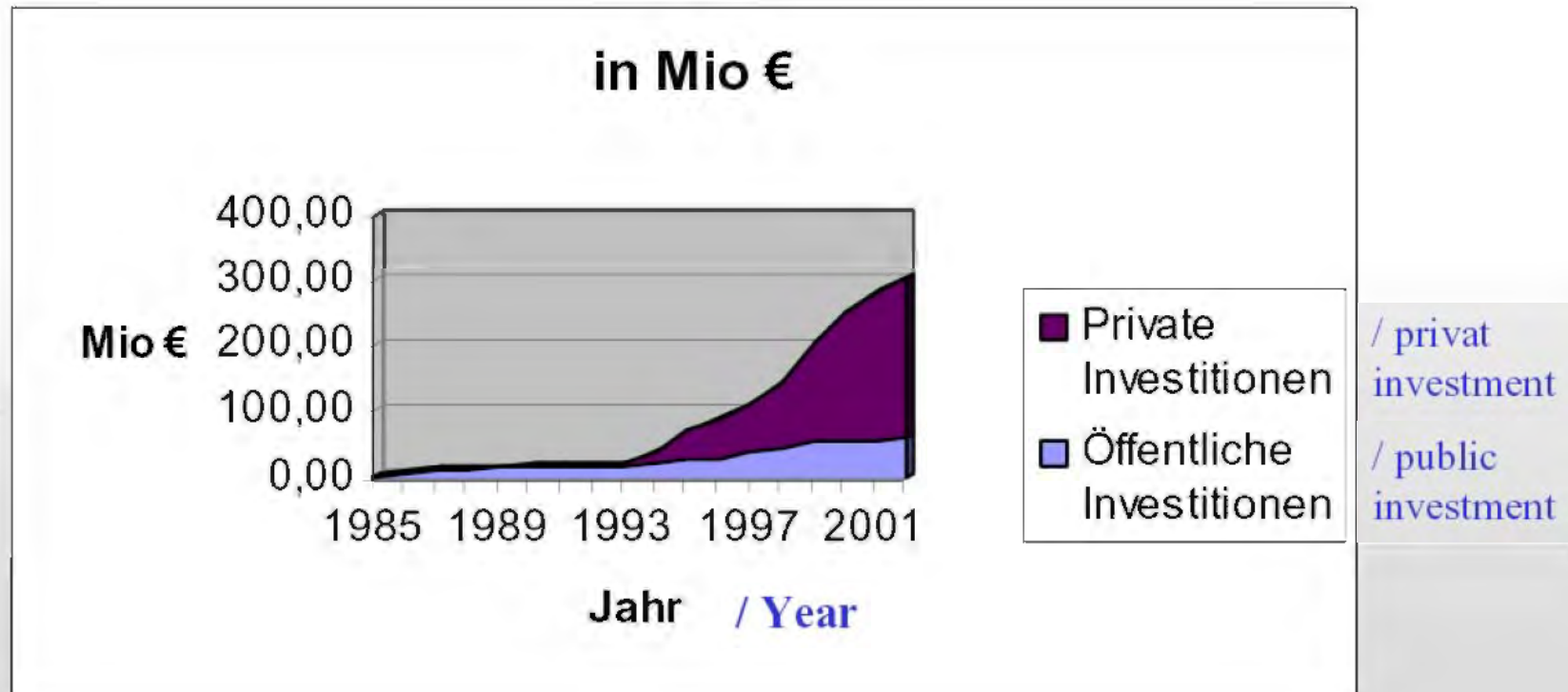
## Implementation incentives for private investment

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- prepared public environment
- partly tax relief (10% of the investment over 10 years) by
  - special depreciation in accordance with preservation of historical monuments
  - in particular depreciation in accordance with the Urban Development Promotion Act
- partly relatively favorable real property terms – what is known as business promotion discount (max. 30 % of the current market value as a local act)
- optimized moderation and co-operation between the investor, IDE – Inner Harbor Development Agency and the city
- special location marketing



## Investment pattern so far



## Project financing by

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- Public investment – in particular for infrastructure and cultural institutions – financed by various programs of the European Union (EU), the state (Land) of North Rhine-Westphalia (NRW) as well as the City of Duisburg
- Private investment in specific above-ground construction projects as well as a marina



## Planned construction projects for 2003

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### **Viterra – H2 Office**

Modern building for offices and services

Construction time: 2002 - 2004

Investment volume: **€ 50 million**



## Kölbl – 'five boats'

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**Marina** – Office, leisure and retail trade by the Timber Harbor  
Kölbl u. Kruse Projektentwicklungen  
Planned investment : € 45 million

## Further impressions

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The Werhan Mill



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Old city center park by night





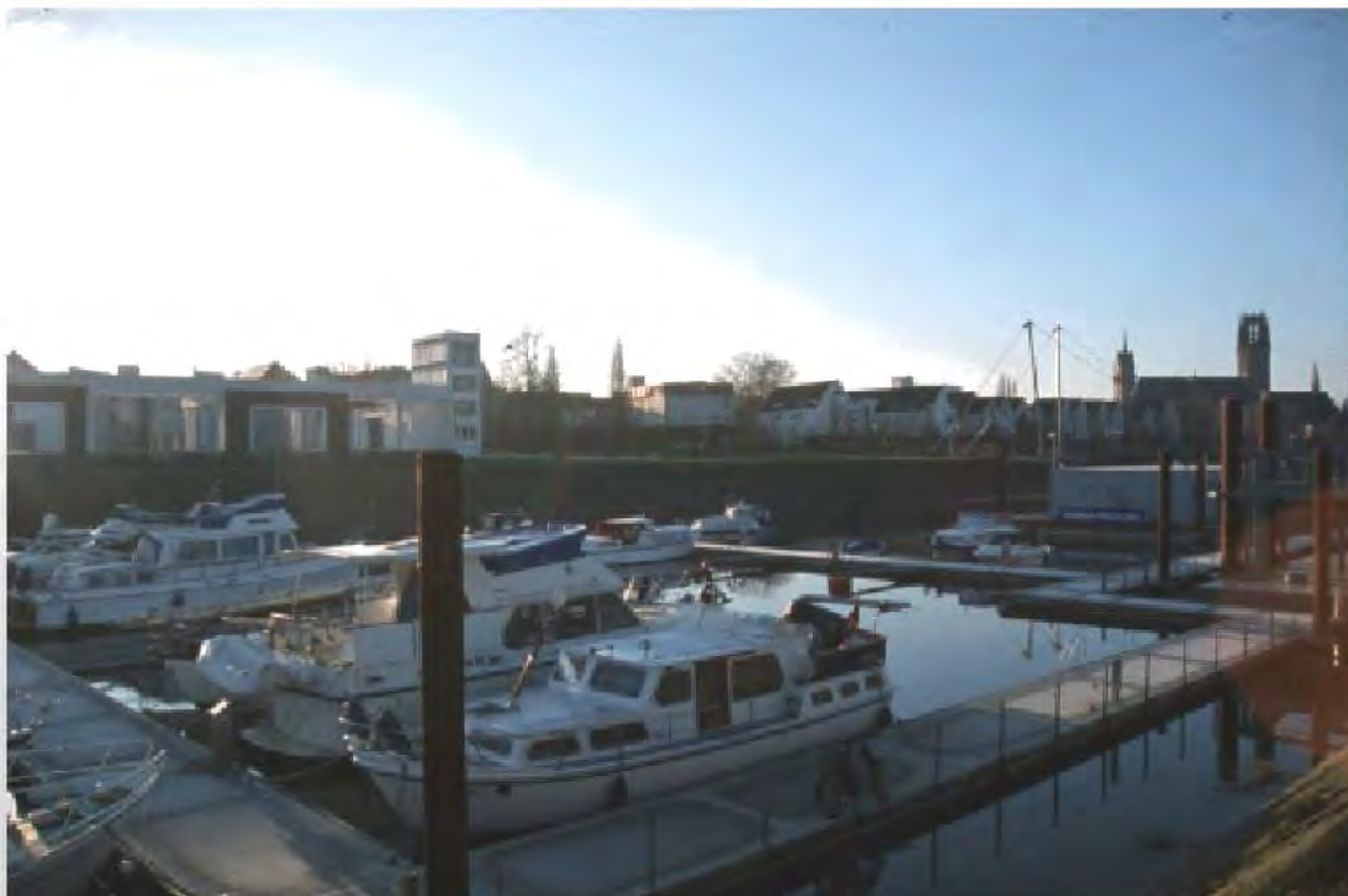
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Jewish Community Center





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The Marina ...



