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Paths to a Green Economy

Creating New Opportunities driven by coal phase-out

Ralf Schüle
Timon Wehnert

通往绿色经济的道路

创造逐步淘汰煤炭带来的新机遇

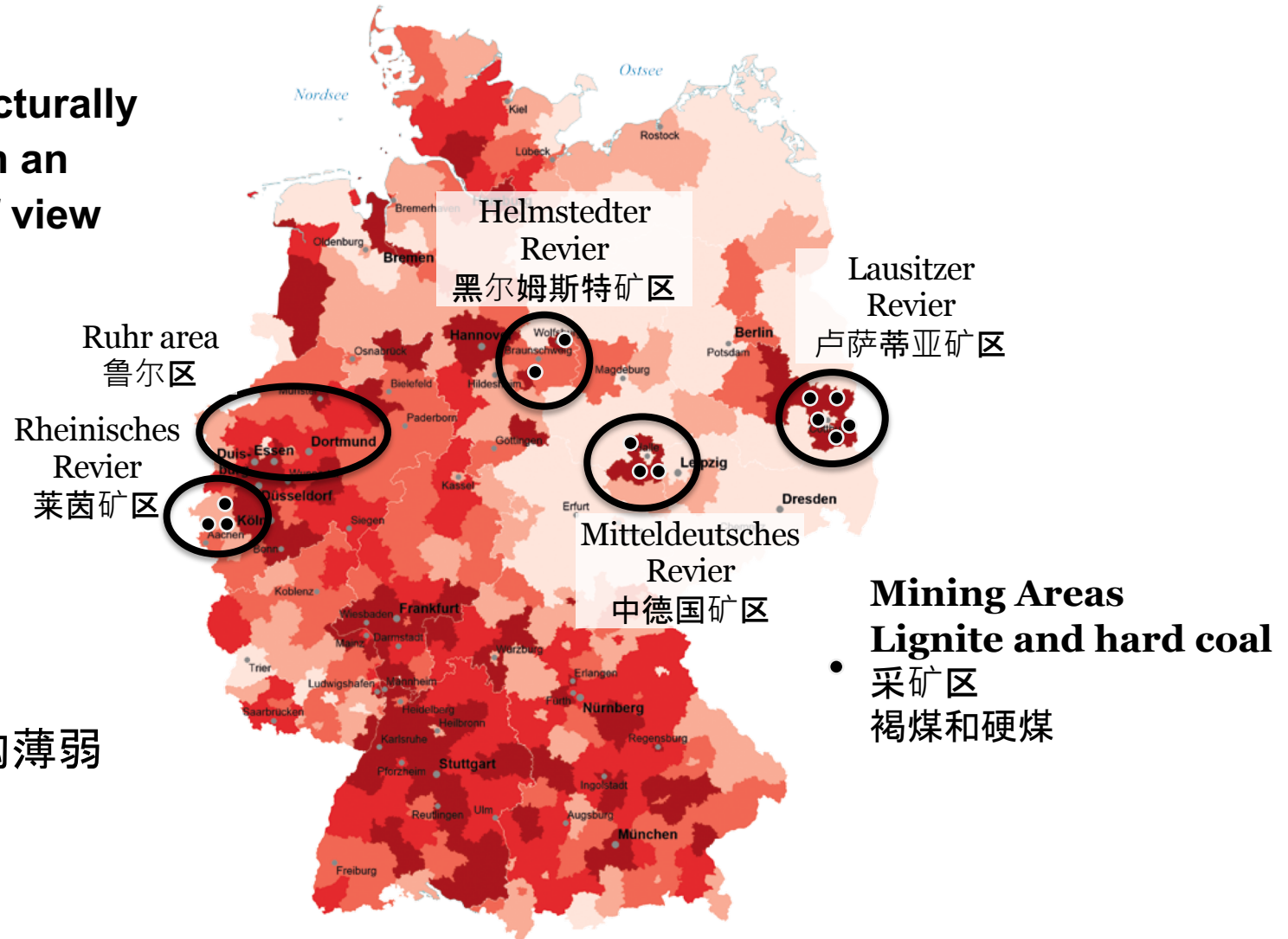


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GDP per capita 人均国内生产总值 and coal mining areas in Germany 和德国的煤矿区

Phase-out of coal:

Lignite mining is
important for structurally
weak regions from an
economic point of view



逐步淘汰煤炭：
从经济角度来看，
褐煤开采对于结构薄弱
的区域非常重要

How to deal with coal regions under transition?

