



中德生态园
SINO-GERMAN ECOPARK

青岛中德生态园 绿色生态建设发展实践

Practice of Green Ecological Construction and Development
in Qingdao Sino-German Ecopark

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园区与山东自贸区青岛片区重叠区域
Overlapping Area of the park and Qingdao Area of Shandong Pilot Free Trade Zone

- ◆ 2010年7月16日，在中德两国总理的共同见证下，中国商务部和德国联邦经济技术部签署《关于共同支持建立中德生态园的谅解备忘录》，确定在中国青岛经济技术开发区内合作建立青岛中德生态园。
- ◆ 中德生态园有12.8平方公里范围位于中国（山东）自贸区，享有政策叠加优势。
- ◆ On July 16, 2010, under the joint witness of the prime ministers of China and Germany, the Ministry of Commerce of China and the Federal Ministry for Economic Affairs and Energy of Germany signed a memorandum of understanding on jointly supporting the establishment of a Sino-German Ecopark in Qingdao Economic and Technological Development Zone, China.
- ◆ 12.8 km² of the Park is located within the China (Shandong) Pilot Free Trade Zone, enjoying the advantages of overlapping policies .

从“三无地带”到“中德生态合作典范”



2013年园区 启动建设以来

Since the start of construction
in the park in 2013

- 中德生态园清场地、修道路、引项目，从无基础设施、无企业、无税收的“三无区域”，发展成为中德生态合作新平台
- 被中国商务部和德国联邦经济和技术部誉为“中德两国政府间生态领域的灯塔式项目，是中德双边合作园区的典范”
- The Sino-German Ecopark has developed into a new platform for Sino German ecological cooperation by clearing the site, repairing roads, and introducing projects, from the "three no zones" of no infrastructure, no enterprises, and no taxes
- The Ministry of Commerce of China and the Federal Ministry for Economic Affairs and Energy of Germany evaluated Sino-German Ecopark as a "lighthouse like project in the ecological field between the governments of China and Germany, and a model of Sino-German cooperation".



建成区面积

22km²

绿色建筑面积

870万m²

超低能耗建筑面积

117万m²

道路里程

95公里

人均绿地面积

45m²

可再生能源利用率

15%

中德生态园与C40的合作



中德生态园入选C40城市气候领导联盟全球《绿色与繁荣社区》导则，成为绿色建筑和能源板块中国唯一入选案例，并为《绿色繁荣社区（近/净零碳社区）建设指南》贡献相关案例，入选绿色繁荣社区全球案例库。

The Sino-German Ecopark has been selected as a member of the C40's global "Green and Thriving Neighbourhoods" guidelines, becoming the only case selected in the Green Building & Energy sector in China. It has also contributed relevant cases to the "Green and Thriving (Near/Net -Zero Carbon) Neighbourhoods Construction Guidelines" and has been included in the Case Library of Green and Thriving Neighbourhoods.



C40绿色繁荣社区项目理念——十大模块

C40 Green and Thriving Neighbourhood programme key concepts——Ten Approaches



园区坚持“田园环境、绿色发展、美好生活”的发展愿景，契合绿色繁荣社区理念
The park adheres to the development vision of "Pastoral Environment, Green Development, Better Life", which is in line with the concept of Green and Thriving Neighbourhood.

GREEN BLUEPRINT PART 绿色蓝图

—— 绿水青山 就是金山银山



—— Green mountains and clear waters are as valuable as mountains of gold and silver



中德生态园定位：

中德合作建设的具有可持续发展示范意义的生态园区

Positioning:

An ecological park with sustainable development demonstration significance jointly constructed by China and Germany.



