

# 中欧产煤区能源转型国际对比研究

A just transition for coal regions: insights from Shanxi and Europe

聚焦公正转型指数、就业及经济多元化

Just Energy Transition Index, employment and economic diversification

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2024年12月13日 | December 13, 2024

Photo credit: Yue Su | Unsplash



# 我们研究的研究对象 Which regions did we study?

## 中国 China

### 山西 Shanxi

1.04 bt (2024.10)

1个煤炭就业 job in coal mining –  
3.62个间接就业 jobs in other sectors

直接就业 Direct employees: 926,000

采矿行业贡献 Contribution of mining to GDP: 32%

## 德国 Germany

### 北威州 NRW

褐煤 Lignite : 47%

失业率 Unemployment rate:  
7.6% (2024.7)

### 卢萨提亚 Lusatia

41%

人均GDP低于欧盟平均  
GDP/capita below EU average

## 波兰 Poland

### 贝尔哈托夫 Bełchatów

褐煤 Lignite : 42 mt

欧洲最大煤电发电厂 Largest  
coal power plant in Europe:  
13.3%

### 上西里西亚 Upper Silesia

硬煤 Hard coal: 86.5%

煤炭发电占比 Share of coal  
in power generation: 93%

## 英国 The UK

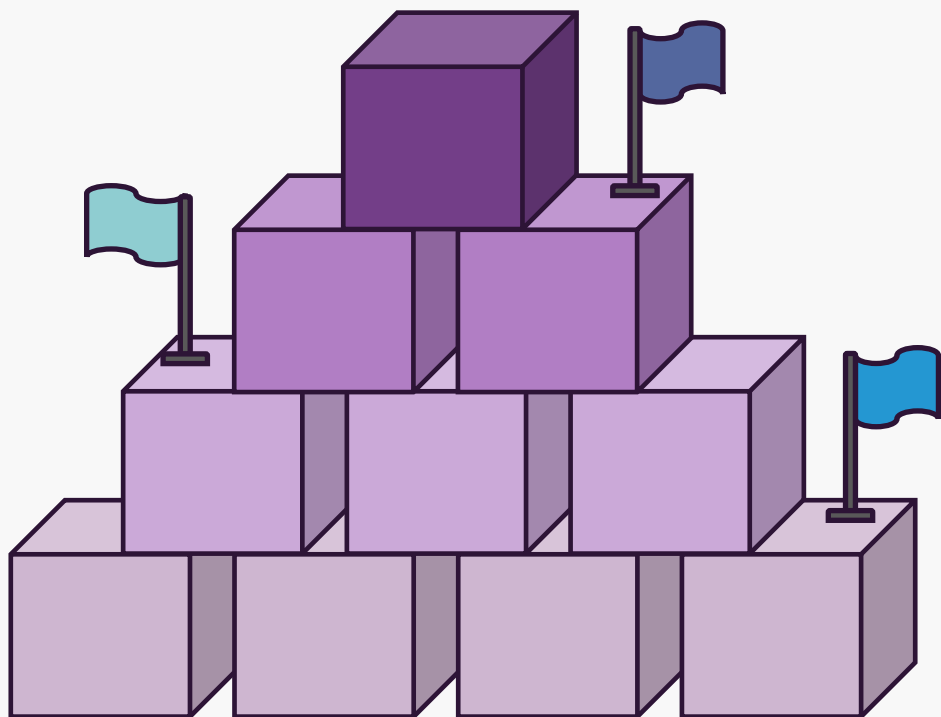
### 南威尔士 South Wales

最后一座煤矿关闭 Last coal mine closed: 2023.11.30

天然气发电占比 Share of gas in power generation: 69%