如何处理转型期的煤炭地区？

■ Top down planning vs. bottom up initiating

■ 由上而下规划 VS 由下而上开始

□ “Magic term”: Perspectivic Incrementalism

□ 神奇术语：透视式的渐进

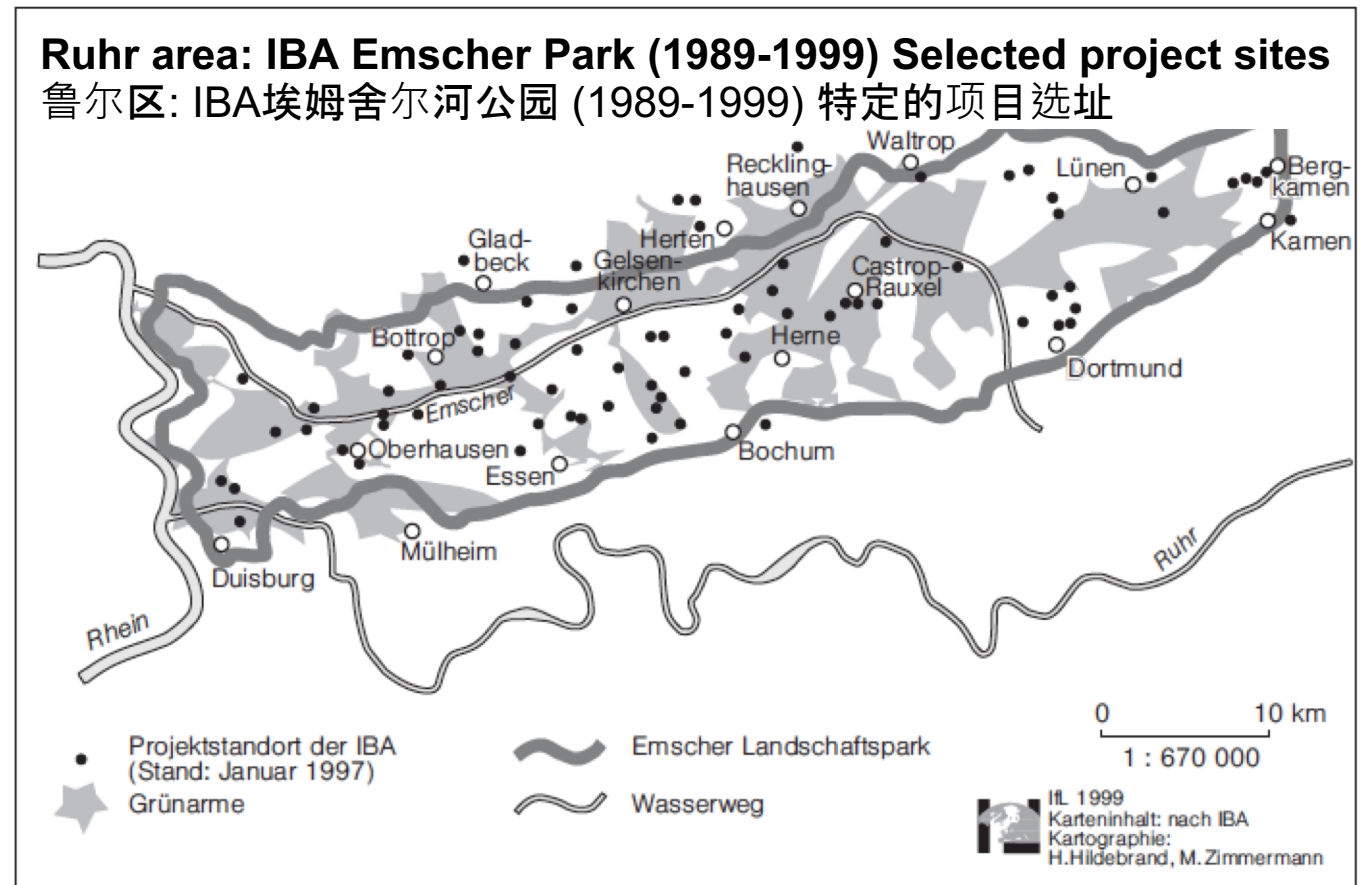


Abb. 6: Gebiet der IBA Emscherpark und ausgewählte Projektstandorte

Quelle: veränderte Skizze nach IBA 1996, S. 20-21

How to deal with coal regions under transition?

