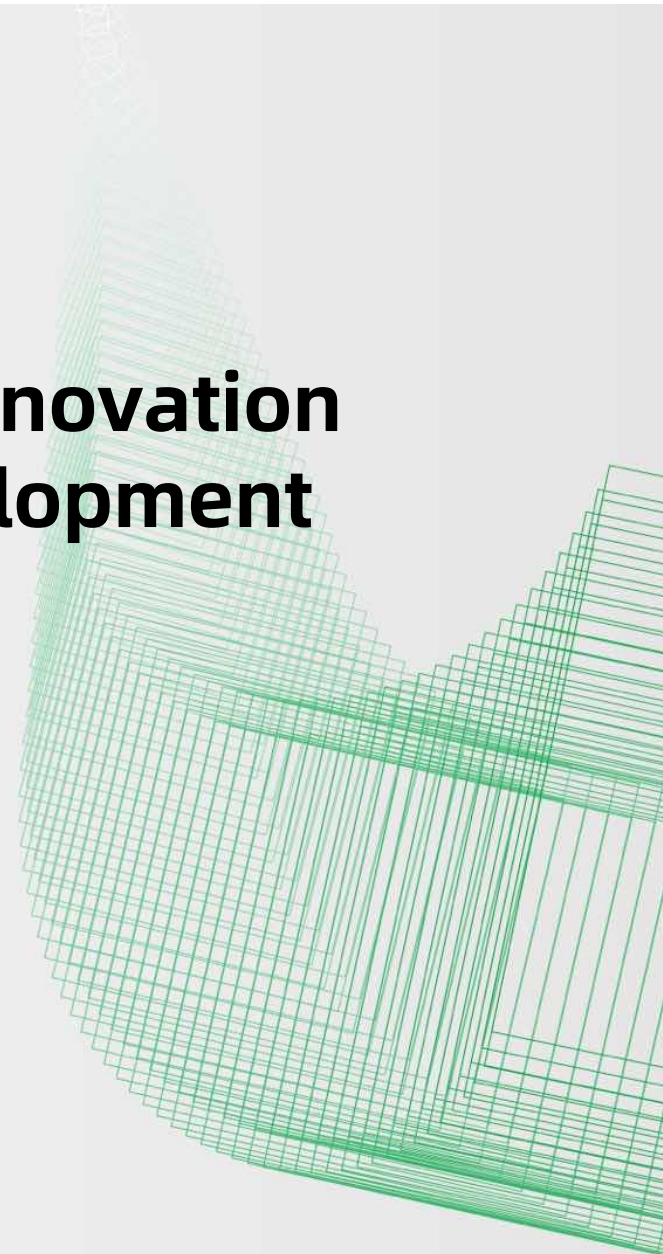


# Practice and exploration of digital innovation driving green and low-carbon development

Fanke Zhou

Product Supervisor Of Alibaba Cloud Energy Cloud





## Zhou Fanke

### Product Supervisor, Alibaba Cloud Energy Cloud

Master of software engineering and electrical engineering, the product supervisor of Alibaba Cloud Energy Cloud. He has solid interdisciplinary background and broad industry vision, now is focusing on the research and development of digital products in the fields of "carbon neutralization" and "energy & power". He has been deeply engaged in the field of "energy and power" for nearly 10 years and led several scientific projects in "smart grid", and published more than 10 papers and patents at the same time. His team is dedicated into "Dual Carbon" strategy of China, and the digital products "carbon eye " and "energy expert" based on AI and big data developed by his team has built a cutting-edge solution of "carbon neutralization" for government, enterprises and communities.

# 01 Alibaba Group Carbon Neutrality Action Report

## 02 Alibaba Cloud Carbon Neutrality Practice

# Alibaba Group Carbon Neutrality Action Report

The report was released on December 17, 2021. In addition to Carbon Emission Scope 1 to 3, Alibaba pioneered the concept of Scope 3+. **We will drive green and low-carbon development by digital innovation.**