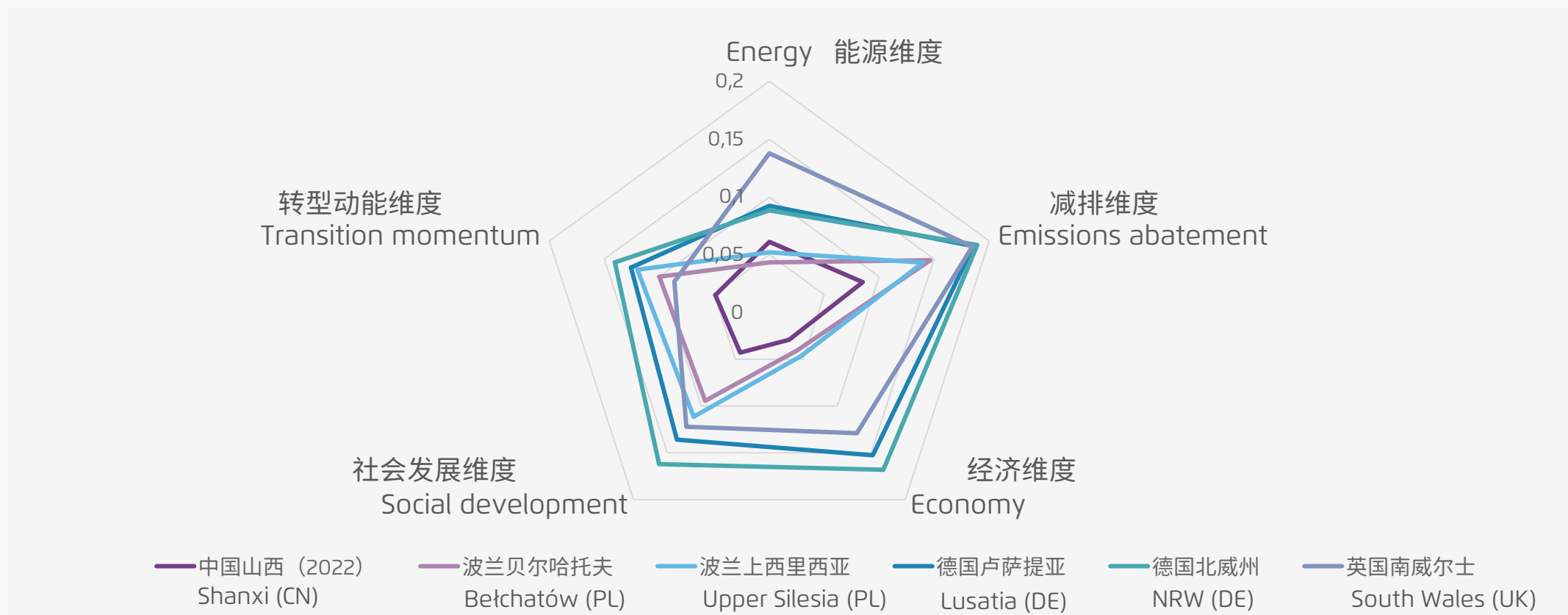


# 研究他们做什么？ What did we do with them?



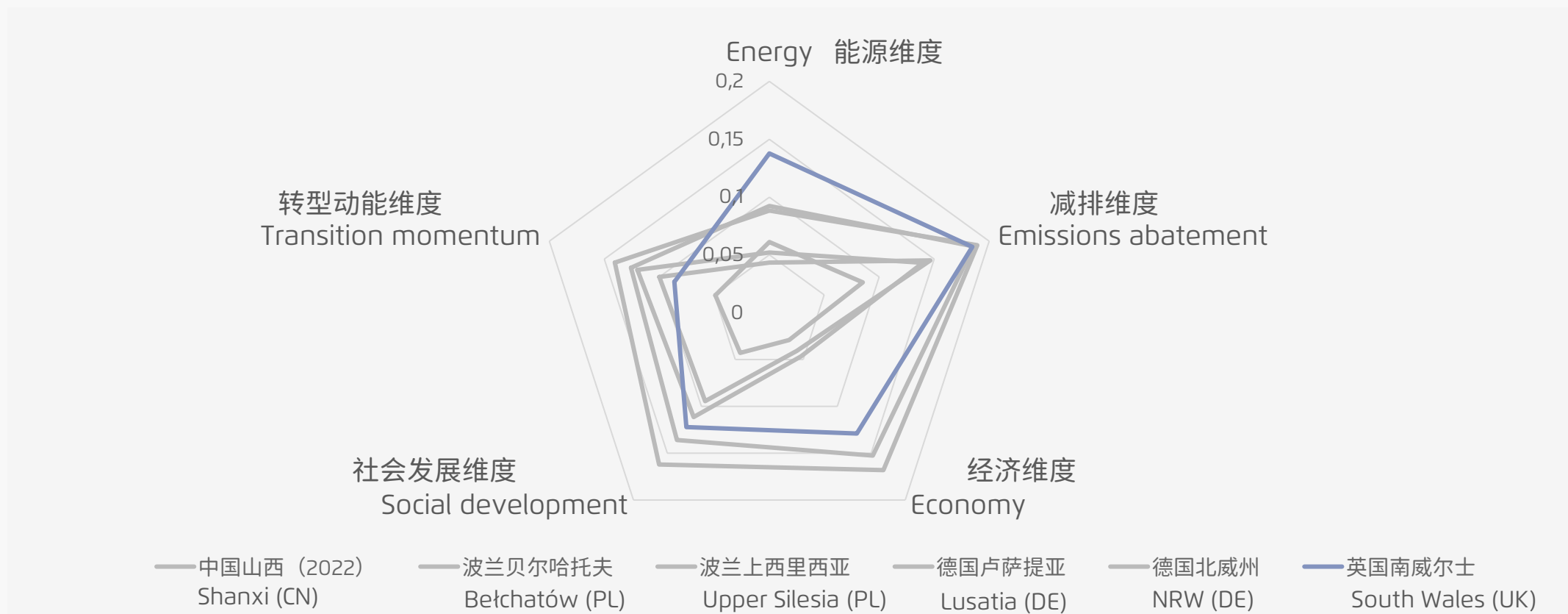
- **定位**转型阶段 **Defining** the transformation phase
- 明确不同维度的**优势**和**劣势** Evaluating **strengths** and **weaknesses** across various dimensions
- 汲取处于转型后期的地区的**经验**和**教训** Learning from the **experiences** and **lessons** from the regions in more advanced stages of transition
- **转型阶段相似的地区**，可探索对共同挑战的解决方案 For regions at **similar stages of transition**, we could address shared challenges and explore solutions

