

“One Belt One Road” Ecological and Environmental Protection Research: Current Situation and Conceptual Model



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OBOR Environmental and Ecological Protection Research: Key Points

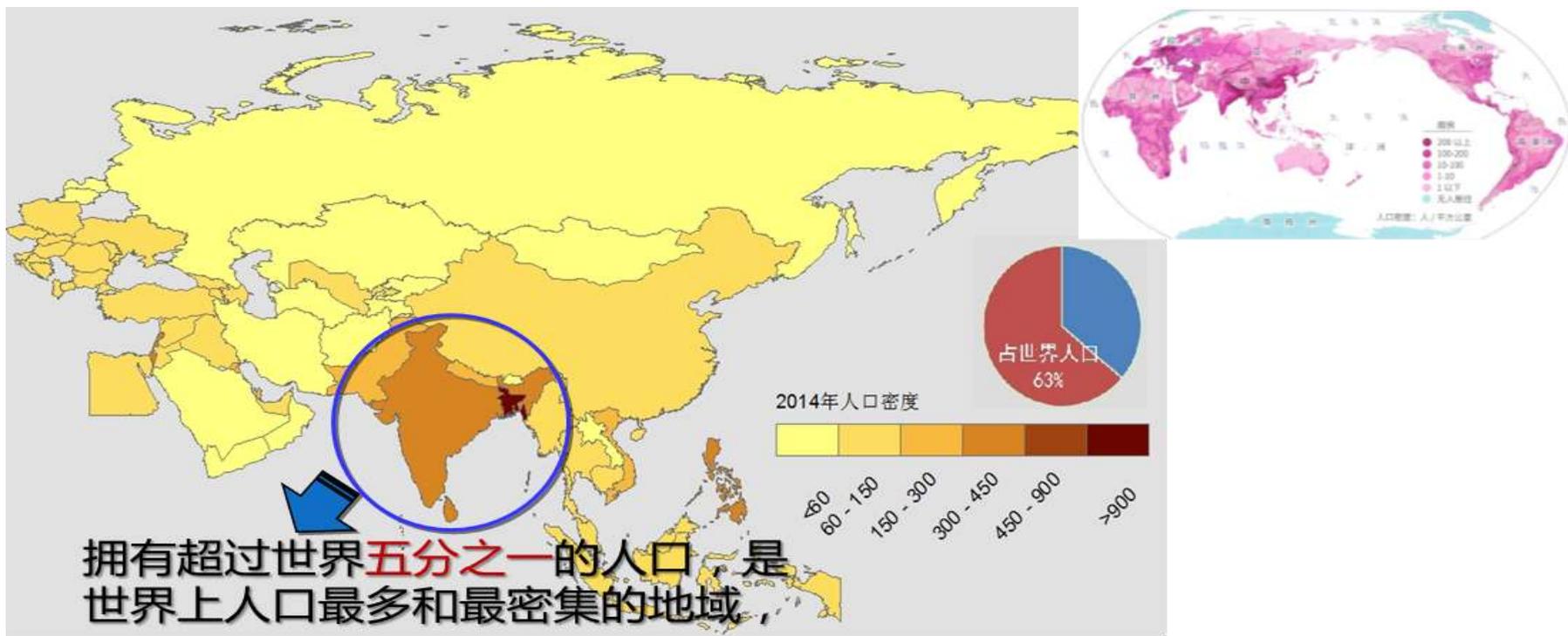
- **Theoretical Considerations:** Environmental spillover effect, level of impact (quantity and quality), placing responsibility, who foots the bill
- **Fundamental Basis:** Global environmental agreements, national laws and regulations, voluntary agreements
- **Institutional Arrangements:** Global, host nations, China, sovereignty and jurisdiction
- **Promotion Strategy:** Project support, platforms and communication channels, clear responsibility and tasks (national, enterprise, host-nation, NGO), information transparency, supervision

1: Current Status and Problem Identification:

**Cannot generalize over such a large
impacted area, but some key
viewpoints can be summarized**

Economy and Society: Large Total Economy but Disparate Development Levels

Economic and Societal Development Along OBOR is Large: total economic output across 65 countries is 21 trillion USD, with a total population of 4.4 billion, covering an area of 4243 square km, accounting for global proportions of 63%, 29%, and 28% respectively



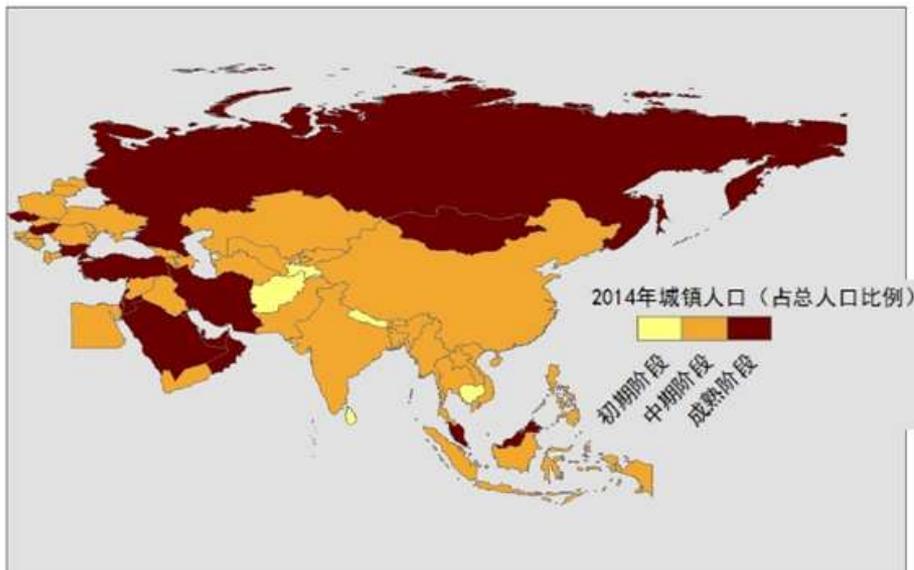
Overall Still Just a Piece of Global Development