## Decarbonizing Alibaba (Scopes 1 and 2):

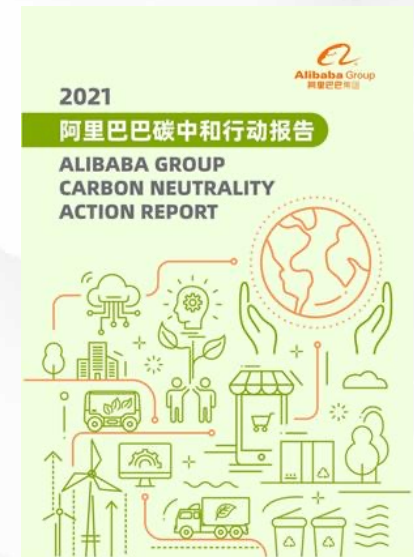
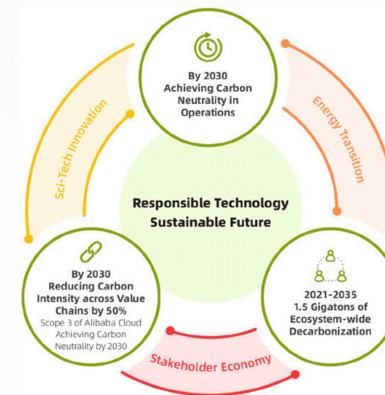
By 2030, Alibaba will achieve carbon neutrality in its own operations.

## Greening the value chains (Scope 3):

By 2030, Alibaba will collaborate with our upstream and downstream value chain partners to reduce emission intensity by 50% compare to the base year of 2020 . Alibaba Cloud provides the key digital infrastructure and will achieve Scope 3 carbon neutrality during the same period .

## Enabling low-carbon circular digital ecosystem (Scope 3+):

Beyond our own operations and direct value chains, we pledge to leverage our digital platforms to encourage even broader participation of stakeholders affected by our efforts . By 2035, we will facilitate 1.5 gigatons of GHG emission reduction over 15 years in Alibaba digital ecosystem.







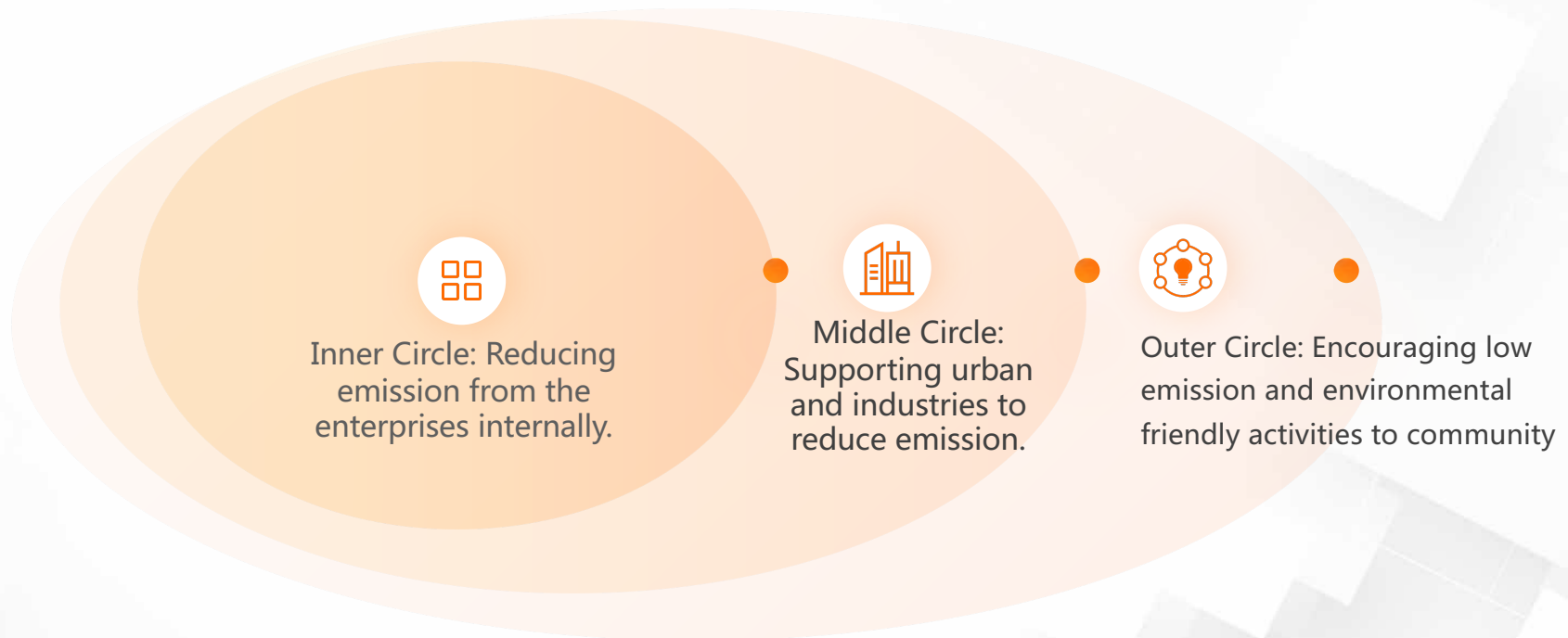
## 01 Alibaba Group Carbon Neutrality Action Report