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**Schneider & Partner**

[www.SchnuP.de](http://www.SchnuP.de)



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But allthough we are close to the end  
of the Inner Harbor Project, we are  
not at the end of our urban development .....





We want to do a new redevelopment project, directly located at the river Rhine ...



## Bauabschnitte

... with mixed uses,  
widely open green  
spaces as a part of the  
federal gardening  
exhibition 2011, ...



## Perspektiven

... so I hope that I  
will be able to tell  
you something new  
about another  
success story in 3 or  
4 years.



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Thank you very much for your attention

*Martin Linne*

City of Duisburg



**BMBF – EPA Meeting**  
**Charlotte – North Carolina - 2002**  
**Workshop Report**

**Duisburg Inner Harbor**

**The City of Duisburg:**

The City of Duisburg currently has 510,000 inhabitants – a declining population trend has been occurring for more than 15 years. Duisburg lies at the edge of the conurbation on the Rhine and Ruhr - consisting of 17 cities - with more than 5 million inhabitants.

The economic peak for the city was during the period between 1950 and 1965. Since the mid-1960s, the importance of coal mining has declined throughout the entire region. Ten years later, the same decline began to occur in the steel industry.

In Duisburg, today, only one pit and two large steelworks are still in operation. However, the steelworks (Thyssen-Krupp) have a high productivity, and, because of the excellent transport infrastructure (port – rail freight – highway network) and the intense concentration process of recent decades, a strengthened market position.

Since 1980, the City of Duisburg has been undergoing profound structural change. During this period, on balance, more than 120,000 jobs were lost, while only about 50,000 new jobs were created.

The redevelopment of Duisburg is being supported by the excellent transport infrastructure within the largest European inland harbor, the international airport in Düsseldorf (only 20 minutes away from the city center), and national and international high-speed rail links, as well as the location linked to six highways.

After many reactivation measures on relatively small Brownfields since the mid 1970s, towards the end of the 1980s the first major revitalization projects of derelict industrial and business areas were tackled. Today, **all of the large urban development projects** - whether in the inner city area or the other areas of the city of Duisburg - are located on former production/transport areas of the steel industry, the national rail company, and/or manufacturing industries.

## **The Example for a City Center Extension**

### **Duisburg Inner Harbor Service Park**

#### **Pre-history:**

The Duisburg Inner Harbor, until into the 1970s **the** most important regional place of transshipment for wood and grain, is only a few hundred meters away from the city center . For the site, about 25 years ago there were already classic (commercially oriented) considerations for reuse, sparked by a steep decline in transshipment activity. However, for financial reasons, these could not initially be implemented until 1989. (Annotation: there have not been large areas of polluted soil, but there have been a lot of “useless” buildings and dock facilities, which should become very important for the future character of the site.

**New goals:**

The start of a comprehensive revitalization was made in 1989 – after more than 10 years of inactivity - within the scope of the International Building Exhibition, Emscher Park. The urban space situation, the Inner Harbor was now to be used for a high-quality extension of the city center.

At the beginning of 1991, an international planning procedure was implemented in which the team centering on Sir Norman Foster, London, came to the fore. On the basis of his master plan, the Inner Harbor was developed during the last decade, with the involvement of further renowned architects and artists, to form a versatile and attractive city quarter.

The main task was here – because of the previous use – not the correct and proper remediation of contaminated soil, but to make appropriate use of the dock equipment which in itself was 'valueless' for the new uses, as well as to use at least parts of the old buildings – grain mills, silo units, warehouses – and plants – quay facilities, water areas, cranes – for the new uses and to thus enable an identification of the population with 'their' city quarter.

**The Conception:**

In his master plan, Sir Norman Foster developed a successful mixture of old and new allowed the Inner Harbor to become a top address in the region today. An 'integrated conception' was produced, with use being made of reusable but also 'useless' buildings and dock facilities only having a design-related effect. The future master plan of Sir Foster has been the foundation for project realization during the last 10 years. It has been adapted and respectively modernized in the details of several steps but not changed in its character.

For the implementation of the overall project, in 1992, the 'Duisburg Inner Harbor Development Company' (Innenhafen Duisburg Entwicklungsgesellschaft) was founded, which was financed half each by the city of Duisburg and the State of North Rhine-Westphalia. From 1993 forward, most of the preserved warehouses by the waterside were converted to create more than 2,000 (in 2001) new jobs in the service sector. At the same time, several museums were established:

- The Museum for Cultural and Urban History
- The Museum of Modern Art of the Swiss Architects Herzog & de Meuron, who also converted the London Tate Gallery
- A Children's Museum that currently is being organized in an old mill building

At newly laid out, ecologically oriented water areas (“grachten”), more than 400 new housing units were built. The whole of this is supplemented by special housing provided for elderly people, kindergarten in old office buildings, various restaurant possibilities, a Jewish community center designed by the famous Israeli architect Zvi Hecker, as well as an “Altstadtpark” (old city center park) designed by the Paris-based artist Dani Karavan.

In particular the design of this old city center park initially sparked a lot of discussion, because Mr. Karavan integrated lots of remains of earlier use (staircases, foundations, and heaps of rubble, for example) into the design, creates an enormous city-center park rich in contrast and excitement. Further design highlights are a moving, rising pedestrian bridge and the yacht marina, which opened this year in the old harbor basin.

With the Inner Harbor Service Park, the goal of an attractive extension of the city center at a high level has already been surpassed, about 2 to 3 years before project conclusion. Reintegration of water into the city and the mixture of modern jobs, cultural facilities, attractive housing, and opportunities for leisure activities have been outstandingly successful.



**Finance:**

Over all, there has been a public financed “pre”- investment for the new technical infrastructure, the “old city center park”, and a museum of nearly Euro 60°million.

In the early years and until 1996, only a small portion of financing was from private investment.

But in 1997 private investment increased for new buildings and modernization of old grain mills etc. Today, after approximately 80% of realization, a private investment of about Euro 250°million has been realized. At the end of the realization there will be a private investment of Euro°350 to 400 million.

The public investment has usually been financed through different programs by the City of Duisburg, the State of North-Rhine Westphalia and the European Community. The portion of city financial contribution has been between 10 and 30 percent of public support.

The real progress in this project has been the integrated, supplement financing of some projects with different programs during the period of the International Building Exhibition.

**The result:**

As a qualitative result, a new address, an attractive **location as city-center expansion, (well known at the supra-regional level and greatly sought after)**, has emerged, which has had a positive influence on downtown Duisburg in its entirety.

From a quantitative point of view, it is the case that following initially relatively high use of public funds which was necessary to ensure quality standards– with public capital expenditure of about Euro 60 million - an investment ratio of 1:4/1:5, and in the end of nearly 1:7, has been reached. This means that through every portion of preliminary public capital expenditure, about seven portions of subsequent private capital expenditure were triggered. In a regional comparison this is an outstanding figure.

In summary, as a result of the Inner Harbor project, such companies currently are considering a location in Duisburg by the Inner Harbor or in the nearby city center, who, only a short time ago, would never have seriously considered the City of Duisburg as a business location. Therefore this project is not only in itself to be rated a success, but it has contributed considerably to new, better positioning of the City of Duisburg in regional competition.

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**Financing Brownfield Reuse Projects:  
Emerging Local Tools – and Why They Are Needed  
by  
*Charles Bartsch*  
*Northeast-Midwest Institute***



## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

The legacy of the nation's past is evident in communities all across the country. Often abandoned, usually contaminated industrial sites dot the cityscape. They pose significant challenges for local elected officials and economic development agencies. Redeveloping these "brownfield" sites can be a costly proposition. The complicated process and legal hurdles of acquiring, cleaning, and reusing these sites can be expensive in terms of site preparation expenses and fees, and costly in terms of time delays. Site evaluation processes, testing, possible legal liabilities, and other factors serve to deter private participation in activities to bring old industrial sites back to productive use. In many situations, the private development and financial sectors are not able or willing to act on their own to ensure that the full economic potential of site reuse will be achieved.