发展目标

Development goal

- 彰显中德合作的国际园区
- 倡导低碳环保的生态园区
- 促进产业转型的示范园区
- 推动研发创新的智慧园区
- 引领绿色生活的宜居园区
- 实现持续发展的活力园区

发展愿景

Development vision

- 田园环境
- 绿色发展
- 美好生活

生态理念

Ecological concept

- 生态、智慧改善生活，开放、融合提升品质
- 德国理念、德国标准、德国技术、德资比重
- 生态指标体系领航绿色发展
- 100%绿色建筑、绿色产业



指标体系 — Indicator system

PART 1 绿色蓝图 GREEN BLUEPRINT

- 建立40项生态指标体系，8项国内首次提出
- 纳入商务部《国家级经济开发区国际合作生态园工作指南》，引导全国开发区生态转型发展
- Establish a system of 40 ecological indicators, propose 8 for the first time in China
- Incorporate into the "Guidelines for International Cooperation Ecological Parks in National Economic Development Zones" issued by the Ministry of Commerce to guide the development of national development zones



1.0版本

领域	关键绩效指标	2020	2025	2030	类别
经济	单位GDP能耗降低率	<18%	<17%	<16%	节能减排
	单位工业增加值用水量	<12%	<11%	<10%	
	工业固体废物综合利用率	>90%	>92%	>95%	
	战略性新兴产业增加值占地区生产总值比重	>10%	>12%	>15%	
环境	空气质量达标率	>90%	>92%	>95%	环境保护
	地表水水质达标率	>90%	>92%	>95%	
	城市生活垃圾无害化处理率	>90%	>92%	>95%	
	城市污水处理率	>90%	>92%	>95%	
社会	常住人口城镇化率	>70%	>75%	>80%	社会发展
	常住人口城镇化率	>70%	>75%	>80%	
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生态	森林覆盖率	>30%	>35%	>40%	生态保护
	森林覆盖率	>30%	>35%	>40%	
	森林覆盖率	>30%	>35%	>40%	
	森林覆盖率	>30%	>35%	>40%	

2.0版本

领域	关键绩效指标	2020	2025	2030	类别
经济	单位GDP能耗降低率	<18%	<17%	<16%	节能减排
	单位工业增加值用水量	<12%	<11%	<10%	
	工业固体废物综合利用率	>90%	>92%	>95%	
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	森林覆盖率	>30%	>35%	>40%	
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	森林覆盖率	>30%	>35%	>40%	



学习借鉴联合国《2030可持续发展议程》、联合国人居《新城市议程》和ISO城市可持续发展标准，形成《2030可持续发展指标体系》持续发展议程

Learn from the UN "2030 Agenda for Sustainable Development", UN Habitat's "New Urban Agenda" and ISO standards for urban sustainable development to form the "2030 Indicator System for Sustainable Development"



德国三大认证机构之一TUVNord公司认证:

- 符合《联合国2030可持续发展议程》可持续发展理念;
- 符合国际生态园可持续发展实践的最新要求;
- 代表了国际生态园的一流水平

TUV Nord, one of the three major certification bodies in Germany, certifies:

- Represent the first-class level of international ecological parks

坚持一流标准

Adhere to first-class standards



标准体系

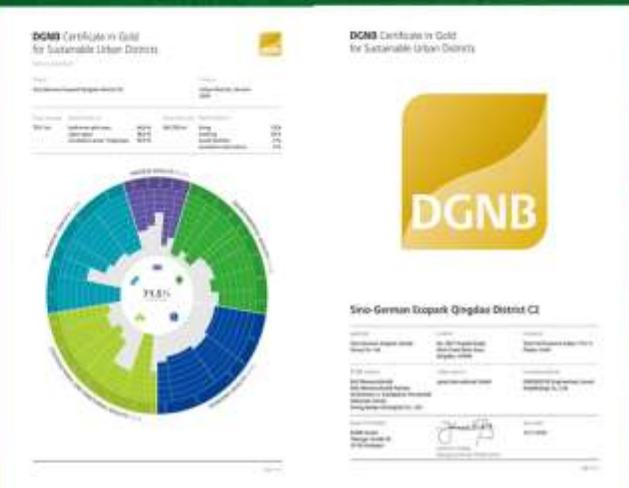
—Standard system

PART 1 绿色蓝图

GREEN BLUEPRINT

- 中德标准化合作委员会会议在园区召开
- 担任全国建筑节能标准化技术委员会“被动式建筑技术标准制定工作组”秘书处单位
- 参编多项国家及山东省超低能耗建筑标准并颁布实施