## 02 Alibaba Cloud Carbon Neutrality Practice

# Alibaba Smart Cloud for “Dual-Carbon Tactic” – 3 circles

*\* Dual-Carbon Tactic: China would reach its carbon emissions peak before 2030 and become “carbon neutral” before 2060*

From technology innovation, Alibaba derived 3 circles according to the influencing power.



# Alibaba Cloud Carbon Neutrality Product Planning

## Energy Expert

Energy saving and carbon reduction  
tools for enterprises



Carbon  
assets



Carbon  
reduction



Carbon  
Transaction



Carbon  
finance

## Carbon Eye

City carbon Neutrality  
operating system for government



Visible



Visualizing



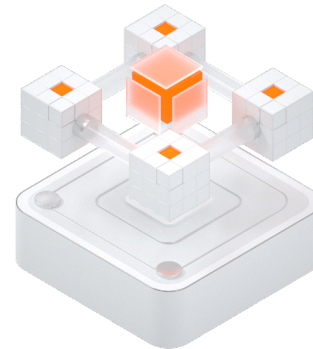
Set  
Goal



Set  
Roadmap

## Energy Expert for community

Community oriented  
carbon inclusive platform



Public  
welfare

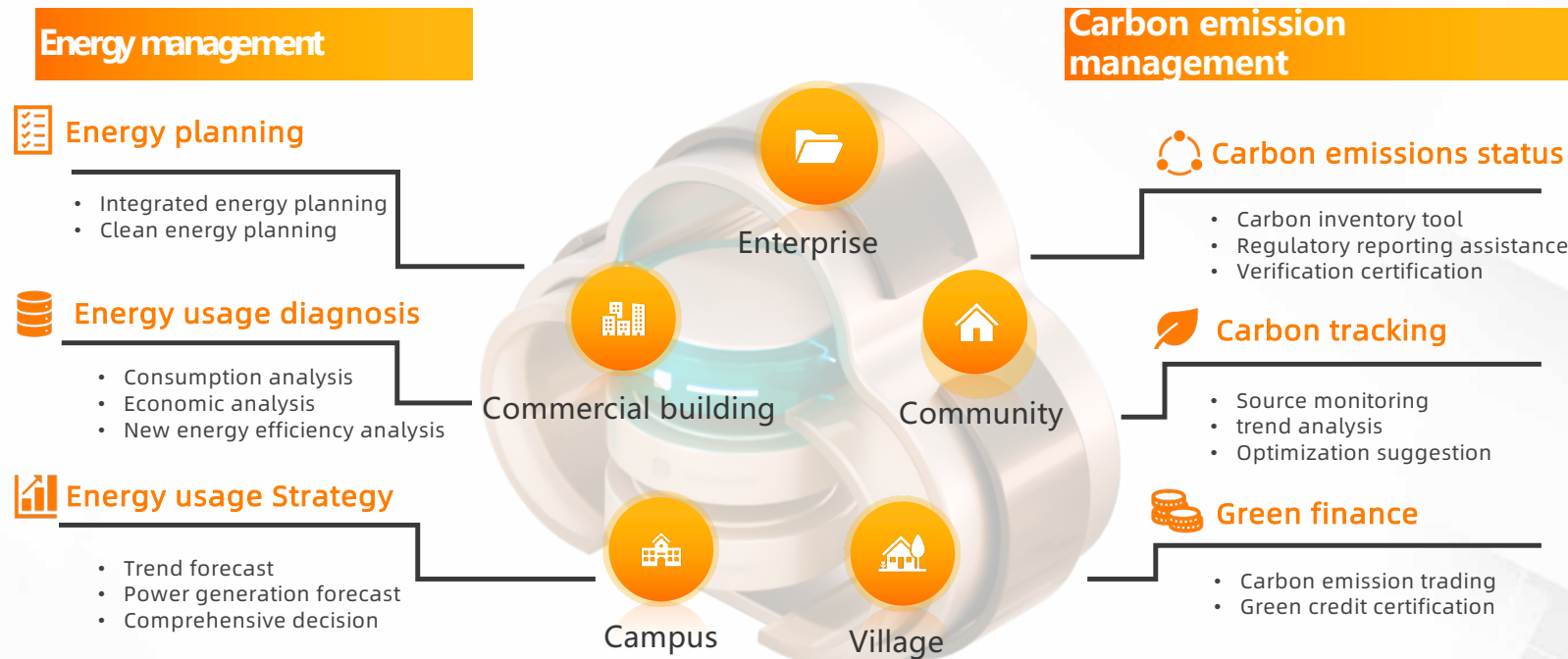


Science  
popularization



Carbon  
Operation

# Energy Expert: Energy conservation and carbon emission reduction full link management for Enterprise



# Energy Expert

## 科技创新开启企业节能低碳之路

清晰直观的碳账户、科学专业的用能分析、智能有效的节能建议、经济高效的方案推荐，企业实现“碳中和”的贴身管家。

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## Practice of Energy Expert



**Energy saving:** 2 million kWh/day

**Carbon reduction:** 1400 tCO<sub>2</sub>e/day



企业数量