Country Continent Land Area Population (10,000) GDP (100 million USD) % Agricultural GDP % Industry GDP

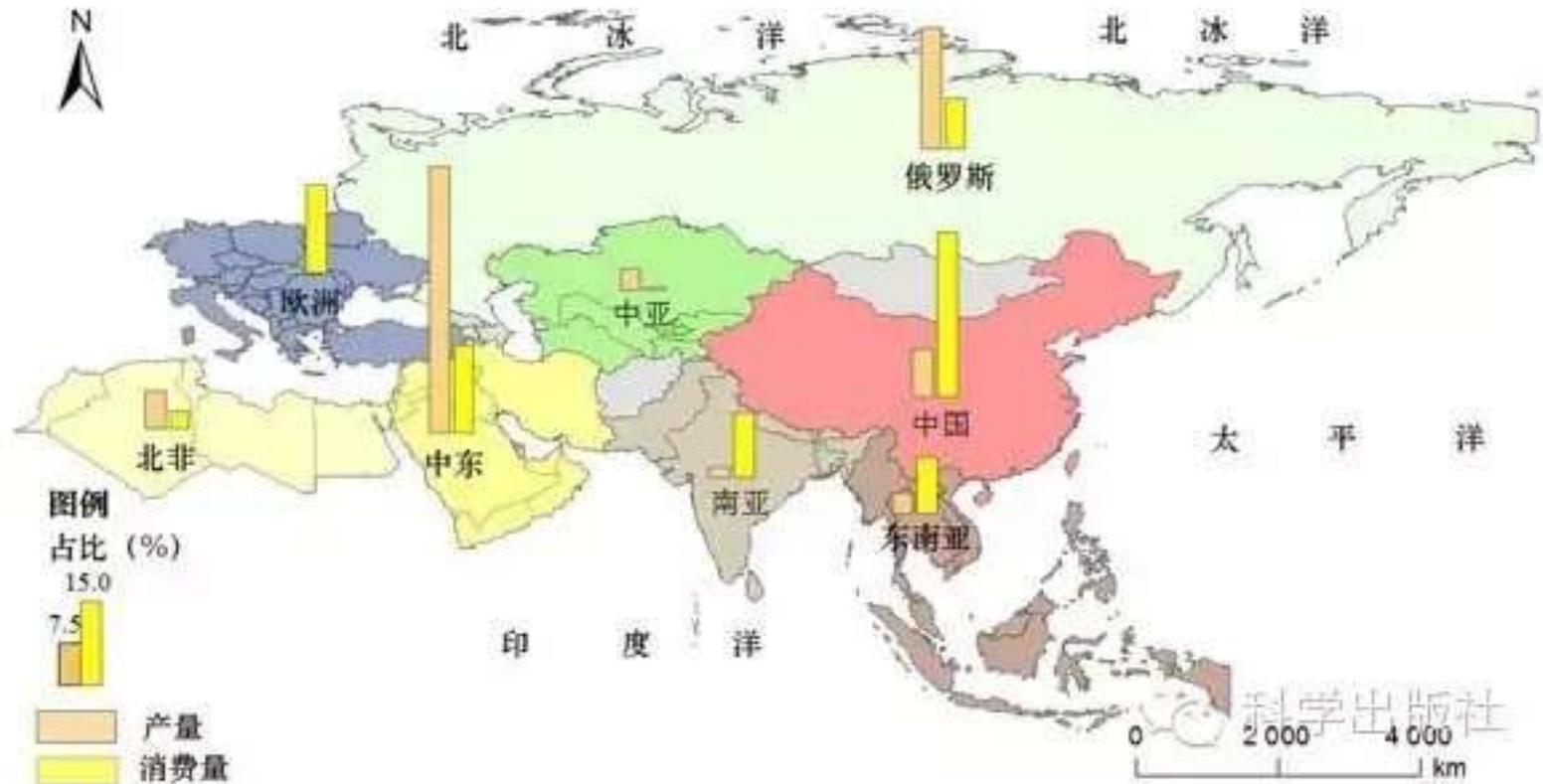
国家	洲别	土地面积 (万平方公里)	年末人口 (万人)	GDP (亿美元)	农业增加值占GDP比重 (%)	工业增加值占GDP比重 (%)
中国		960	135069.5	82271.03	10	45
蒙古		156.65	268.34	100	-	-
巴基斯坦		77.09	17916.01	2251.43	24	22
印度		297.32	123668.6	18417	17	26
阿富汗		65.22	2982.45	204.97	25	22
伊朗		162.86	7642.44	5489	-	-
伊拉克		43.43	3257.82	2102.799	-	-
叙利亚		18.5	2271	736.72	-	-
土耳其	亚洲	76.96	73997.13	7892.57	9	27
沙特阿拉伯		214.97	2828.79	7110.496	2	63
约旦		9	630	312	-	-
以色列		2.164	790.79	2409	-	-
哈萨克斯坦		269.97	1679.75	2035.21	5	39
吉尔吉斯斯坦		19.18	558.21	64.75	20	26
塔吉克斯坦		13.996	801	69.72	26	26
土库曼斯坦		46.99	517.29	351.64	15	48
乌兹别克斯坦		42.54	2997.69	511.13	19	32
俄罗斯		1637.69	14353.3	20147.75	4	36
乌克兰		57.93	4559.33	1763.09	9	30
摩尔多瓦		3.38	356	73	-	-
罗马尼亚		23.01	2132.7	1927.11	6	33
保加利亚		10.86	730.46	509.73	6	30
塞尔维亚	欧洲	8.8	990	373.99	-	-
克罗地亚		5.66	429.1	571.02	-	-
意大利		30.13	6200	20140	-	-
希腊		13.2	990	2492	-	-
斯洛文尼亚		2.03	205.07	456.17	-	-
埃及	非洲	100.45	9400	2346	-	-