- Sino-German Standardization Cooperation Committee was held in the Park
- Secretariat unit of the "Passive Building Technical Standard Development Working Group" of the National Building Energy Efficiency Standardization Technical Committee
- Participate in the compilation and implementation of several national and Shandong province ultra-low energy building standards



- 引入德国DGNB可持续建筑认证体系、PHI被动房认证体系
- 率先建立包含《可持续发展指标体系》等园区级绿色生态建设标准体系
- 助力园区城市建设2.0版本和创建国际一流生态园区目标实现
- Introduce German DGNB Sustainable Building Certification System and PHI Passive House Certification System
- Take the lead in establishing park level green ecological construction standard system that includes standards such as the "Sustainable Development Indicator System", etc
- Assist in the construction of the 2.0 version of the Park and achieve the goal of creating a world-class ecological park



坚持一流标准

Adhere to first-class standards



——中国式现代化

是人与自然和谐共生的现代化

——Chinese path to modernization is the modernization of harmonious coexistence between human and nature



PART

ECOLOGICAL
PRACTICE

生态实践



- 新建造——绿色建筑、超低能耗、装配式
- 新能源——可再生能源、泛能网、多能互补
- 新城建——CIM智慧平台、5G、综合管廊
- 新实践——原始地貌保护、海绵城市、公园城市

以建筑业工业化、数字化、绿色化为方向，不断提升建筑品质

Continuously improve the quality of buildings in the direction of industrialization, digitization, and greening of the construction industry



绿色建筑 Green building

- 100%绿色建筑、绿色施工
- 绿色建筑总量870万m²，二星级及以上标准占比50%
- 民用建筑全部为二星级及以上标准
- 德国企业中心—国家绿色建筑三星和德国DGNB铂金奖级双认证
- 100% of green building and green construction
- Total green building area of 8.7 million m², with 50% of them meeting the standards of two stars or above
- All civil buildings are rated at two stars or above
- German Enterprise Center - National Green Building Three Star and German DGNB Platinum Award



9 Middle School 青岛九中

超低能耗建筑 Ultra-low energy consumption building

- 引入德国被动房技术
- 被动房技术中心—国家绿色建筑三星级和德国PHI双认证
- 超低能耗建筑建设117万m²，学校、幼儿园、酒店、办公、住宅等建筑全面应用，年减碳量2.67万吨
- Introduce German passive house technology
- Passive House Technology Center - National Green Building Three Star and German PH double certification
- Ultra low energy consumption building construction of 1.17 million m², fully applied in schools, kindergartens, hotels, offices, residences and other buildings, with an annual carbon reduction of 26,700t



Passive House Technology Center 被动房技术中心

精品建筑 Boutique architecture

- 德国企业中心、青岛外语学校—连续两年获得“鲁班奖”
- 德国企业中心—2014年全国建筑业绿色施工示范工程观摩会
- 创意文化综合体、中德应用技术学院—培育创建国家级精品工程
- German Enterprise Center and Qingdao Foreign Language School won the “Luban Award” for two consecutive years
- German Enterprise Center - 2014 National Green Construction Demonstration Project Observation
- Creative Culture Complex, Qingdao West Coast New Area Sino-German Applied Technology School - Cultivate and create national quality projects



荣华装配式建筑产业园 Ronghua Prefabricated Building Industrial Park

装配式建筑 Prefabricated building

- 新建民用建筑装配式建筑比例≥40%(不含被动房)；装配率≥50%
- 荣华装配式建筑产业园—2020年全国装配式建筑产业基地
- 钢结构、木结构、PC构件、废旧集装箱等多种装配型式应用
- Prefabricated buildings in newly-built civil buildings≥40% (excluding passive house); Assembly rate≥50%
- Ronghua Prefabricated Building Industrial Park - 2020 National Prefabricated Building Industrial Base
- Application of various assembly types such as steel structures, wooden structures, PC components, and waste containers