Critical funding gaps are, in fact, the primary deterrent to site and facility reuse. The financing situation is especially gloomy for start-up firms or small companies with little collateral outside the business. Clearly, local governments can find creative ways to help enterprises overcome the obstacles that environmental contamination brings to the economics of the site reuse process; such actions range from regulatory clarification for liability stemming from loan workouts to direct financial assistance programs. For decades, local governments have used or sponsored public finance mechanisms to stimulate economic activity in certain geographic areas or industries. Now, publicly-driven economic development initiatives are reaching into new sectors and incorporating new concerns, such as environmental improvement. Brownfield reuse strategies and techniques are rapidly evolving.

## Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed

### Redeveloping Contaminated Sites -- Barriers in Brief

***Lack of process certainty and finality.*** The Superfund law and its attendant regulations guide public officials and private parties as they cope with contamination at *any* site. The problem is widespread and significant; even though only about 1,200 sites have been classified as “Superfund sites,” more than 500,000 sites nationwide show evidence of at least some contamination that could trigger Superfund rules and deter their owners from selling the site, securing financing for cleanup, or proceeding with reuse. Prospective site reusers need a clear, recognized, and expedited process to determine how clean is clean for any given situation. Today, some 47 states have launched “voluntary cleanup programs” to provide a mechanism to address these issues.

***Uncertain liabilities.*** Liability is a critical concern. Superfund imposes liability on those who generated or arranged for the disposal of hazardous waste, and on landowners and operators of contaminated facilities. Current owners and operators are identified first -- even if they did not cause the contamination. Moreover, liability is retroactive to past actions that cause present problems. The prospect of liability drives prospective site reusers away, and keeps companies from being able to borrow enough to clean up properties and modernize operations. Faced with the spectre of liability, some companies have simply mothballed obsolete, unused facilities. As a result, not only does no new economic activity occur, but no environmental cleanup is undertaken, either. As a first step to address some of these concerns, Congress in September 1996 adopted language to clarify lenders’ liability responsibilities at contaminated sites, where their only involvement was making the loan itself.

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

***Cost of environmental cleanup.*** The legal and procedural steps necessary to test, clean, acquire, and reuse contaminated sites is expensive and time consuming. The costs of preparing financing packages have tripled since 1980 because of environmental requirements. In practice, whether sites are cleaned and reused or not boils down to one of dollars and cents; even if an old industrial facility has only small amounts of contamination, site assessment and cleanup add considerably to the cost of a redevelopment project, making its economics much harder to justify.

***Lack of redevelopment finance.*** In most areas, adequate private financing to carry out both cleanup and redevelopment activities is simply not available. Even with lender liability addressed, financiers are still concerned about the impacts of contamination on collateral value and the ability of borrowers to repay their notes. These risks have made lenders wary, and this fear makes them reluctant to provide the resources needed to carry out site reuse projects.

Therefore, lenders have changed the way in which they deal with projects that even remotely involve hazardous wastes in response to these risks -- real or perceived. This, in turn, affects the reuse potential of specific sites as well as the broader economic development climate in many areas. In practice, financial institutions grappling with concerns over environmental liability and contaminated project sites are:

- Sharply curtailing their level of lending, especially to manufacturing companies;
- Cutting off financing for certain types of businesses, such as those that routinely handle toxic substances -- service companies such as dry cleaners and auto body shops, as well as manufacturers such as high technology metal fabricators, semiconductors, and tool and die shops;

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

- Significantly increasing transaction costs by requiring thorough environmental assessments (which can cost \$50,000 or more, depending on the size of the site and the nature of prior activity on it), and demanding that cleanup be done as a condition of loan approval; and
- Restricting their interaction with and advice to a borrower, to reduce their exposure to liability.

### **Promoting Reuse: Goals of Public-Sector Incentives**

In many cities, few needs are more pressing than that of restoring abandoned buildings and brownfield sites to useful life. Their continued deterioration will only worsen existing environmental problems and further weaken the local economic base. Therefore, in spite of the difficulties of brownfield projects, communities have little choice but to promote their reuse; the benefits of returning these sites and structures to productive reuse outweigh the option of inactivity. City agencies and local development organizations, as well as private interests, are beginning to successfully confront the obstacles, however daunting.

The public sector can do much to help level the economic playing field between greenfield and brownfield sites. Creatively crafted and carefully targeted incentives and assistance can help advance cleanup and reuse activities. Such strategies must recognize, however, that brownfield projects differ considerably in terms of barriers to investment and opportunities to redevelopment. Therefore, no one “best” public-sector approach will fit all needs. Clearly, a variety of incentives can make the most effective use of public-sector assistance, as well as improve the climate that invites private investment in brownfields. These incentives, used separately or in combination, should be able to meet several goals, including:



## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

- Reducing the lender's risk, making capital more available by providing incentives or legal clarification for lending institutions to help companies or projects at sites deemed riskier because of their prior uses;
- Reducing the borrower's cost of financing, for example, by making capital more affordable by subsidizing the interest charged on brownfield loans, or by establishing policies that reduce loan underwriting and documentation costs; and
- Easing the developer's or site user's financial situation by providing incentives, such as tax credits, that can help improve the project's cash flow.

State and local governments, in many respects, are the innovators. Typically, brownfield success stories are found in places that have adopted their own site characterization and reuse tools and creatively built on the foundation provided by federal programs and policies.

Yet as important as these initial successes are, the potential exists for even greater activity. Many jurisdictions are starting to explore ways to help prospective re-users overcome the difficulties that contamination can bring to the redevelopment process, setting up finance programs to ease the cost or terms of borrowing, augmenting private funds, or filling funding gaps that the private sector will not bridge. Moreover, public-sector support does not have to be limited to helping specific companies; other related activities can be financed that help improve the broader brownfield investment climate. For example, localities can assume some of the responsibilities for site preparation and clean up, recovering some of their costs during subsequent site sale or development. And, jurisdictions can support such activities by earmarking tax revenues, loan repayments from other programs, and other sources of funds to pay for necessary project activities, such as site testing or soil removal.

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

### **Local Brownfield Initiatives: Emerging Financing Tools**

***New missions for old workhorses.*** Practically speaking, the benefits of bringing new business activity to established city locations has been outweighed by the risks accompanying the acquisition of brownfield sites. Environmental assessment and even small-scale cleanups remain significant costs that channel investment away from previously used facilities to greenfield sites. In many instances, local governments have begun to explore a variety of financial incentives to offset some of these risks. Many of these efforts will involve placing a new brownfields “spin” on long-time, tried-and-true financial assistance tools.

***Tax Increment Financing.*** The TIF mechanism, available in nearly 40 states, has traditionally been used for numerous types of economic revitalization efforts, usually in economically distressed or abandoned areas -- the typical brownfield location. The TIF process uses the anticipated growth in property taxes generated by a development project to finance public sector investment in it. TIFs are built on the concept that new value will be created -- an essential premise of most brownfield initiatives -- and that the future value can be used to finance part of the activities needed now to create that new value. The key to TIF is the local commitment of incremental tax resources for the payment of redevelopment costs.

TIF bonds are issued for the specific purpose of redevelopment -- acquiring and preparing the site, upgrading utilities, streets, or parking facilities, and carrying out other necessary site improvements. This makes them an ideal financing tool for brownfield projects; in fact, many cities with brownfield success stories helped bring them about with TIF financing. TIF programs are easily used with other types of funding, such as grants or loans.

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

However, many jurisdictions have been hesitant to use TIF mechanisms for brownfield projects; if projected development fails to materialize or unanticipated complications arise, it can be difficult to retire the bonds. Some local economic development practitioners also cite the complexity of many TIF initiatives as a practical disadvantage; they can require a lot of time to put into place, and high levels of technical expertise and negotiating savvy to move a project from concept to implementation, especially one made more difficult by environmental concerns.

***Tax Abatements.*** Tax abatements are commonly used to stimulate investments in building improvements or new construction in areas where property taxes or other conditions discourage private investment. States must usually grant local governments the authority to offer tax abatement programs, and most allow only certain areas to participate, such as economically distressed communities or deteriorating neighborhoods -- typical brownfield locations.

Tax abatement programs must be carefully designed to target intended beneficiaries without offering unnecessary subsidies, a feat often difficult to accomplish. Because of this, tax abatement programs have numerous critics. Yet the key advantage of tax abatements is that they give local governments a workable, flexible incentive that helps influence private investment decisions. This can be important in efforts to promote brownfield reuse.