# 公正能源转型指数 The JETI



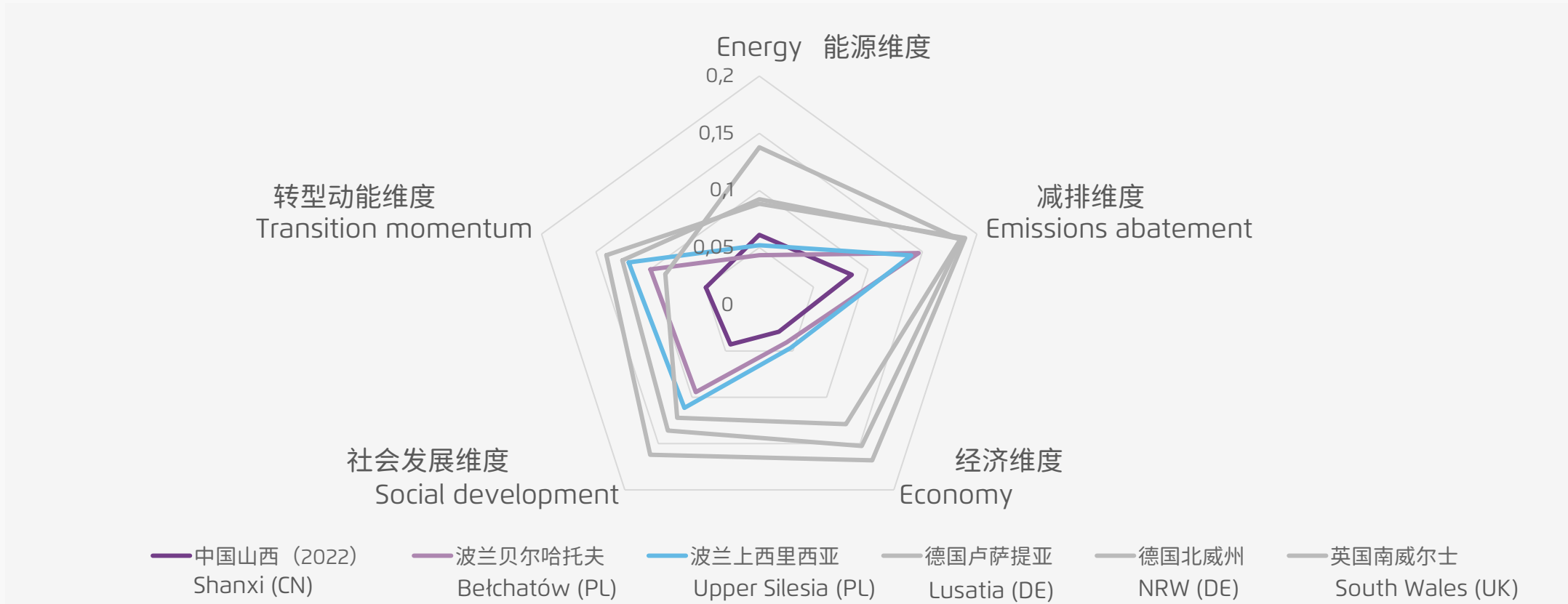
## 煤炭在能源结构中占比最少的地区，并不一定是公正能源转型得分最高的地区

The region with the lowest share of coal in their energy mix does not necessarily achieve the highest scores



## 山西和波兰的案例地区，最短板出现在经济和社会发展维度

In Shanxi and Poland, the most pressing challenges lie in the dimensions of economic and social development.



# 就业问题-山西vs大波兰东部地区

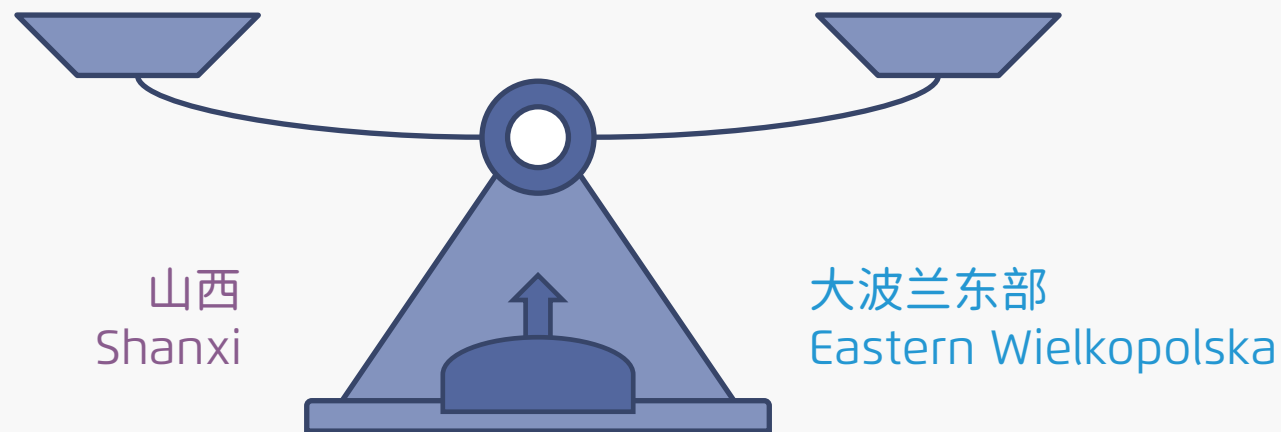
## Employment issue: Shanxi v.s. Eastern Wielkopolska