创意文化综合体 Creative Culture Complex



探索“双碳”路径

Explore paths of Carbon Peaking and Carbon Neutrality



D2组团鸟瞰效果图 Aerial view of D2 cluster



中德生态园零碳试验区

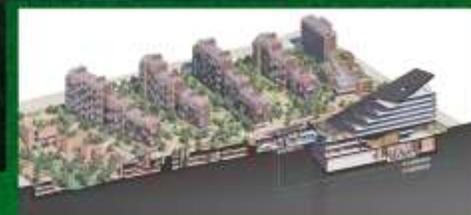
Sino-German Ecopark - Zero carbon pilot zone

- 吴志强、崔愷等院士领衔
- 中国最大被动房社区—用地面积63公顷，建筑面积82万m²，规划人口1万人
- 国家三星级绿色生态城区，100%超低能耗建筑技术和三星级绿色建筑，年减碳量约4.5万吨
- 光伏安装面积2万m²，装机容量4MWp，年发电总量约400万kWh
- 中水回用；真空垃圾输送管线3000米；综合管廊1300米
- Academicians WU Zhiqiang, CUI Kai, and others led the planning and design team
- China's largest passive house community - Land area of 63 hectares, building area of 820,000m², and planned population of 10,000
- National three-star green ecological urban area, equipped with 100% ultra-low energy building technology and three-star green buildings, with an annual carbon reduction of approximately 45,000t
- Photovoltaic installation area of 20,000m², installed capacity of 4MWp, and the annual total power generation of about 4 million kWh
- Reuse of neutral waste water; Vacuum garbage conveying pipeline of 3,000m, Comprehensive pipe system of 1,300m

智能绿塔 Intelligent green tower

- 2.13万m²区域智能能源管控中心
- 建筑光伏一体化，建筑绿植一体化
- 地源热泵、高效暖通系统、智能微网、光储直柔、终端电气化
- 可再生能源利用率100%—零碳建筑
- 年减碳量1000吨(按生态环境部发布的2022年度全国电网平均排放因子0.5703tCO₂/MWh计算)
- 21,300 m² regional intelligent energy control center
- Photovoltaic integration, green plant integration
- Ground source heat pump, efficient HVAC system, intelligent micro-grid, photovoltaic direct flexible storage, terminal electrification
- Renewable energy utilization rate of 100% - Zero carbon building
- Annual carbon reduction of 1,000t

Intelligent green tower



打造宜居样板

Creating a livable model



综合能源 Integrated energy

- 青岛市首个“非煤化”试点区域之一，构建多元化清洁能源供给体系
- 地源热泵、空气源热泵广泛应用
- 山东省首例泛能网联网运行，供能近100万m²
- 多能互补综合能源监控中心—国家电网重大科技课题示范项目建设
- 江亿院士领衔执笔《综合能源规划》，构筑未来能源体系
- One of the first “non coalification” pilot areas in Qingdao, build a diversified clean energy supply system
- Widely-used ground source heat pumps and air source heat pumps.
- The 1st pan energy grid operation in Shandong Province, and provides nearly 1 million m² of energy
- Multi-energy complementary integrated energy monitoring center - Demonstration project of major science and technology projects of State Grid Corporation of China
- Academician JIANG Yi leads the writing of the “Integrated Energy Plan” and constructs the future energy system



数字基建 Digital infrastructure



智慧驿站

大数据平台

水环境监测

CIM智慧平台 | 5G CIM intelligent platform / 5G

- 开发“CIMOS城市大脑智能管理操作系统”
- 搭建CIM智慧规划一体化服务、城市智能监管和生态环境监测和能源管控等平台
- 建设“5G+WiFi无线数字园区，122处5G基站和120处WiFi6热点设备无线网络信号全面覆盖
- Develop the “CIMOS City Brain Intelligent Management Operating System”
- Build CIM intelligent planning integrated services, urban intelligent supervision, and ecological environment Monitoring and management energy platforms
- Construct a 5G+WiFi wireless digital park, with 122 5G base stations and 120 WiFi6 hotspot devices providing comprehensive wireless network coverage