如何处理转型期的煤炭地区？

- Some examples 一些例子



How to deal with coal regions under transition?

如何处理转型期的煤炭地区？

Five perspectives of regional innovation paths and regional transition

区域创新路径和区域转型的五个观点

1. Urban Structures
城市结构
2. Economic Structures
经济结构
3. Regional Infrastructures (energy, transport, ICT, water)
区域基础设施（能源，运输，资讯科技，水）
4. Industrial Landscapes
工业景观
5. Image and Identity
形象与身份

Introduction to the Region 地区简介

Economic Structural Change 经济结构变化

Loss of importance of the montane sectors: trend of the number of the montane employees in the Ruhr area 山区行业重要性的丧失：鲁尔区山区行业雇员人数的趋势

Mining 采矿

- 1922: 545.000
- 1957: 473.629
- 1960: 390.000
- 1980: 140.000
- 1994: 77.615
- 1999: 52.730

Steel Industry 钢铁工业

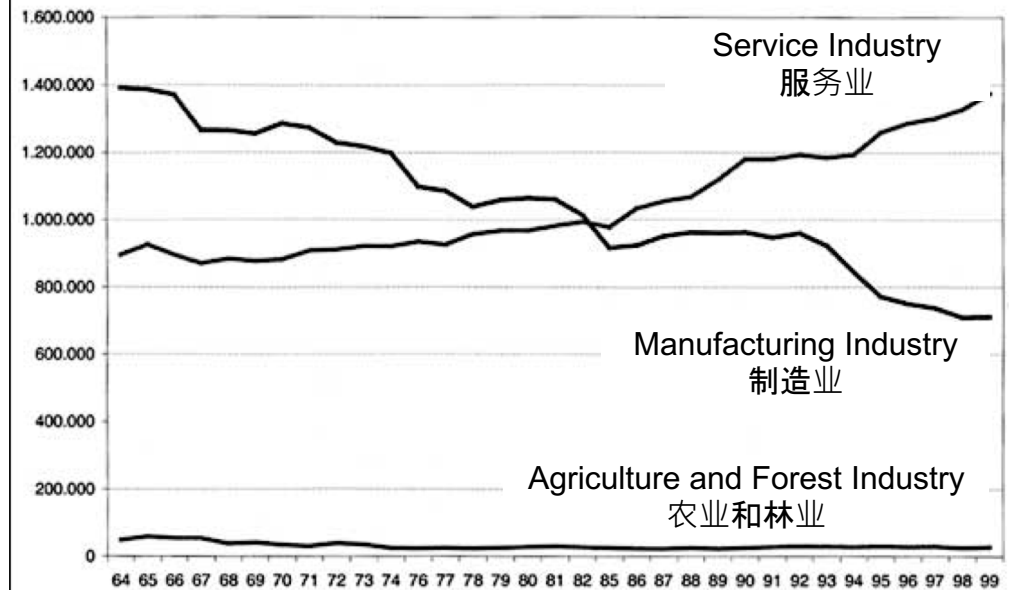
- 1925: 84.000
- 1957: 333.815
- 1960: 263.000
- 1980: 184.000
- 1994: 89.542
- 1999: 53.738

Meßgröße: Statistik des Bergbaus und des Verarbeitenden Gewerbes mit Unternehmen von 20 und mehr Beschäftigten, Datenquelle: KVR-Datenbank

Kommunalverband Ruhrgebiet, Regionale Wirtschaftsförderung, Ruth Kamphorn 1.2001

- From 128 mines in 1960, 7 in operation in 2008
- Termination of state subsidies in 2018
- Loss of population and labor force since 1960, shrinking region