Disparity in Economic and Social Development Along OBOR is Relatively Large

- Middle Eastern Europe accounts for 2.0% of global GDP, per capita GDP is higher than world average, high urbanization level, overall fairly developed
- Western Asia and Middle East regions are economically developed, accounting for 5.63% of global GDP, largely due to the abundance of regional natural resources
- Central and South Asia are relatively economically undeveloped



Energy and Resources: Rich Energy, Complementary Advantages, Water Stress



Distribution of Oil Production and Consumption

Figure from World Mineral Resource Evaluation 2013

Natural Gas Production and Consumption Distribution

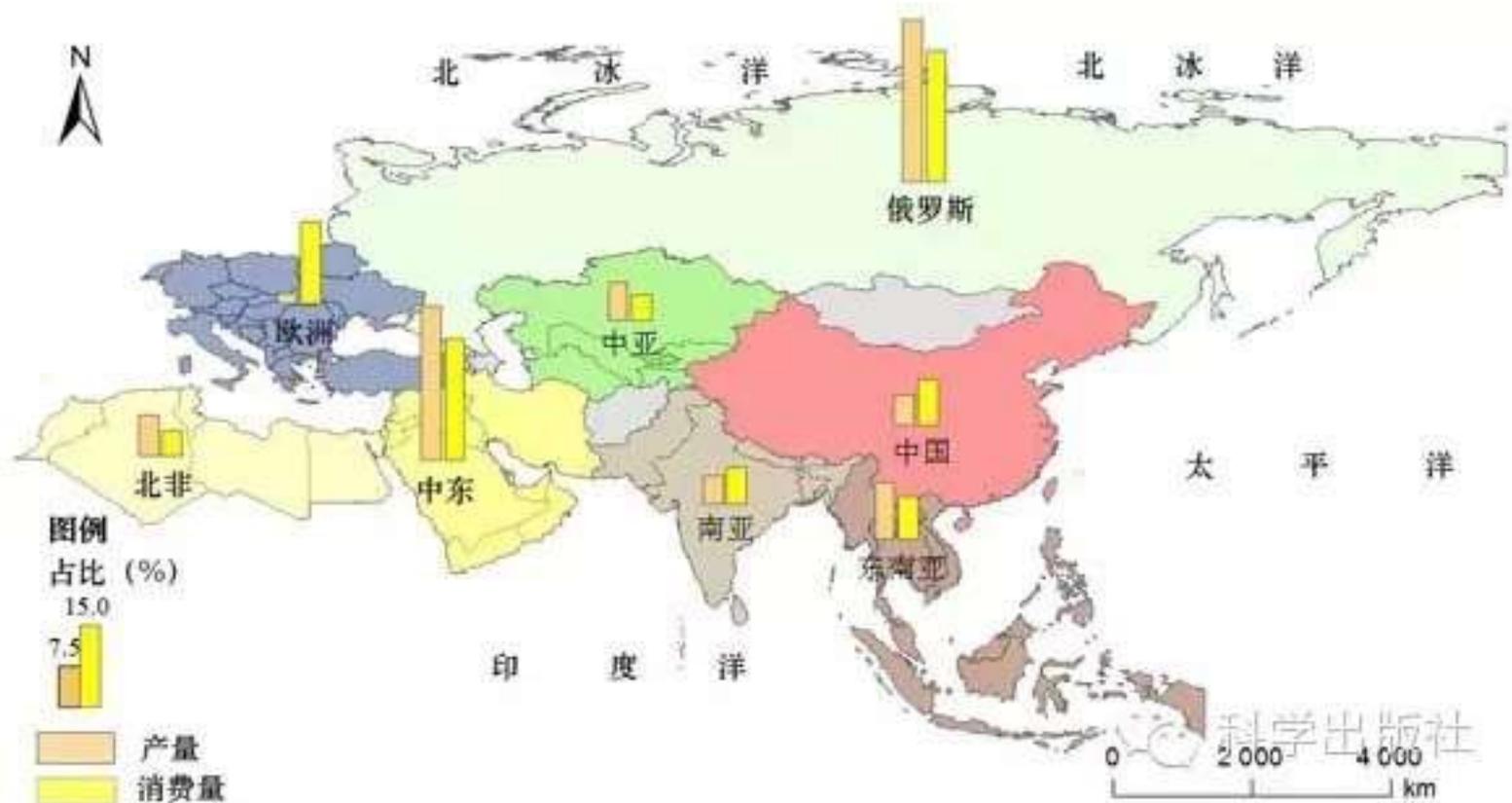
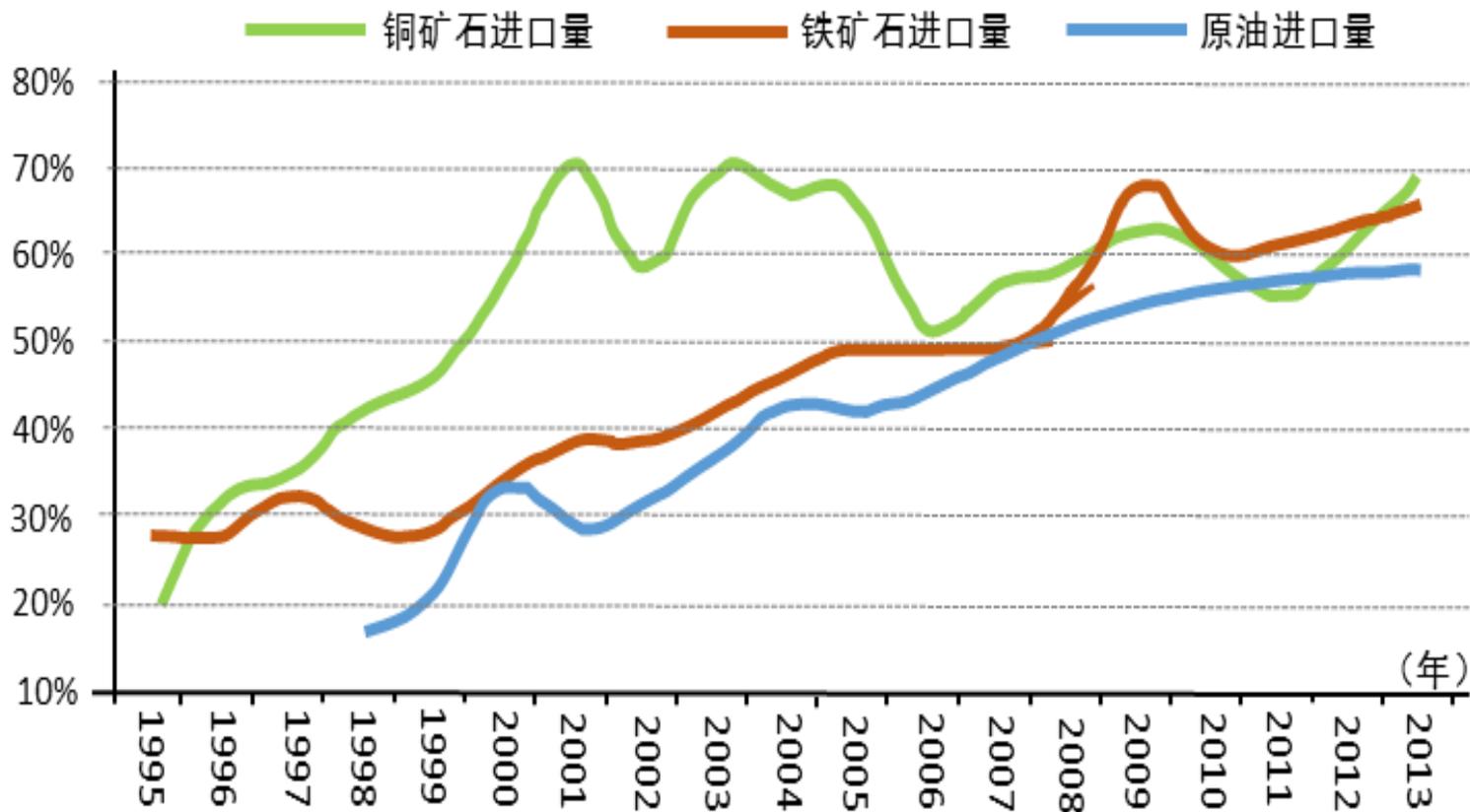