***Community Development Block Grant “Float”.*** Generally, CDBG recipients are unable to use their entire block grant allocations in the year received; long-term, larger projects (such as infrastructure construction) approved for funding take more than a year to plan and carry out. According to HUD rules, funds not needed to meet current project costs remain in the federal treasury until the city actually needs them; it is not unusual for CDBG funds awarded one year to be drawn down a couple of years later as big capital projects move towards completion.

## Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed

When a city can show that previously awarded CDBG funds will not be needed in the near term, it may tap its block grant account on an interim basis -- using what HUD calls a CDBG “float” -- to finance short-term, low interest construction financing for projects which create jobs. Any developer, not-for-profit agency, or private company which can obtain an irrevocable letter of credit from a lender is eligible to apply for such financing. (The letter of credit satisfies HUD’s concern that the funding will be available for its originally planned purpose.)

Proceeds may be used to pay all costs for the purchase of land and buildings, site and structural rehabilitation -- including environmental remediation -- or new construction. Float funds can also finance purchase of machinery and equipment. Maximum loan size is determined by the amount of funds in a jurisdiction’s CDBG account available to cover the float. Float loans can not be extended for more than two years; the interest rate is limited to 40 percent of the prevailing prime rate. A few municipalities, notably Chicago, have financed brownfield cleanup activities via the CDBG float mechanism.

**General Obligation Bonds.** Virtually all communities can issue G.O. bonds for (in the terms of one city attorney) “any proper public purpose which pertains to its local government and affairs.” Economic development practitioners can make a strong case that a bond pool to support brownfield cleanup and reuse projects could create jobs and enhance the local tax base, which are appropriate public purposes. Cities traditionally issue G.O. bonds for acquiring land, preparing sites, and making infrastructure improvements -- key elements in a brownfield redevelopment strategy. Moreover, the city’s ability to repay this bond debt would be enhanced by the growth in property tax revenues as more brownfields are brought back to productive uses.



## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

***Refocussing existing local development programs.*** Every local government already uses a variety of financial assistance programs and incentives to promote economic and business development; like federal and state programs, local offerings can be more explicitly packaged and promoted for potential developers and lenders to use to clean and rehabilitate brownfield sites. A growing number of cities are examining ways to do this; alternatives being considered in some places include:

- Earmarking water, sewer, and waste water charges for brownfield cleanup activities;
- Earmarking some portion of grant, loan, or loan guarantee program funds to applicants proposing site characterization or cleanup projects;
- Developing a municipal “linked deposit” program targeted to brownfield borrowers;
- Channeling some portion of loan repayments from existing city programs to brownfield projects;
- Devoting monies raised from fines or fees to a brownfield financing pool; or
- Using small amounts of public funds to “seed” a private, shared-risk financing pool devoted to brownfield redevelopment.

In addition, cities can explore other low- or no-cost techniques to stimulate the flow of capital to promising brownfield redevelopment undertakings. For example, Chicago and Cleveland are considering ways to more easily convey tax-delinquent properties to new owners with viable reuse plans. Other cities are contemplating modifications in their zoning requirements in specific cases to provide developers with the opportunity to earn a greater return on their investment and offset more site preparation costs.

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

***New types of local brownfield finance initiatives.*** Many brownfield sites have the potential to become economically viable, hosting new business activity and jobs. However, many of these sites require some level of public investment to achieve this viability. Federal and state resources will not be sufficient to address all the prospective site cleanup and reuse possibilities identified by jurisdictions across the country; the large number of applicants for the handful of EPA brownfield pilot sites designated to date is testimony to that. Existing local programs can meet some of this need, but clearly can not meet all financing gaps in many areas. Therefore, communities must consider establishing new brownfield incentive programs of their own. These could help with site characterization and cleanup costs, or development costs, or both types of activities.

Competing public needs and objectives, as well as limits to public resources, are facts of life in every community; recognizing this, local officials could consider two approaches to promoting brownfield finance. First, they should identify and set-aside public sources that can be mostly self-sustaining, stable over time, and relatively isolated from changing political tides. Given the inherent limits of public funding, some type of cost recovery is essential to the sustainability of local public financing of brownfield projects. Against this backdrop, local programs can -- as they evolve and become more established -- enhance their own flexibility by offering forgivable loans, recoverable grants, lengthy repayment terms, recovery upon property transfer, and similar conditions.

Second, public resources should be marshalled in the context of an explicit, strategic brownfields approach. Generally, local officials should give sites with greater development potential priority as they reach decisions on financial assistance. In many cities and towns, this may mean supporting several smaller sites in a declining area rather than the one big abandoned plant that has come to signify

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

“brownfields” to the community. Momentum for brownfield cleanup and reuse -- and justification for public sector involvement in it -- can be created and maintained with visible successes, even at small sites. Moreover, smaller brownfield projects are more manageable and often more significant in terms of real benefits than a single large, more contaminated site.

### **The Challenge to Local Governments: Confronting Environmental and Economic Issues Affecting Site Redevelopment**

Underused or abandoned industrial facilities are a national concern — with local immediacy in many instances. Confronting the environmental and economic issues affecting site reuse requires a deliberate, multi-dimensional approach that often does not neatly fit with the rules and procedures of federal, state, or local economic development or environmental programs. Financing has emerged as a key barrier to brownfield reuse. Site assessment and cleanup requires financial resources that many firms lack and find difficult to secure. And without financing, private reuse projects cannot go forward, even if their proponents want them to. This further undermines efforts to revitalize the distressed areas that are home to so many abandoned, contaminated sites.

Yet in spite of the barriers, brownfield reuse opportunities are real. Scores of diverse projects have been documented, ranging from an old Soo Line railyard in Minneapolis that is being redeveloped as a light industry park, to a metal valve fabricating plant in Bridgeport, Connecticut converted into a minor league baseball park — and which attracted more than 300,000 people during its inaugural year to what had been an abandoned industrial wasteland adjoining downtown. These projects have been carried out in a way that makes economic sense, and that builds

## **Financing Brownfield Reuse Projects: Emerging Local Tools – and Why They Are Needed**

on the competitive advantage that specific sites boast. Such success stories suggest that liabilities can be worked out, that financing can be secured, and that cleanup can be accomplished -- in short, that brownfield redevelopment can be achieved.

The challenge that local governments face now is to provide the tools that make the economics of redevelopment projects work. At the same time, it is important to emphasize that incentives can make a site economically viable, but that the public sector alone can not carry the brownfield reuse load. Redevelopment on a wider scale can only be achieved if public policies and programs foster a climate that invites private investment in these projects.



# **US GERMAN BILATERAL WORKING GROUP**

## **ECONOMIC TOOLS FOR SUSTAINABLE BROWNFIELDS REDEVELOPMENT**

### **PORTLAND, OREGON MODEL SITES**

**Douglas C. MacCourt, Esq.  
Ater Wynne LLP**

# **PORTLAND, OREGON MODEL SITES**

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- **Two Case Studies**
  - North Marine Drive
  - Yards at Union Station
- **Focus on Economics/Project Finance**
- **Illustrate Successful Application of Brownfield Finance Tools to Achieve Sustainable Development**
- **Compare to German Economic Models and Finance Tools**

# Brownfields & Smart Growth

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- **The Willamette River:**
  - **Oregon's oldest, largest industrial, shipping, transportation and commercial center**
  - **Brownfields concentrated along Portland's urban waterfront**
  - **Industrial properties served by major rail, highway, air and deep-water port facilities**

## Planning/Land Use Strategy

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- **Regional land use framework: inside the Urban Growth Boundary**
- **Focus on growth: jobs, infrastructure, access to labor and markets**
- **Private sector investment**
- **Portland Brownfield Initiative**
- **Livable Community Showcase Project**

Bilateral Working Group







# Union Station Yards - Circa 1912

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## Site History

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- **Wetlands and small lake prior to 1890**
- **Filled in with more than 3,000,000 cubic yards of Willamette River dredge spoils**
- **Active passenger rail station and railyard for more than 110 years**





## Recent Site History

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- **1987 - Property purchased by Portland Development Commission**
- **1987 - All railroad tracks within The Yards removed**
- **1987 to 1997 - Restoration of historic Union Station Building**
- **1995 - GSL Properties selected as site developers through a competitive RFP process**





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# Union Station Yards - Circa 1988