Trend of the number of employees in the Ruhr area by economic sectors 鲁尔区经济行业雇员人数的趋势



Meßgröße: Erwerbstätige werden in 1%iger Stichprobe am Wohnort erfaßt, dazu zählen auch Selbständige, Beamtinnen und Beamte sowie geringfügige Beschäftigte, Daten gibt es nur für das gesamte Ruhrgebiet, nicht für Städte und Kreise, Datenquelle: KVR-Datenbank

Kommunalverband Ruhrgebiet, Regionale Wirtschaftsförderung, Ruth Kamphorn 1.2001

- 从1960年的128个矿井，到2008年只有7个矿井
- 在2018年终止国家补贴
- 自1960年以来人口和劳动力流失，地区萎缩

Innovation Path 1 创新路径1

Structural Change as City Transformation

Example: Gelsenkirchen und Herten

城市转型的结构变化

例子：盖尔森基兴和黑尔滕



Future of a Garden City:

Energetic urban restoration of residential areas

田园城市的未来：住宅区活力城市的恢复

Conversion as Experiment:

High quality living on an old mining area

转变实验：在旧矿区的高品质生活

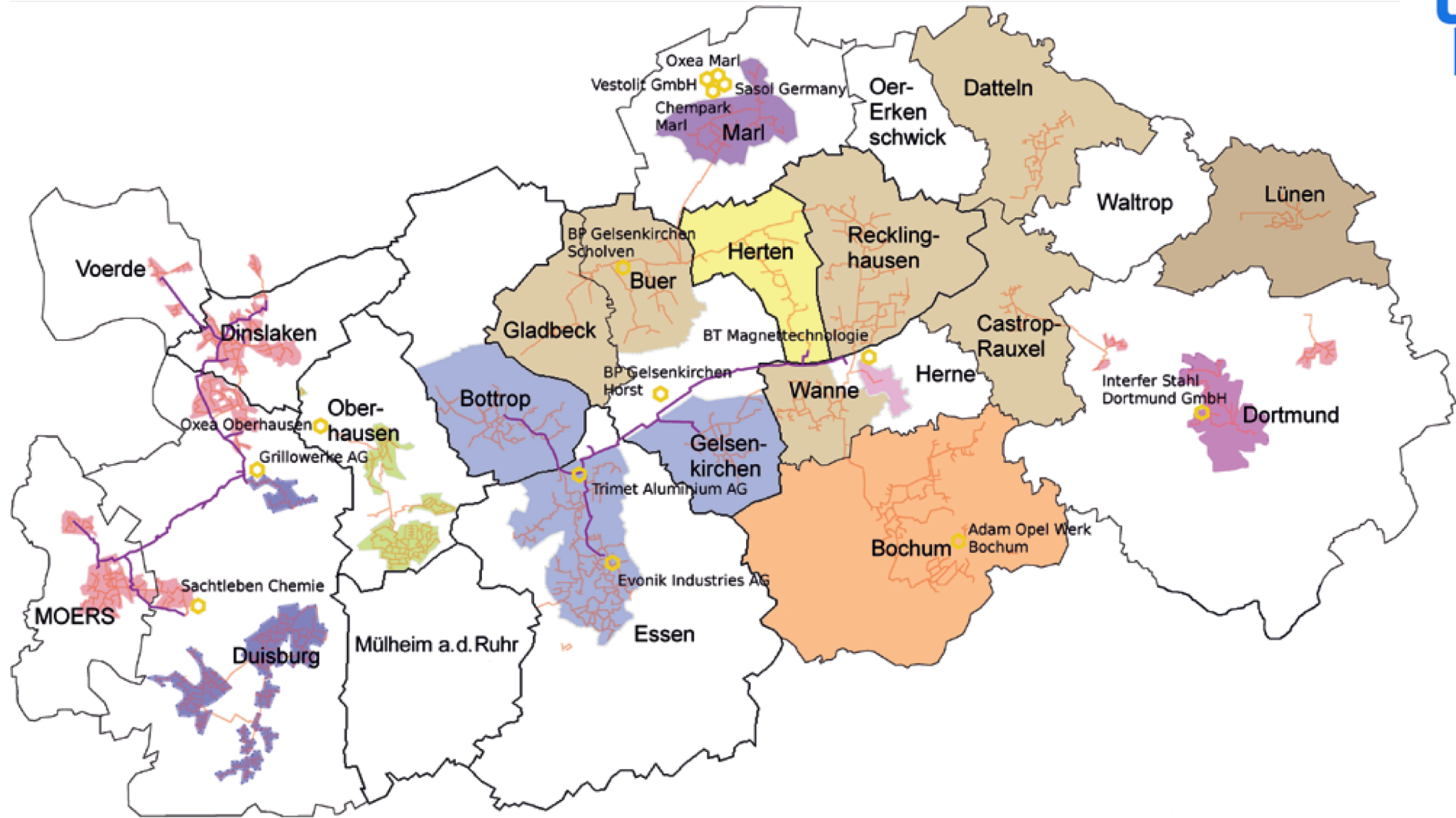


Spacial and touristic development :