Figure from World Mineral Resource Evaluation 2013

The Development of China is Becoming Increasingly Tied to Global Development

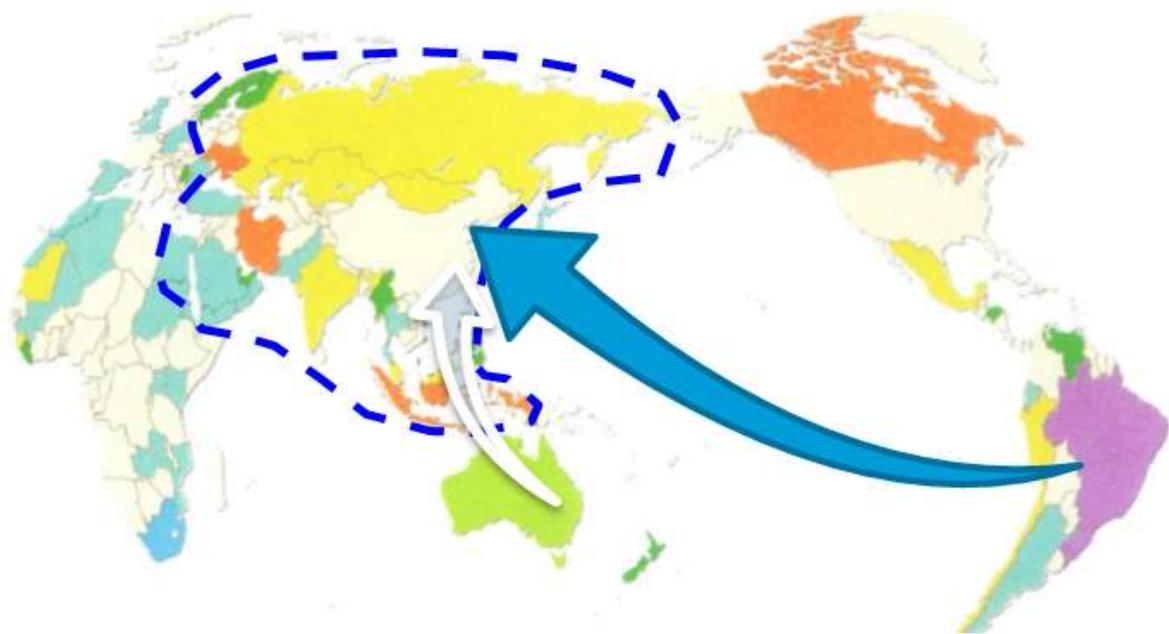


我国铜矿石、铁矿石和原油进口依赖度

2013年中国进口铁矿石来源国（地区）及进口量（分级）

图例

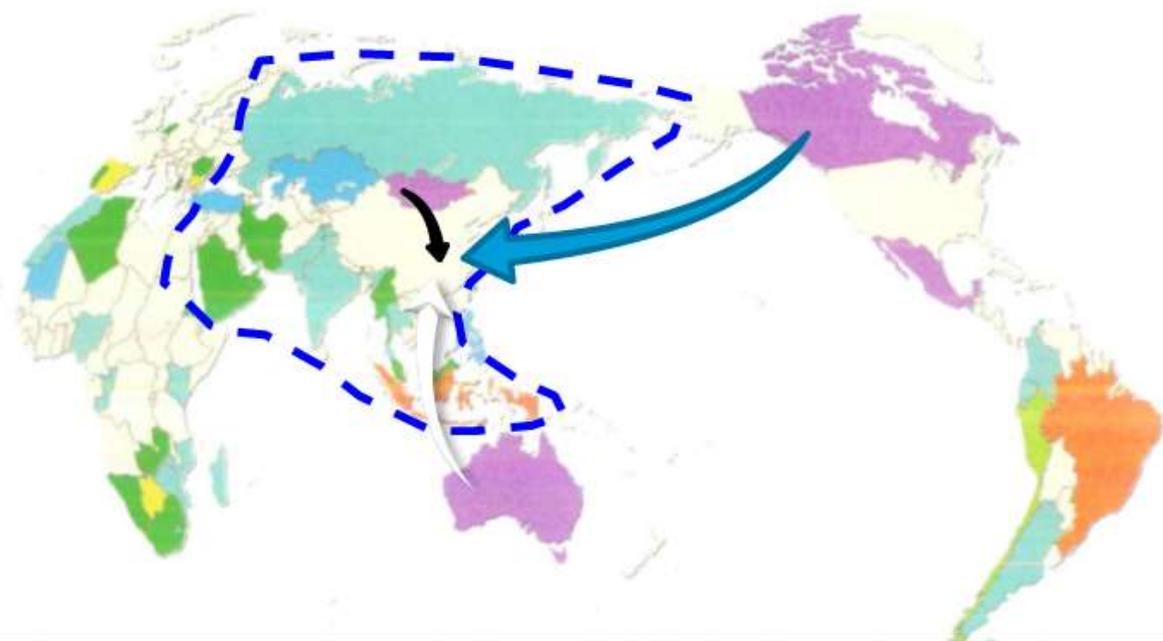
2013年铁矿进口量(单位:万吨)