# Discovery of Environmental Impairment

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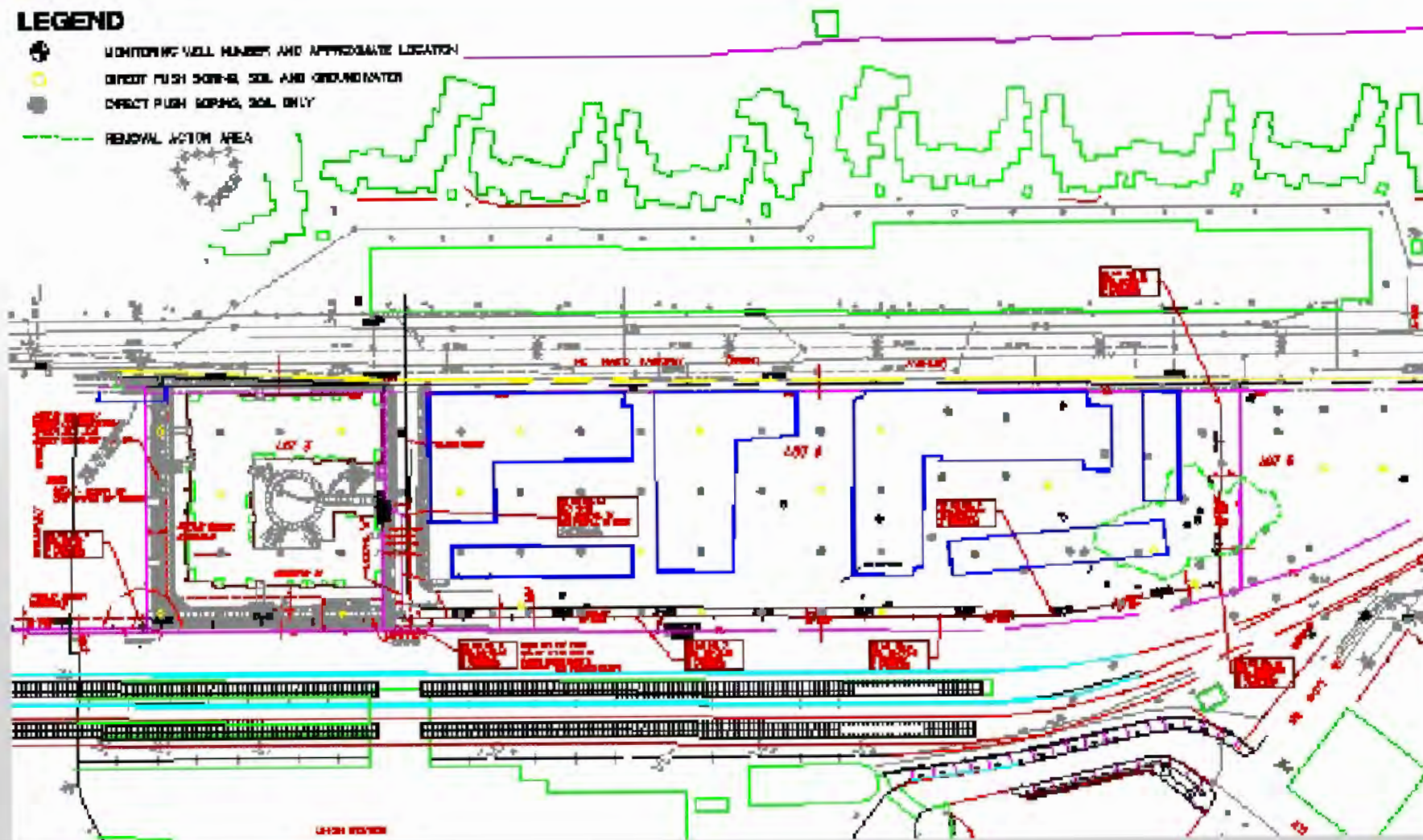
- **During geotechnical exploration, last geotechnical boring encountered petroleum in soil**
- **Discovery of oil led to further assessment, which resulted in discovery of pervasive contamination**
- **Discovery of contamination and PDC's inability to provide indemnification from third-party liability led to withdrawal of GC and lender**



# Exploration Plan

## LEGEND

- MONITORING WELL NUMBER AND APPROXIMATE LOCATION
- DIRECT PUSH SOILING SOIL AND GROUNDWATER
- DIRECT PUSH SOILING SOIL ONLY
- REMOVAL ACTION AREA





# Regulatory Framework

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- Site received priority oversight from State of Oregon Voluntary Cleanup Program
- Remedy stipulated by DEQ within three months of discovery of contamination
- Prospective purchaser agreements were negotiated with DEQ to ease developer and lender concerns regarding environmental liability



# Environmental Impairment

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## Oil in Soil

- **Area Affected -  
5,000 square  
feet of site**
- **Corrective  
Action -  
Approximately  
3,000 cubic  
yards of oil-  
containing soil  
removed**







# Remediation of Petroleum Contamination

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# Environmental Impairment

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## Lead, Arsenic and Fuel Hydrocarbons in Soil

- **Area Affected -**  
Entire 6.1 acre site
- **Corrective Action -**  
Surface capping  
and institutional  
controls







# Surface Capping

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# Construction Issues

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- **Change in building code allowing 5-story wood-frame construction**
- **Safety program negotiated for workers.**
- **Minimized soil transported to landfill.**





# Phase A Housing

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- **Project groundbreaking March 1997. Project completed in March 1998**
- **Consists of 158 units of housing. Half of units reserved for persons earning <50% of median income, and half reserved for persons earning <60% of median income**
- **Phase A Housing currently near 100% occupancy**



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# Phase A Housing

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Bil

## Phase B Housing

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- **Project groundbreaking September 1998.  
Project completed in January 2000**
- **Consists of 321 units of housing. Forty percent of units reserved for persons earning <60% of median income, and the balance of units are market rate**
- **Phase B Housing currently near 100% occupancy**





# Phase B Housing

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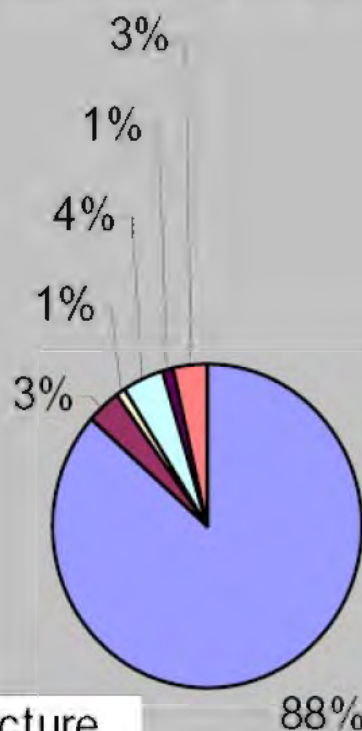




# Relative Project Costs

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The Yards At Union Station



- |  |  |
|--|--|
|  Housing      |  Infrastructure |
|  Public Plaza |  Ped. Bridge    |
|  Env. Assess  |  Env. Clean-Up  |

# Cost-Sharing Arrangements

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- **PDC able to negotiate and execute cost recovery agreement with prior owner. Indemnification for third-party liability also obtained**
- **Out-of-pocket cost to PDC for environmental assessment and remediation was \$300,000 of \$2,650,000**
- **No environmental costs were borne by developer or general contractor**

# Financing

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- Utilizing TIF, PDC provided a \$10 M low-interest loan
- The project received 10-year tax abatement for all site improvements
- PDC funded the public plaza and pedestrian bridge



# Financing Plan

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- **Estimated costs \$36.5 M**
- **Sources of funds**
  - **Bonds: \$22M**
  - **City subordinated loan: \$5.4 M**
  - **Borrower capital: \$1M**
  - **Tax Credit Equity loan: \$4.4 M**
  - **Deferred development fee: \$2M**
  - **Net operating income: \$822,000**



# Primary Uses of Funds

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- **Construction/rehabilitation: \$26.2 M**
- **Architecture & engineering: \$1.5 M**
- **Costs of issuing bonds: \$ 1.275M**
- **Other financing costs: \$ 870,000**
- **Reserves: \$250,000**
- **Construction contingency: \$1M**
- **Government fees: \$750,000**
- **Developer fee: \$2M**
- **Interest reserve: \$2.4M**

# Principal Public Benefits

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- **Low Income Housing** - project provides nearly 300 units of low-income housing
- **Access to Jobs** - the project is located within 3 blocks of the City's bus mall, and within 6 blocks of downtown
- **Regional Planning Goals** - provides 10% of planned housing units within the River District Urban Renewal Area



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# Pedestrian Access to Transportation and Downtown