综合管廊 Comprehensive pipe system

- “国家地下综合管廊试点”项目
- 融合电力、给水、污水、热力、通信等各类规划地下管线
- 4公里综合管廊建成运营，2.5公里综合管廊在建
- National underground comprehensive pipe system pilot project
- Integrate various planned underground pipelines such as electricity, water supply, sewage, heat, and communication
- A 4-km comprehensive pipe system has been completed and put into operation, a 2.5-km is under construction



电力舱 Power cabin

Sewage and thermal cabin

污水、热力舱



屋面太阳能光伏系统 Rooftop photovoltaic system

推广多能互补

Promote multi-energy complementation



原始地貌保护

Preservation of original land forms

- 坚持低冲击开发理念，充分保护山脉、水脉、路脉
- 原有地貌和肌理保护比例≥40%
- 城区湿地资源保存率≥80%
- 节约型绿地建设率≥80%
- Adhere to low impact development, fully protect mountains, waterways and road networks
- Original land form and texture protection ratio≥40%
- Urban wetland resources preservation ratio≥ 80%
- Conservation oriented green space construction rate≥ 80%

Comparison of original land form protection (before and after)



原始地貌保护对比 (前)



原始地貌保护对比 (后)

海绵城市

Sponge city

- 生态保护修复受损山体18万m²；生态修复水系约60万m²；海绵城市建设约3km²
- 山王河湿地公园、D-Zone创意设计基地、富源二号路等一批海绵城市示范项目
- Ecologically restore and protect 180,000m² of damaged mountains; Ecologically restore approximately 600,000 m² of water systems; Sponge city construction of approximately 3,000m²
- A batch of sponge city demonstration projects including Shanwang River Wetland Park, D-ZONE Creative Design Base, No.2 Fuyuan Road, etc



公园城市

Park city

- 中国北方首个公园城市实践项目
- 召开中国公园协会生态保护与修复专业委员会工作会议
- 推进都市农场、街角公园等城市公园体系建设
- The 1st park city practice project in northern China
- Held the working meeting of Ecological Protection and Restoration Professional Committee of the China Park Association
- Promote the construction of urban park systems such as urban farms



低冲击开发

Low impact development



——人民对美好生活的向往
就是我们的奋斗目标

——People's yearning for a better life is our goal



PART
A BETTER FUTURE
美好未来

大社区管理——探索城市运营新模式
美好生活——回迁安置、绿色产业、文化打造

着力打造宜居、韧性、智慧城市

Focus on building livable, innovative, and smart cities



- 打造中国式现代化社区
- 自我管理、自我服务、自我教育、自我监督
- 城市维护、物业服务、科教文旅、餐饮服务一体化、数智化运营管理
- Build a community aligned with China's path to modernization
- Self management, self-service, self-education, and self-monitoring
- Integrated and digitalized operation and management of urban maintenance, property services, science, education, culture, tourism, catering services, etc