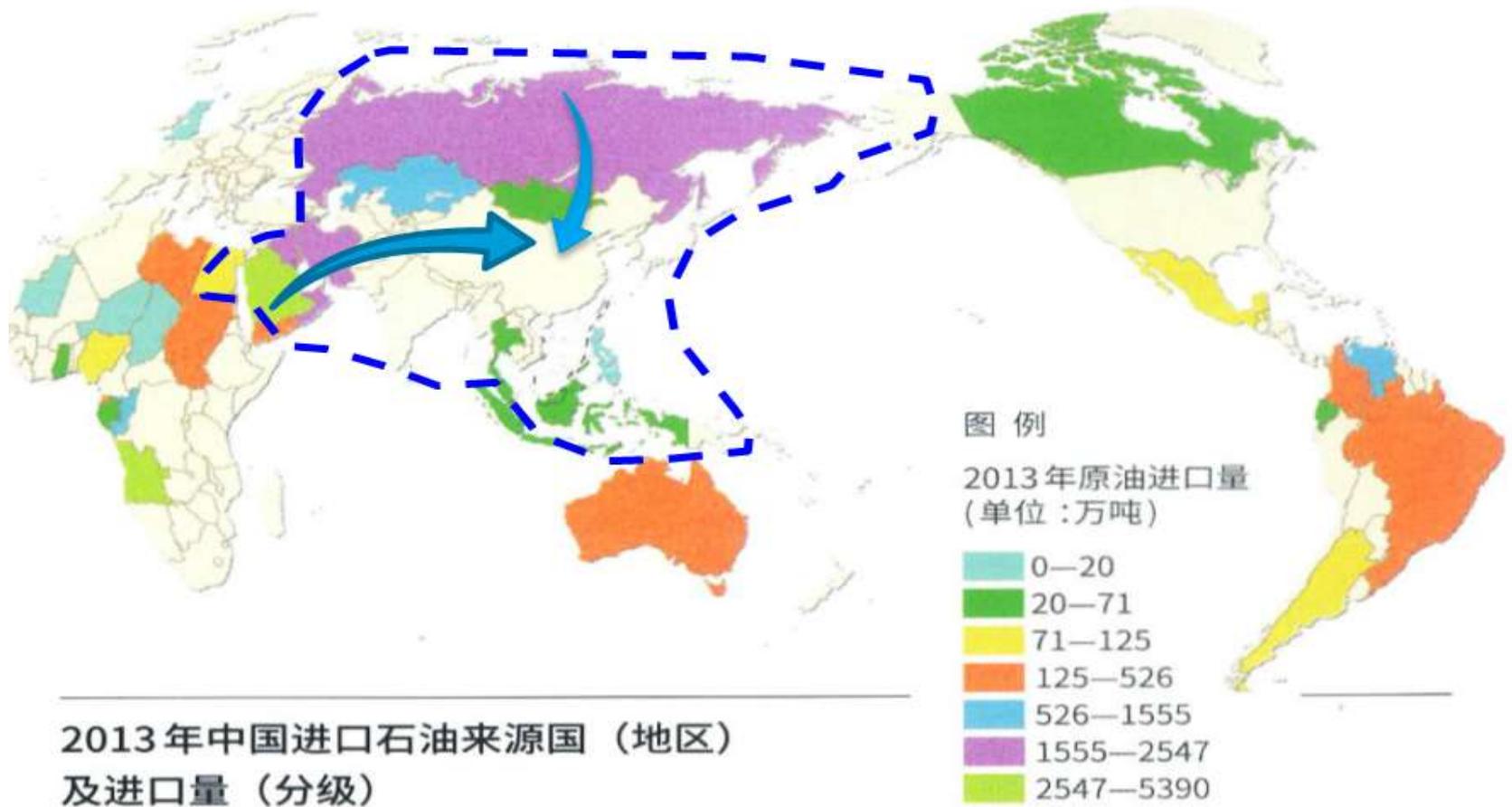
2013年中国进口铜矿石来源国（地区）及进口量（分级）

图例

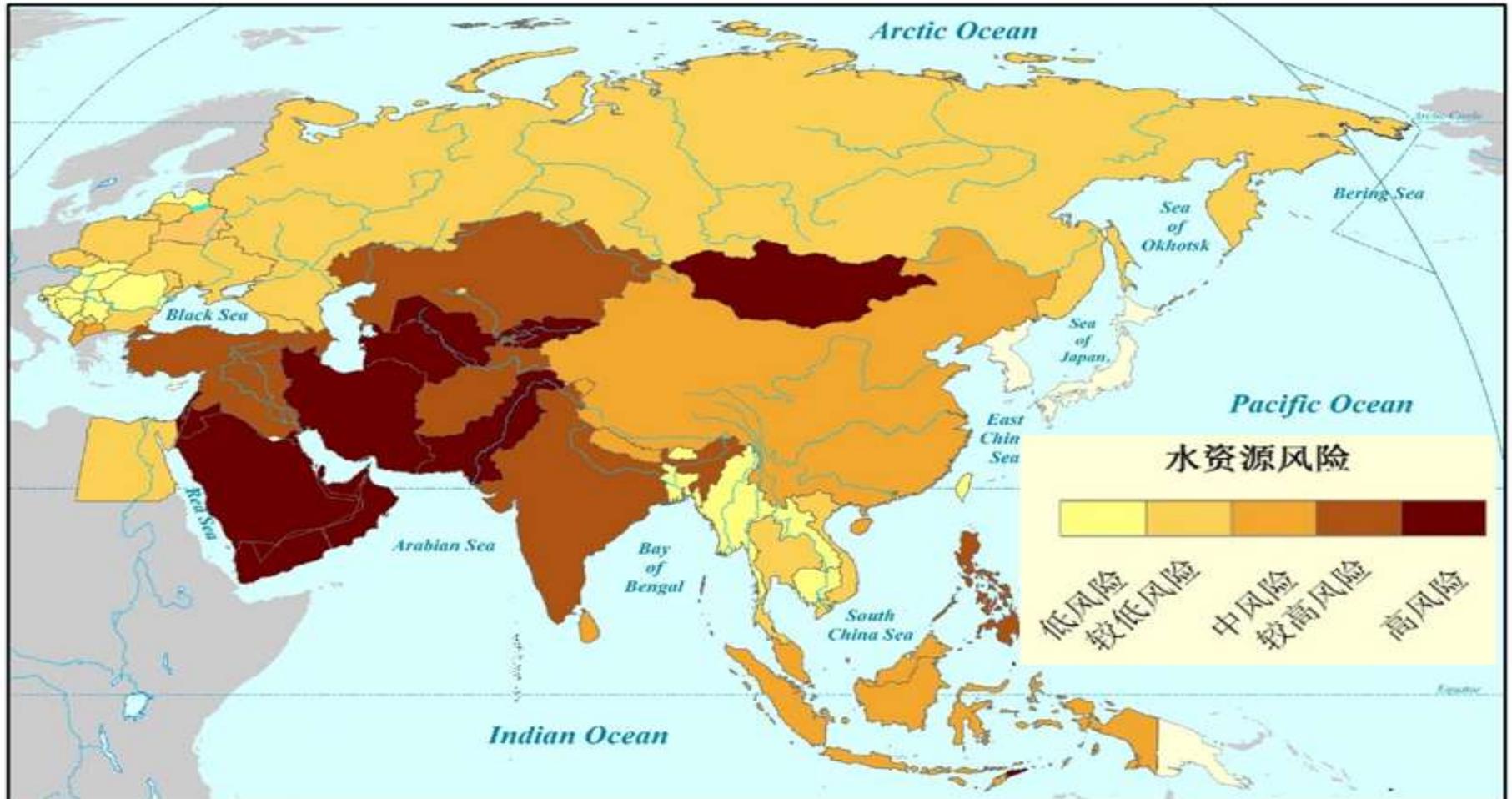
2013年铜矿进口量(单位:万吨)



60% of China's Imported Oil Comes from the Middle East



Alongside OBOR: Regional Water Shortages



Ecology and the Environment: Fragile Ecosystems, Emerging Pollution, Climate Change, Protecting Biodiversity