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# Principal Public Benefits

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- **Low Income Housing** - project provides nearly 300 units of low-income housing
- **Access to Jobs** - the project is located within 3 blocks of the City's bus mall, and within 6 blocks of downtown (the business hub of the City)
- **Regional Planning Goals** - provides 10% of planned housing units within the River District Urban Renewal Area





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# River District Today

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Bilateral V

# Principal Project Team

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- **Bond Financing:**
  - Ann Sherman, Esq., Ater Wynne LLP
  - [als@aterwynne.com](mailto:als@aterwynne.com)
  - (503) 226-1191
- **Technical Consulting:**
  - AMEC, Inc.
  - Contact: Leonard C. Farr, Jr.
  - 503-639-3400
  - email: [leonard.farr@amec.com](mailto:leonard.farr@amec.com)

## **Additional Project Team Members**

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- **GSL Properties, Inc.**  
**2164 SW Park Place**  
**Portland, Oregon 97205**  
**503-224-2554**
- **Housing Authority of Portland**  
**135 SW Ash Street**  
**Portland, Oregon 97204**  
**503-802-8512**
- **Walsh Construction Co.**  
**3015 SW First Avenue**  
**Portland, Oregon 97201**  
**503-222-4375**

# North Marine Drive- Oregon

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## Project Summary

- **Category: C**
- **Size: 3000 Acres**
- **Former Use: Chemical Plant, Industrial Junkyard**
- **Intended Use: Industrial, Transportation, Open Space, Habitat**
- **Driver: Private**
- **Funding: Mix of federal, state, and local government funding**
- **Status: Federal, State and Local Transportation**





Bilateral Working Group





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# North Marine Drive- Oregon

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# North Marine Drive- Oregon

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# North Marine Drive- Oregon

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## Environmental Concerns and Technologies

- **Pre-Development Conditions:**
  - 9 of 17 parcels needed for expansion were contaminated; three seriously polluted
  - Chemical Plant: organic pesticides in soil and groundwater; land banned chemicals
  - Oil blending plant: petroleum
  - Junkyard: PCB's
- Cleanup costs from primary project funding agent (federal transportation agency) were "Non-Participating"
- Project required sophisticated risk assessment based on pore water migration model analyzing impact of load on fate and transport of contamination in groundwater

# North Marine Drive- Oregon

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## Social Issues and Solutions

- **NEPA Environmental Impact Statement (EIS) Process identified publicly supported alignment through brownfields**
- **State's largest freshwater wetland and heron rookery, home to bald eagles, rare turtles and endangered salmon**
- **Build on NEPA EIS and support from residents and landowners**
- **Adjacent property owners involved in process from beginning, including sharing environmental information**



# North Marine Drive- Oregon

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## Economic Barriers and Solutions

- Access to 2800-acre Rivergate Industrial Sanctuary impeded by two-lane road
- Brownfields along truck route discouraged investment
- Project stimulated private investment through transportation access
- Innovative road design, construction & long term controls to limit risks from contaminants
- Project changed US DOT policy on cost participation for contaminated projects

# North Marine Drive- Oregon

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## Critical Success Factors

- **Coordination among local, state and federal agencies**
- **Close cooperation with private landowners**
- **Risk-based cleanup key to changing federal funding policy**
- **Long-term planning preserves industrial sanctuary, primary driver of brownfield development project**



# Costs

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- **\$25 Million for roadway**
  - **\$14.6 Million FHWA**
  - **\$5.4 Million Oregon Dept. of Transportation**
  - **\$2.6 Million Port of Portland**
  - **\$2.6 Million City of Portland**
- **Environmental Costs:**
  - **Potential: \$10-12 Million**
  - **Actual: \$300,000**

# Uses of Funds

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- **Railroad bridge: \$ 5 M**
  - \$1.5 M for Railroad Union
  - Union actually saved costs
- **Rail crossing: \$1.5 M**
- **Bank stabilization: \$1 M**
- **Right-of-way purchase: \$2 M**
- **Road construction: \$12 M**
- **Environmental: Approximately \$350,000**

# Impact of Project on Land Values

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- Three years after the project, \$316 M in private investment
- Land appreciation:
  - 1990: \$75,000/acre
  - 1993: \$86,500/acre
  - 1994: \$92,500/acre
  - 1995: \$125,000/acre
  - 1996: \$141,570/acre

# Land Appreciation Following Project

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- **1997: \$206,910**
- **1998: \$185,130**
- **Due to land scarcity in Rivergate, Port adopts policy of only leasing remaining land**
  - **2000: no sales**
  - **2001: \$206,910**
  - **2002: \$206,910**



# Project Impact to Land Sales & Leases

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- **Rivergate sales**
  - 1963-1993: 508 acres, 17 acres/year
  - 1993-1996: 172 acres, 43 acres/year
- **Sales and Leases**
  - 1963-1993: 766 acres, 25 acres/year
  - 1993-1996: 237 acres, 60 acres/year
  - 1997-2002: 195.3 acres, 43.4 acres/year

# **Abstract for Portland Case Study Presentation**

## **by Douglas C. MacCourt**

### ***Portland, Oregon Case Studies:***

Two successful case studies from Portland, Oregon will be presented, including North Marine Drive and the Yards at Union Station. These case studies represent similar remedial action strategies in significantly different settings for industrial and residential uses. North Marine Drive is one of Portland's first brownfield success stories and a case study which helped influence US Dept. of Transportation policy for participating in brownfield expenses on federal transportation projects. North Marine Drive illustrates creative financial partnerships among federal, state, regional and local governments to promote private-sector industrial development within and along Portland's Rivergate industrial sanctuary. The project also demonstrates the benefits of good planning and strategic public involvement from environmental regulatory agencies, landowners and the affected public. Habitat preservation and protection of sensitive adjacent freshwater fisheries was accomplished through public involvement and careful siting conducted largely through the Environmental Impact Statement (EIS) process. Finally, innovative investigation and remediation techniques were combined to minimize remedial action costs and ultimately keep the project within budget and on schedule.

The Yards at Union Station, a 2000 Phoenix award winning project, illustrates how Portland is meeting its low-income housing needs on contaminated rail yards in the vibrant Pearl and River Districts. When contamination was discovered on site, it caused contractors and lenders to abandon the project. With the determination of the Portland Development Commission (PDC), assisted by public finance tools developed with the assistance of Ater Wynne LLP's Public Finance Group, PDC rescued the project and built a public-private coalition which obtained regulatory approval in record time and found willing contractors, financial partners and public support. Today the project is almost completely occupied and new additions are underway. The purpose of selecting these two case studies is to highlight successful public finance and transportation funding mechanisms for brownfield redevelopment that can be replicated across the country.

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# **U.S. - GERMAN BILATERAL WORKING GROUP**

## **ECONOMIC TOOLS FOR SUSTAINABLE BROWNFIELD REDEVELOPMENT**

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# **“PUBLIC FINANCING OF BROWNFIELD REDEVELOPMENT PROJECTS”**

*Presented by*

**Ann L. Sherman, Esq.  
Partner, Ater Wynne LLP**



# I. INTRODUCTION

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A. What is a bond?

B. Why is this type of obligation used?

## II. OVERVIEW OF PUBLIC FINANCE TOOLS

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### A. Tax Exempt Bonds

#### 1. Tax Exemption

a. Governmental Purpose

b. 501(c)(3)

c. Private Activity

- i. Exempt facilities (airports, docks and wharves, mass commuting facilities, facilities for furnishing water, sewage disposal facilities, solid waste disposal

## II. OVERVIEW OF PUBLIC FINANCE TOOLS

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### A. Tax Exempt Bonds, Continued

facilities, facilities for local furnishing of electric energy or gas, local district heating or cooling facilities, qualified hazardous waste disposal facilities, high speed intercity rail facilities, environmental enhancements of hydroelectric generating facilities), hazardous waste disposal facilities, high speed intercity rail facilities, environmental enhancements of hydroelectric generating facilities)

## II. OVERVIEW OF PUBLIC FINANCE TOOLS

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### A. Tax Exempt Bonds, Continued

- ii. Small Issuer Manufacturing Facilities
- iii. Multifamily Housing Bonds
- iv. Volume Cap

2. Types of Issuers (Cities, Counties, Special Districts, Conduit Issuers, State Bond Banks, Tribes)



## II. OVERVIEW OF PUBLIC FINANCE TOOLS

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### A. Tax Exempt Bonds, Continued