案例 case A: 国企 SOE

案例 case C: 煤电企业 Coal power company

案例 case B: 民企 Private company

案例 case D: 煤矿开采企业 Coal mining company



# 就业问题-山西vs大波兰东部地区

## Employment issue: Shanxi v.s. Eastern Wielkopolska

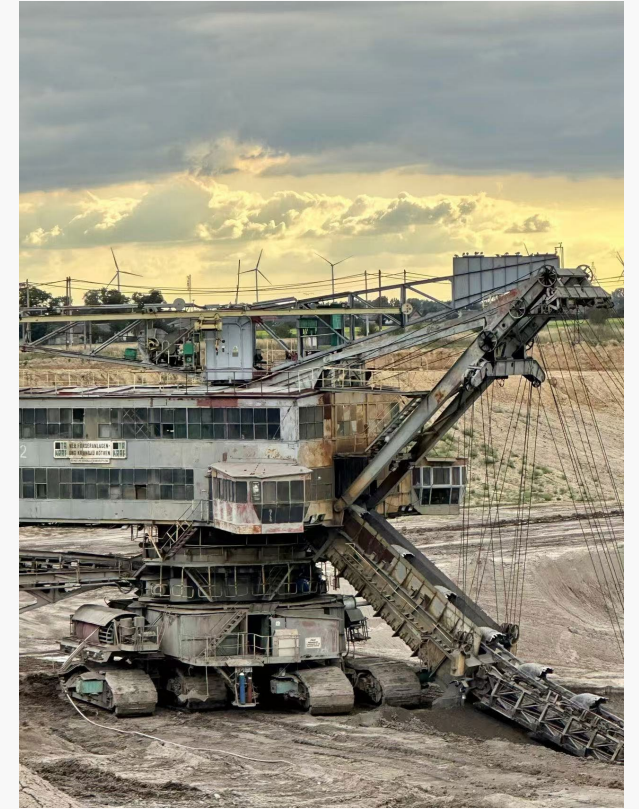
Agora团队与山西代表团在ZE PAK公司考察  
Agora and Shanxi delegation visited ZE PAK



站在退役的巨大挖煤机前面的我  
Me and the giant retired mining machine



停产的煤炭矿坑等待改造成人工湖  
A decommissioned coal mine to be turned into an artificial lake





# 经济多元化-山西省vs罗兹省

## Economic diversification: Shanxi V.S. Lodzkie



# 引导煤炭资本投向非煤、非能源产业

Transitioning coal capital to non-coal, non-energy industries



# 主要结论 Key findings

山西太原 晋祠 Jin Temple, Taiyuan, Shanxi



- ✓ 不论是德国还是英国，能源转型和公正转型政策的发生时间并不完全一致。但是对山西和波兰来说，需要**同时发生**。

The transition away from coal and just transition policies have not happened simultaneously at the very beginning in Germany and the UK. However, for regions like Shanxi and Poland, it is essential that the just transition policies **secure the whole process of transition**.

- ✓ 建议全国双碳工作领导小组将**人力资源和社会保障部**，以及更广泛的公共、社会以及私营领域的利益相关方纳入其中。

It is recommended that the National Dual Carbon Working Leadership Group also involve **the Ministry of Human Resources and Social Security**, along with a broader range of public, social, and private sector stakeholders.

- ✓ 利用好**龙头煤炭企业**的社会经济资源，引导本地龙头煤炭企业作为地方碳达峰、碳中和的先行者。

Leveraging the socio-economic resources of **leading coal companies**, support the companies to take the lead in achieving carbon peaking and carbon neutrality.

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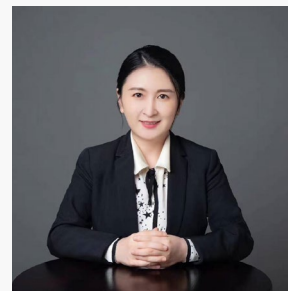
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Thank you for  
your attention!

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如有问题或建议，欢迎联系：

Do you have any questions or comments?

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