Ecosystems are fragile along the Silk Road Economic Belt

- **The Silk Road Economic Belt is located in mountain areas of high altitude, restricting the infrastructure construction, regional agricultural development.**
- **Ecological environment is suffering from droughts, water shortage, and frequent sand storms in North east Africa, Western Asia, Central Asia, and Northwestern China.**
- **Low annual temperature in Siberia, Mongolian Plateau , and Qinghai–Tibet Plateau limits the agricultural and economic development.**

The Aral Sea Has Dried Up, Once a Lake



乌兹别克斯坦改善咸海生态环境项目综合考察（规划院，2016.8.8~8.27）

The Aral Sea Has Dried Up, Serious Desertification, Frequent Sandstorms



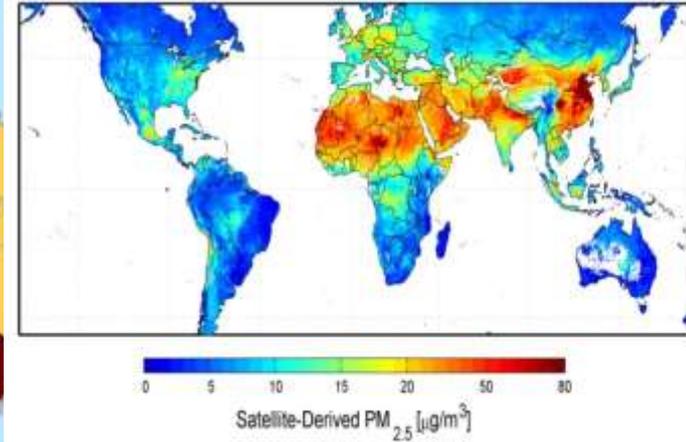
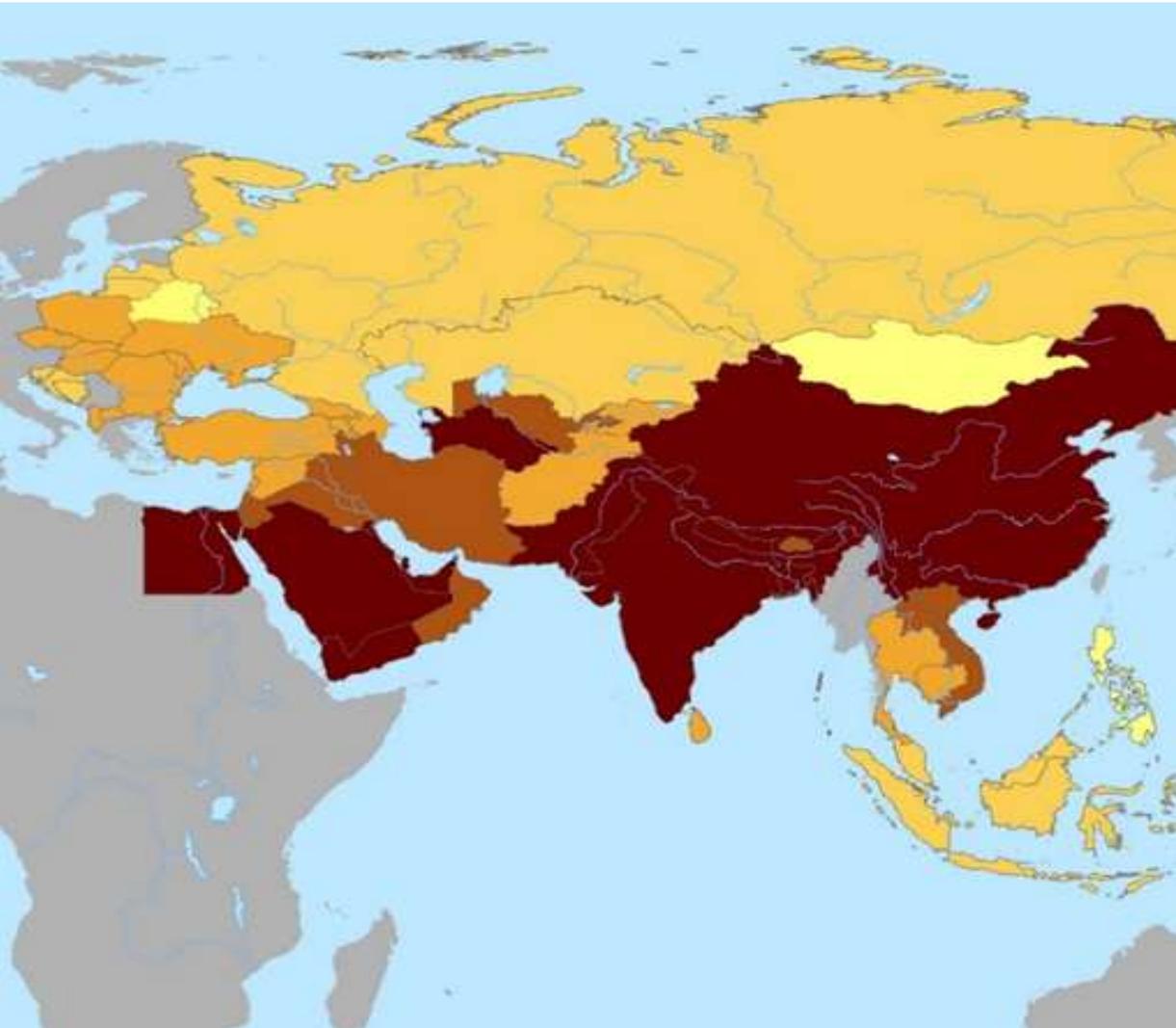
乌兹别克斯坦改善咸海生态环境项目综合考察（规划院，2016.8.8~8.27）