3. Security and Sources of Repayment for Bonds  
(Property Taxes, Revenues, Limited Tax, TIF, LID's,  
COPs, Credit Enhancement, Rural Development,  
Fannie Mae)

## II. OVERVIEW OF PUBLIC FINANCE TOOLS

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### B. Taxable Bonds

1. Taxable Tails
2. State Tax Exemption
3. Tax Credits
  - a. Low Income Housing Tax Credits
  - b. New Markets Tax Credits
  - c. Other Federal and State Subsidies

## II. OVERVIEW OF PUBLIC FINANCE TOOLS

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- C. Types of Projects (open spaces, parks, housing owned by governmental units, (501(c)(3) or private entities, golf courses, assisted living, hospitals, convention centers, libraries, mixed use)
- D. Tax Credits in conjunction with Tax Exempt or Taxable Bonds

### III. MARKET DISCLOSURE ISSUES

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- A. Public offerings of municipal debt
- B. SEC 15c2-12 continuing disclosure requirements and Rule 10(b)5 antifraud rules



## IV. SPECIFIC BOND FINANCED EXAMPLES

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- A. City of Portland, Yards at Union Station  
(Affordable Housing Project on train station brownfield)
- B. Solid Waste Disposal Revenue Bond
- C. Oregon Garden Project Revenue Bonds
- D. City of Newport Wastewater Project

**Presentation Abstract**  
**Public Financing of Brownfield Redevelopment Projects**

**by Ann L. Sherman, Esq.**  
**Partner, Ater Wynne LLP**

This presentation will cover the basic tools for the public financing of brownfields redevelopment. Particular emphasis will be placed on the use of tax exempt bonds, tax increment financing, local improvement districts and tax credits. Examples of affordable housing projects, golf course development and other public-private partnerships which have utilized the taxable and tax exempt securities market to finance brownfield redevelopment will be discussed.

# Criteria for Gauging the Success of Brownfield's Redevelopment

- ◆ Economic benefits and costs
- ◆ Economic impacts
- ◆ Sustainability

# Economic Benefits and Costs

- ◆ Net benefits = Change in the value of outputs  
- change in the cost of inputs
  - Outputs: more open space, cleaner air, reduced crime
  - Inputs: resource costs to society (labor, 'external' costs)
  
- ◆ Key criterion of success is *efficiency*: can the 'winners' fully compensate the 'losers'?



# Economic Impacts

- ◆ Key criterion of success is *distribution*
- ◆ Who gains, who loses, and by how much?
- ◆ Indicators: jobs creation, changes in output or revenue, financial impacts to state and local governments

# Returning to the calculation of net benefits

Change in the value of outputs

– change in the cost of inputs



jobs creation

The diagram consists of an oval containing the text 'jobs creation'. An arrow originates from the top of this oval and points upwards and to the left, terminating at the text 'change in the cost of inputs' in the list above.

**Presented at the U.S.-German Bilateral Working Group's workshop "Economic Tools for Sustainable Brownfield Redevelopment", November 11 and 12, 2002 in Charlotte, North Carolina**

**Abstract**  
**Criteria for Gauging the Success of Brownfield's Redevelopment**

Assessments of the success of brownfield redevelopment often fall into the trap of conflating measures of *economic impacts* and *social benefits*. Analyses of benefits and economic impacts answer two different questions. A benefits analysis addresses the issue of efficiency, assessing, in effect, whether the winners from a project could compensate the losers and still be at least as well off. An economic impact analysis addresses the issue of distribution, asking the question of who wins, who loses, and by how much. Disentangling efficiency and distributional considerations is important to gaining a comprehensive and accurate assessment of the success of a project and its sustainability. For example, the number of jobs created, oft cited as an indicator of social benefits from a project, would actually show up as a cost in a comprehensive benefit-cost analysis, given that every job created has some opportunity cost.

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**Presentation Abstract**  
**US/German Bilateral Working Group Workshop**  
**November 12, 2002**  
**US Case Study: Trenton, NJ**  
**Leah Yasenchak**

This presentation will cover Trenton's aggressive approach to brownfields redevelopment, from planning and investigation to acquisition, remediation and redevelopment. It will also include a brief discussion on Trenton's partners and funding sources. The presentation will then highlight two particular projects, the Magic Marker site and the Assunpink Creek Greenway; both of which have been selected by the US/German Bilateral Group as projects for case study research.



# TRENTON'S APPROACH TO BROWNFIELDS REDEVELOPMENT



Leah Yasenchak, EPA/City of Trenton

ITRC US/German Bilateral Working Group

November 12, 2002



# Trenton's Industrial Legacy

A photograph of an industrial site, likely a demolition site, viewed through a chain-link fence. In the foreground, a rusty metal pole runs diagonally across the frame. Behind the fence, there is a large, multi-story industrial building with a red brick facade and a white section. To the right, there is a smaller, single-story brick building. The ground is covered in dry, yellowish-brown grass. The sky is blue with some light clouds.

Magic Marker Site prior to demolition:  
An Industrial Wasteland



# **Phases of Brownfield Redevelopment**

- **Planning**
- **Investigation**
- **Acquisition**
- **Remediation**
- **Redevelopment**

# PLANNING

- Master Land Use Plan
  - Neighborhood by neighborhood evaluation of needs of community
- Comprehensive Economic Development Strategy
- Open Space Plan
- Individual Site Plans
- Community Involvement



# INVESTIGATION

- All properties go through the Voluntary Cleanup Program
- HDSRF funds many of the investigations of City-owned properties
- A targeted reuse or high potential for redevelopment is in place prior to initiating an investigation

Roebling Site





# **ACQUISITION**

**Tax Foreclosure**

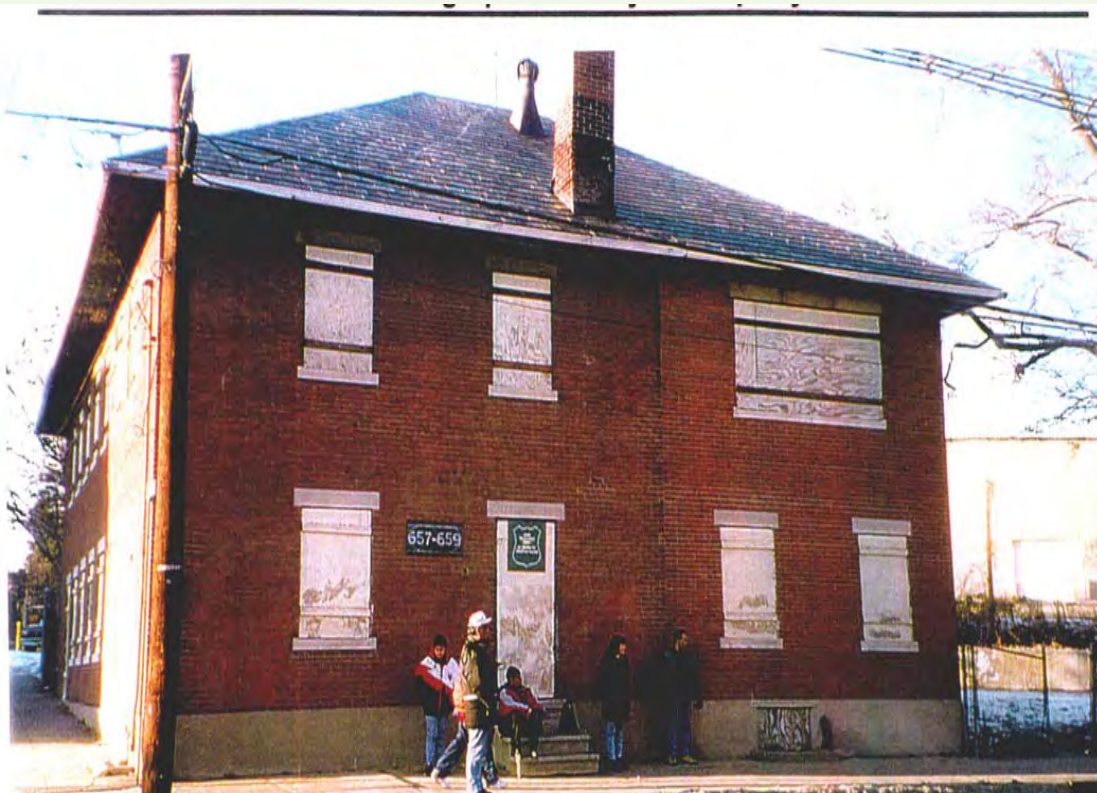
**Purchase**

**Condemnation**

**Assunpink Creek Greenway**



# REMEDIATION



The Old Trenton Water Works

- Escrow acquisition price
- EPA/DEP Removal actions
- USTfields
- NJRA Brownfields Remediation Initiative
- Negotiations with PRP
- Property Trusts
- BCRLF