Avenue of Change

空间和旅游的发展：变化路径



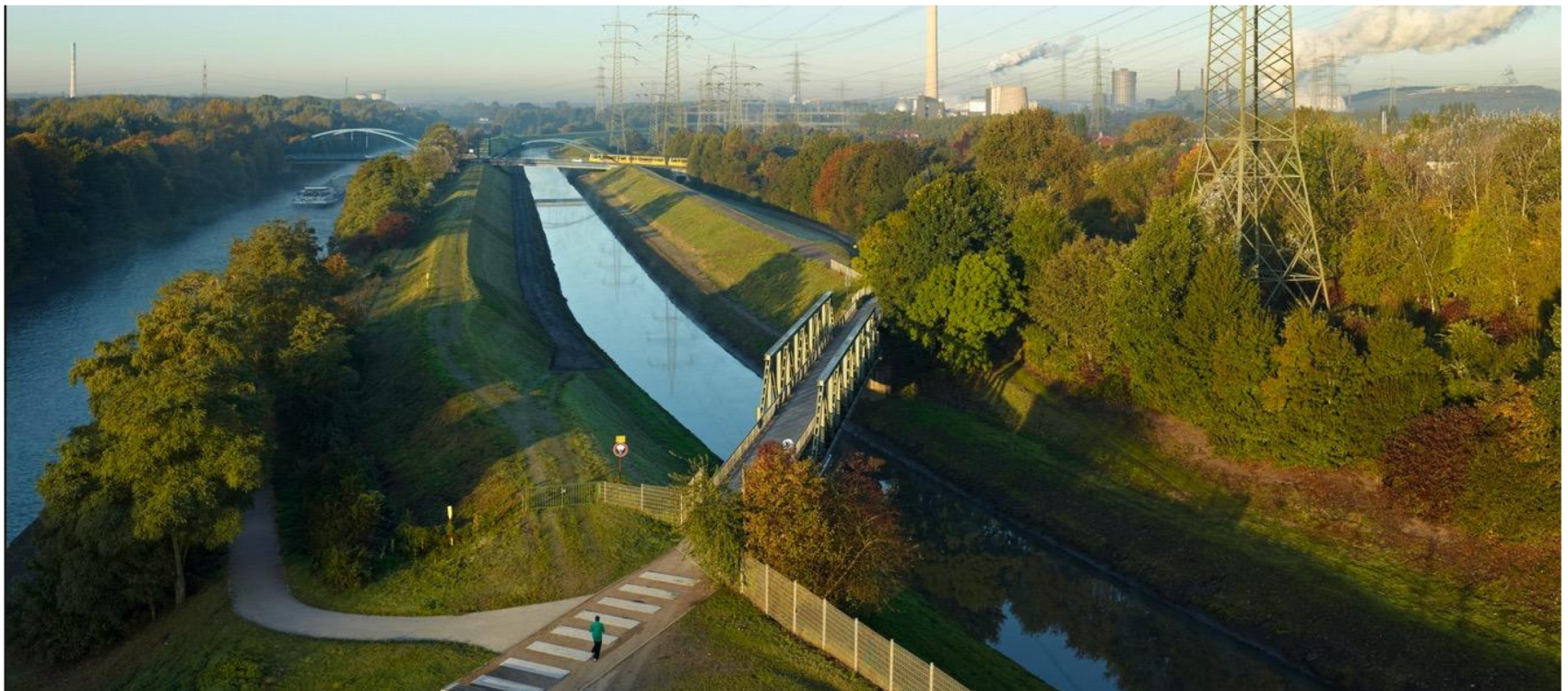


Innovation Path 4 创新路径4

Improving the Industrial Landscape

改善工业景观

- Connection of industrial culture, nature and leisure
- 工业文化，自然和休闲的联系
- New usage of industrial buildings as leisure facilities
- 工业建筑作为休闲设施的新用途
- Preservation of cultural heritage, creation of new creative spaces
- 保护文化遗产，创造新的创意空间



Innovation Path 5 创新路径5

From Ruhr Area to the Metropolis Ruhr

从鲁尔区到鲁尔大都会

Image change: from coal to culture, from furnace to high-tech

形象变化：

从煤炭到文化，从熔炉到高科技

Prospects:

green and blue metropolitan area

前景：

绿色和蓝色的大都市区



Strengths

- High-quality **educational and research landscapes** and **spectacular cultural buildings** and cultural events
- **Industrial culture**: the waste dumps have been greened and aesthetically upgraded, coal mines and industrial sites have been transformed into museums and leisure facilities, the mine as a World Heritage Site
- High quality **residential and leisure facilities** on the water
- Cross-city and mostly **international and global oriented development strategies in business, culture and regional development**

优势

- 高品质的教育和研究前景，以及壮观的文化建筑和文化活动
- 工业文化：已经绿化和美观地升级的垃圾场，已经转变为博物馆和休闲设施的煤矿和工业场地，成为世界遗产的矿坑
- 水上的高品质住宅和休闲设施
- 商业，文化和区域发展中跨城市和主要是国际和全球导向的发展战略

Weaknesses

- Heavily **indebted cities** with low transition dynamics
- **Plants shutdown** and locally ongoing high unemployment, especially in the Emscher zone
- Increase in **inner regional disparities** (North-South difference)
- **Limited temporal external financing** of strategic projects
- **Different interests**, different priorities of the economy, civil society and politics in the future planning

弱点

- 拥有较低过渡动态，负债累累的城市
- 工厂停工和当地持续的高失业率，特别是在埃姆舍尔地区
- 内陆地区差异的增加（南北差异）
- 战略项目外部的短暂有限资金
- 经济，社会和政治在未来规划的不同利益和不同优先事项

Discussion 讨论

Your Questions are very welcome!