The Aral Sea Has Only 1/10th Its Original Water



乌兹别克斯坦改善咸海生态环境项目综合考察（规划院，2016.8.8~8.27）

Pollution issues stand out in some regions along the Silk Road Economic Belt



According to NASA, this area is heavily polluted by PM_{2.5}

PM_{2.5}

-  <空气质量准测值
-  准测值~过渡时期目标-3
-  过渡时期目标-3~-2
-  过渡时期目标-2~-1
-  >过渡时期目标-1

Marine ecosystems are facing environmental problems: Low transparency of sea water and high-level concentration of chlorophyll in the enclosed seas of cities such as Rotterdam, Dubai, Abbas, Doha, and Karachi



Climate Change and Biodiversity Bring up New Concerns

- ✓ Extreme weather happens frequently in South and Central Asia.
- ✓ A number of endangered animals are found along the Belt. An urgent need for learning from international successful cases

类别	主要指标	“一带一路” 沿线国家总计	世界	“一带一路” 国家占比/%
生态承载力	总生物生产力/百万全球公顷 (2011)	4607.4	12008.3	38.4
	人均生物生产力/全球公顷 (2011)	1.05	1.72	61.0
受威胁动植物 物种	受威胁哺乳类物种/种 (2014)	1269	3246	39.1
	受威胁鸟类/种 (2014)	1167	3625	32.2
	受威胁鱼类/种 (2014)	1983	6870	28.9
	受威胁高等植物/种 (2014)	3778	13583	27.8

2: Challenges and Opportunities

Prioritize the environmental impacts and risks. Consider the local situations and possible influence on environment, ecosystem, and society that will affect the investments and international relations.

Facing Four Challenges

- ❑ **Environmental issues of the Chinese projects in other countries**
- ❑ **Energy exploitation and infrastructure construction brings more environmental problems.**
- ❑ **Lack of top level government's monitoring and management approaches**
- ❑ **Environmental issues have become an important topic in international politics and economics**



Big Challenges of Ecological Protection

- Chinese government emphasizes on ecological protection
 - Ecological civilization
 - Green Development
 - “We should promote ecological progress in conducting investment and trade, increase cooperation in conserving eco-environment, protecting biodiversity, and tackling climate change, and join hands to make the Silk Road an environment-friendly one.” Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road
- Green Development is a global trend
 - The 2030 Agenda for Sustainable Development
 - Asian Infrastructure Investment Bank, New Development Bank, and Silk Road Fund committed to consider sustainability in their projects.
 - The technology-driven growth pattern of green development has become a strategic plan for a lot of countries

3: General Considerations

- **Follow Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road**
- **Apply new theories with clear guidance, strong support, and international cooperation**

General Guidance

- **Reach a consensus:** Support **companies with “going out”** projects or business to be more sustainable to achieve mutual benefits
- **Project-based: standardize the construction and operation** of OBOR projects in specific regions to achieve greener development
- **Companies as the major subjects: Demonstrative Companies** serve as a model to lead a sustainable development in investments, promoting projects of Corporate social responsibility
- **Green investment:** Green financing-driven **sustainable investment and trade**
- **Go together:** Strengthen the development of OBOR and the conservation of eco-environment **considering internal and external situations**



Basic Ideology

Companies should take full use of advantage to follow the OBOR pathway toward more green and sustainable trade and cooperation, targeting at achieving a win-win situation. The construction and implementation of overseas projects should be conducted with the consideration of protecting eco-environment. The ideology of eco-civilization and green development will lead the direction of the OBOR-related policy-making. Innovation-driven green financing will ensure the revenue stream of green projects overseas. Government should develop demonstrative projects as a model for other companies to follow.



4: OBOR Policy Strategies on Environmental Protection

Overseas investment in green projects
Infrastructure construction
Development of resources and energy
Cross-region cooperation
Strengthen the environmental management of the companies



Focal Points of Environmental Protection under OBOR Initiative

- Prioritize the construction and operation of green projects and the conservation of areas that major projects are located**
- Prioritize the green demonstrative projects and standardize the behaviors of demonstrative companies as models for other companies for more environmental CSR**
- Promote the green-financing-driven investment sustainability projects and trade of green products.**
- Achieve mutual-benefit mechanism and work with international environmental NGOs**
- Strengthen the development of eco-environment along the OBOR within the understanding of internal and external situations**



Develop Green Standards on Construction of OBOR Projects



- ❑ **Projects by Asian Infrastructure Investment Ban and Silk Road Fund - Green Technical Assistant Program)**
- ❑ **Redline of infrastructure construction and Green Tops Program**



Enhancing the transparency of OBOR information

Building the platform for OBOR information sharing, publishing the environmental protection information in OBOR countries

On the basis of the information sharing platform, providing firms with environmental investment consulting services, adopting the "Blacklist mechanism" for firms with bad performance, informing via the platform.

Assessing the ecological risks in OBOR countries after implementing the OBOR strategy, publishing the list of ecological risks of OBOR countries and regions.



Enhancing the green advertisement of “One Belt One Road”

- ❑ Using the regional bilateral and multi-lateral mechanisms, exchange and training sessions on environmental protection issues to advocate China’ s advanced environmental protection concepts.
- ❑ Providing demonstrative environmental management for the invested countries, using environmental protection technologies and management measures of high standard.
- ❑ The plan of green Silk Road envoys
- ❑ Holding “One Belt One Road” green development forum.



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