# REDEVELOPMENT



Crane Site - now the US Route 1 Commerce Center



# **PARTNERSHIPS**

- **COMMUNITY**
- **BEST COMMITTEE**
- **FEDERAL GOVERNMENT**
- **STATE GOVERNMENT**
- **COUNTY GOVERNMENT**
- **REDEVELOPER**
- **INTERNAL PARTNERSHIPS WITHIN THE CITY**

## Case Study: The Magic Marker Site

- Seven acre former battery manufacturer; lead contamination present
- Strong community presence
- Adjacent to a site targeted for a new school
- Site of early phytoremediation field test (results inconclusive)
- City owns property; worked with responsible party to do initial investigation; RP now in bankruptcy (not because of this site!)
- Site targeted for housing and open space
- Site of new New Jersey Area Wide Brownfield Initiative







Magic Marker

REPAIR INDUSTRIES



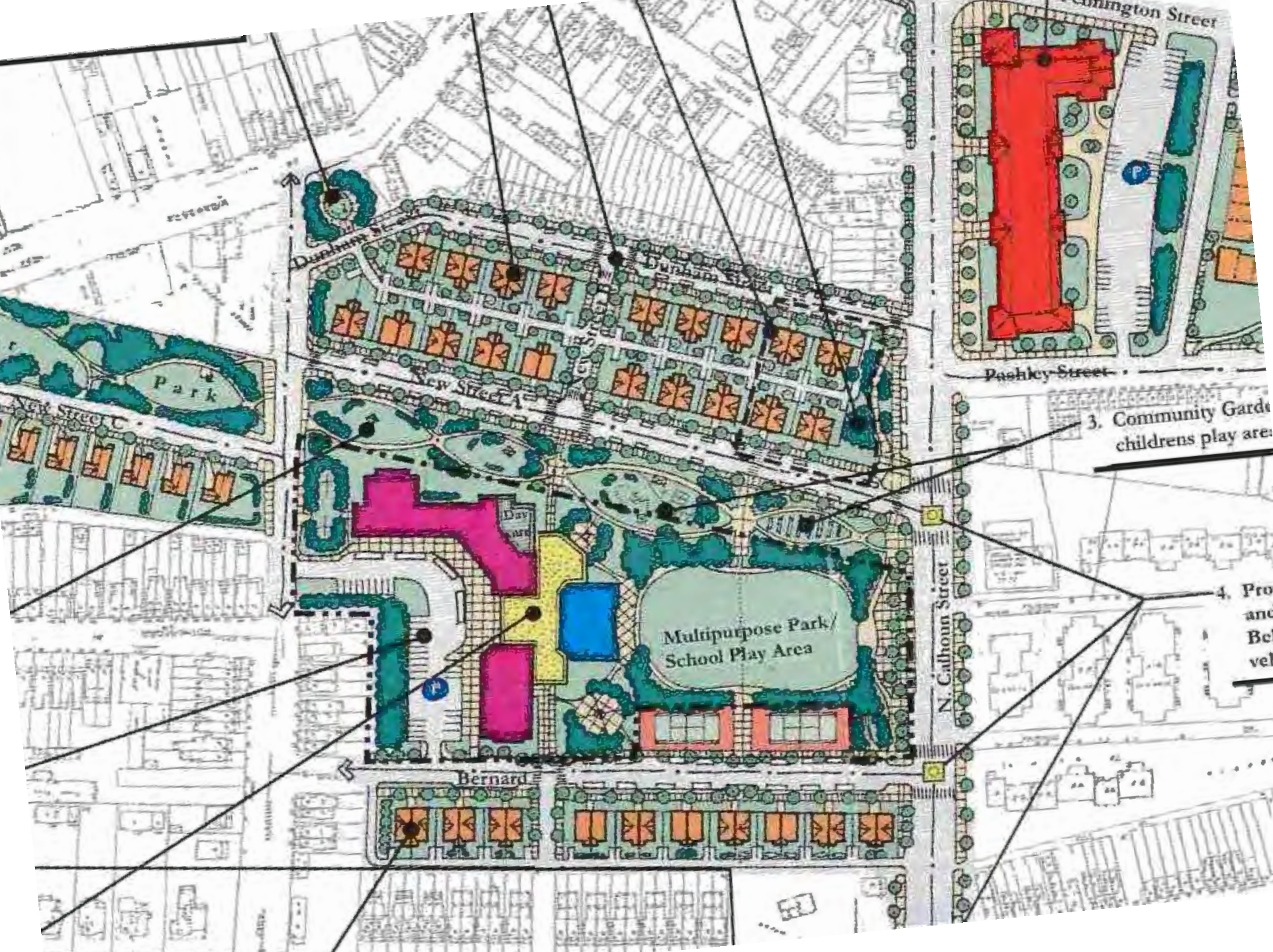














## **Case Study: The Assunpink Creek Greenway**

- 60+ acres of heavy industrial use
- Property consists of multiple brownfield sites contaminated with heavy metals, PAHs, PCBs etc.
- Located along a creek in the floodway
- Reuse vision is a park and greenway along the creek
- City owns a portion of the property; working with a multiple partners to fund the architectural, environmental, and engineering work required
- Employing innovative field technologies, dynamic workplan, and triad approach to the extent feasible.



# Greenway Conceptual Plan













FLOYD  
WAS 8'3"  
HERE



30 A

2011 ELEC WEEK

POSTED  
NO  
TRESPASSING  
KEEP OUT

STREET MAP 2011-2012



30



# TRENTON'S APPROACH TO BROWNFIELDS REDEVELOPMENT



## GLOSSARY OF TERMS

**Brownfields** - Real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant

**Environmental Justice** - The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

**Greenfields** - A piece of usually semi-rural property that is undeveloped except for agricultural use, especially one considered as a site for expanding urban development

**Greenway** - A corridor of undeveloped land, as along a river or between urban centers, that is reserved for recreational use or environmental preservation.

**HVB-Group** – (GERMAN) The second largest private commercial bank group in Germany and the leading real estate financier in Europe.

**Phytoremediation** - The use of plants and trees to remove or neutralize contaminants, as in polluted soil or water

**Smart Growth** - In communities across the nation, there is a growing concern that current development patterns -- dominated by what some call "sprawl" -- are no longer in the long-term interest of our cities, existing suburbs, small towns, rural communities, or wilderness areas. Though supportive of growth, communities are questioning the economic costs of abandoning infrastructure in the city, only to rebuild it further out. Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth. The result is both a new demand and a new opportunity for smart growth.

**USTFields** - Applies to abandoned or underused industrial and commercial properties where reuse is complicated by real or perceived environmental contamination from federally-regulated underground storage tanks (USTs).

**Voluntary Cleanup Program** - More than 35 States now have voluntary cleanup programs (VCPs) under which private parties that voluntarily agree to clean up a contaminated site are offered some protection from future State enforcement action at the site, often in the form of a "no further action" letter or "certificate of completion" from the State. Such State commitments do not affect EPA's authority to respond to actual or threatened releases of hazardous substances under CERCLA.

**X-Urban** - adj. development at a density less than traditional suburban development but in a more structured manner than traditionally viewed as rural, or ad hoc, development

## ACRONYMS AND ABBREVIATIONS

BCRLF	Brownfields Cleanup Revolving Loan Fund	LID	Local Improvement District
COP	Certification of Participation	NJRA	New Jersey Redevelopment Agency
DEP	Department of Environmental Protection	PAH	Poly-aromatic Hydrocarbon
EPA	U.S. Environmental Protection Agency	PCB	Polychlorinated Biphenyl
EU	European Union	PPP	Public-Private Partnership
GA	Federal economic regeneration fund (German)	PRP	Potentially Responsible Party
HDSRF	Hazardous Discharge Site Remediation Fund	RLF	Revolving Loan Fund
LEG NRW (German)	State Development Agency of North-Rhine Westphalia	SEC	Security and Exchange Commission
		TIF	Tax Increment Financing
		US	United States