《回归未来》—王石新书分享会 Mr. WANG Shi's new book sharing



“查细节 补短板 塑精美” 城市微更新
Urban micro update



World Cup event in Harmonious community 和乐邻社区“世界杯”主题活动



美好生活

——Better Life

PART 3 美好未来
A BETTER FUTURE



1212亿元

固定资产投资



16.1亿美元

到账外资



360亿元

利用内资



53亿元

全口径税收



> 750亿元

规上工业产值



> 70亿美元

外贸进出口



24个项目

世界500强



3200多家

国内外企业

推动中德企业合作

Promote cooperation between Chinese and German enterprises



美好生活

——Better Life

PART 3 美好未来
A BETTER FUTURE



中德生态园露营节

Sino-German Ecopark Camping Festival



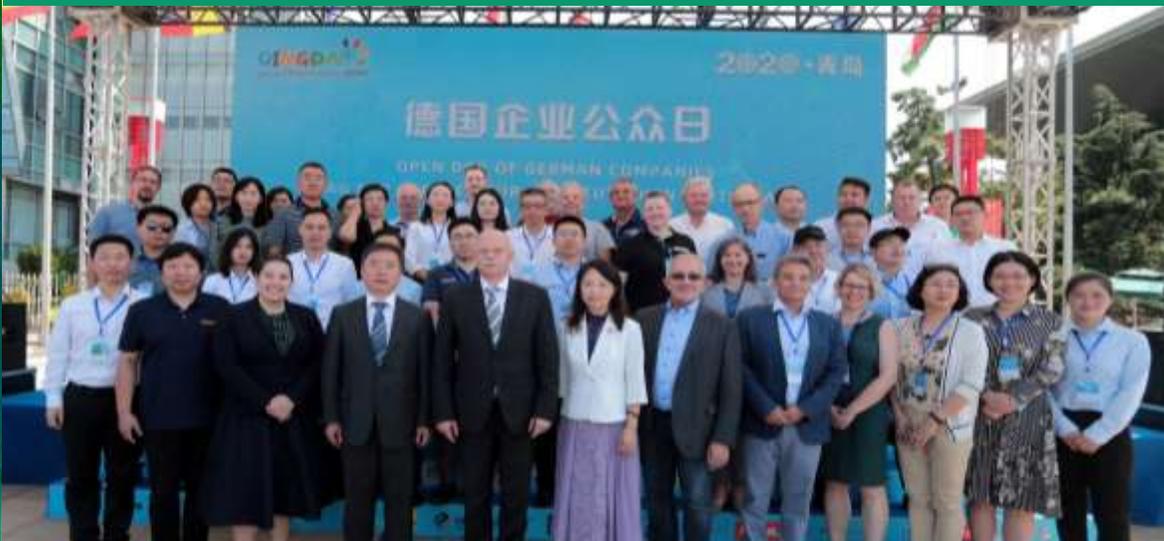
欧米勒国际钢琴公开赛

Irmiler International Piano Open Championship



拜仁慕尼黑足球俱乐部

FC Bayern China School



德国企业公众日

Open Day of German Companies

- 定期举办国际商品展、营地露营节、音乐节、企业公众日等活动
- 德国欧米勒国际钢琴公开赛永久落户，每届参赛选手逾万人
- 德国首个亚洲足球培训基地
- 德国拜仁慕尼黑足球俱乐部首个中国足校落户

- Hold regular international commodity exhibition, camping festival, music festival, company open day, etc.
- German Irmiler International Piano Open Championship settled down permanently, with over 10,000 players each time
- 1st German Asian football training base
- 1st FC Bayern China School

文化环境不断提升

Continue to improve cultural environment

流浪地球

A FRANTGWO FILM
THE WANDERING
EARTH
DARK MATTER



- “最初，没有人在意这一场灾难，这是一次火山爆发，一次旱灾，一个物种的灭绝，一座城市的消失，直到这场灾难和每个人息息相关。”
- “后来，我们用一百代人的代价实施‘流浪地球计划’，让我们的地球飞向4.2万光年的新家园。”
- “At first, nobody cared about this disaster, it was a volcanic eruption, a drought, an extinction of a species, a vanishing city, until everyone is entwined with this disaster.”
- “Later, we implemented the ‘Wandering Earth Project’ at the cost of a hundred generations, propelling our Earth to a new home located 42,000 light years away.”

共商发展合作 共创美好未来



Discuss development and cooperation together
Create a bright future together

习近平：

要推动绿色发展，促进人与自然和谐共生。不断以中国新发展为世界提供新机遇，推动建设开放型世界经济。

Xi Jinping：

Promote green development and ensure harmony between humanity and nature. Champion the building of an open world economy by using China's new advances in development to provide the world with new opportunities.



 青岛中德生态园
Sino-German Ecopark

谢谢!

THANKS!