非常欢迎您的提问！

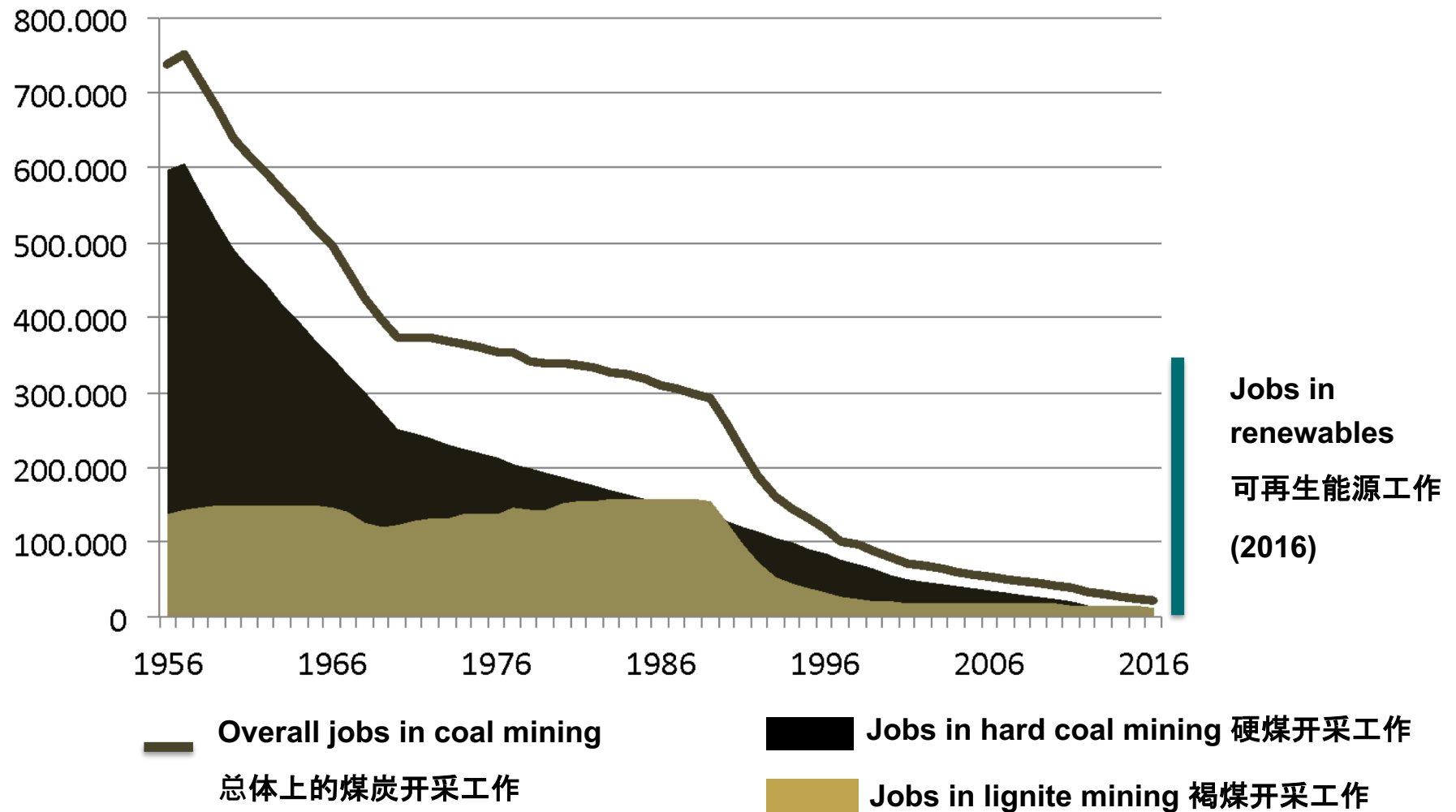


Thank you for your Attention!
感谢您的关注！

ralf.schuele@wupperinst.org
timon.wehnert@wupperinst.org

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<https://epub.wupperinst.org/frontdoor/index/index/docId/6707>

Jobs in the coal sector over the time in Germany 在德国不同时间的煤炭行业工作



Coal mining jobs decreased from over 750,000 to less than 21,000 in 2016.

This was driven by purely economic reasons.

2016年煤炭开采工作从超过750,000减少到不足21,000。这纯粹是出于经济原因。

Source: own calculations based on Statistik der Kohlenwirtschaft e.V. (2016a, 2016b, 2017)

Innovation Path 4 创新路径4

Improving industrial landscape:

Site Conversion in Dortmund

改善工业景观：多特蒙德的工地转变



- Soil removal, artificial lake, „Phoenix-Lake“
- 清除土壤，人工湖 – “凤凰湖”
- Living and working at the waterfront
- 在海滨的生活和工作
- Functional mix, passive house standard
- 组合功能，被动式节能屋的标准



Source: Blossey 2011



Innovation Path 1 创新路径1

Structural Change as City Transformation

城市转型的结构变化

The Ruhr Metropolitan Region is positioning worldwide as competence region for socially acceptable and culturally engaged metropolitan transformation.

鲁尔大都会区在全球被定位为社会接受和文化参与的大都市转型。



- **Region: IBA Emscher Park** (1989-1999)
地区：IBA埃姆舍尔河公园
- **Essen: European Capital of Cultural** (2010)
埃森：欧洲文化之都
- **Essen: European Green Capital** (2017)
埃森：欧洲绿色之都
- **Region: Green Decade** (2017-2027)
地区：绿色十年
 - **2018 phasing out of coal mining** 逐步淘汰煤矿
 - **2020 finishing of Emscher reconstruction** 完成埃姆舍尔区的重建
 - **2022 KlimaExpo.NRW and klimametropole RUHR 2022**
北威州气候博览会和鲁尔大都市气候博览会
 - **2027 International Garden Exhibition** 国际田园展览