1476 家



全年总发电量

4.73亿 度



设备数量

2.06万 个



全年总碳排放量

34.33万 tCO<sub>2</sub>e



场地数量

1551 个



全年用电总量

9.95亿 度



光伏装机容量

1300 MWp



全年总碳减排量

32.54万 tCO<sub>2</sub>e

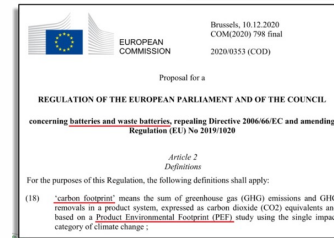


# Energy Expert: Support product carbon footprint certification for HolyCore light-truck plates

The auto industry is now undergoing the carbon neutral revolution. Countries at home and abroad have issued action plans or legislation. This has profound implications for supply chains.



Domestic:  
China Automotive Center led the release of China's automotive low-carbon action plan research report.



Abroad:  
On December 10, 2020, the Eu released the Draft Of the New Battery Law, turning it from a directive into a regulation, **take effect on January 1, 2022.**

## Auto chain carbon footprint disclosure



- Product competitiveness
- Industry influence



• Online modeling • Online accounting • Online certification



Provide higher strength, more light weight plates for light truck.



全生命周期绿色管理专委会 Based on the third party CLCD database  
Life Cycle Assessment & Management



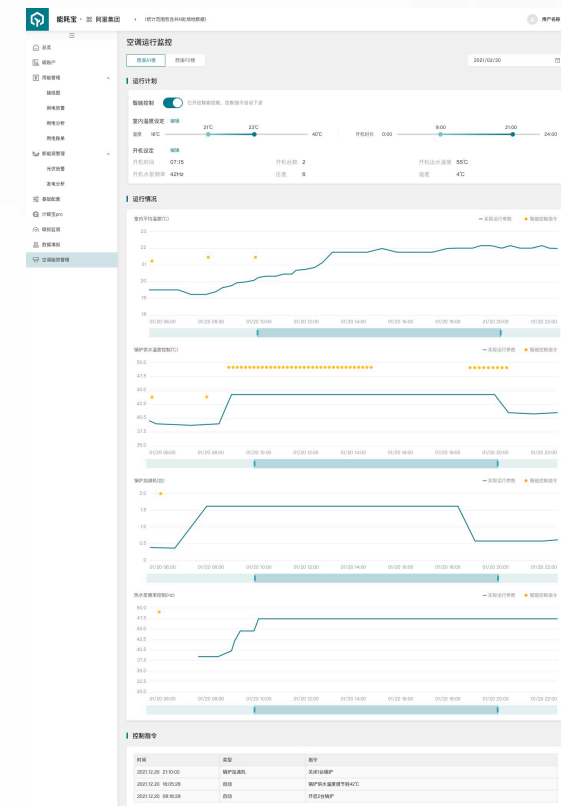
# Energy Expert: Application of energy consumption optimization in Alibaba Park

12%

Average daily  
saving

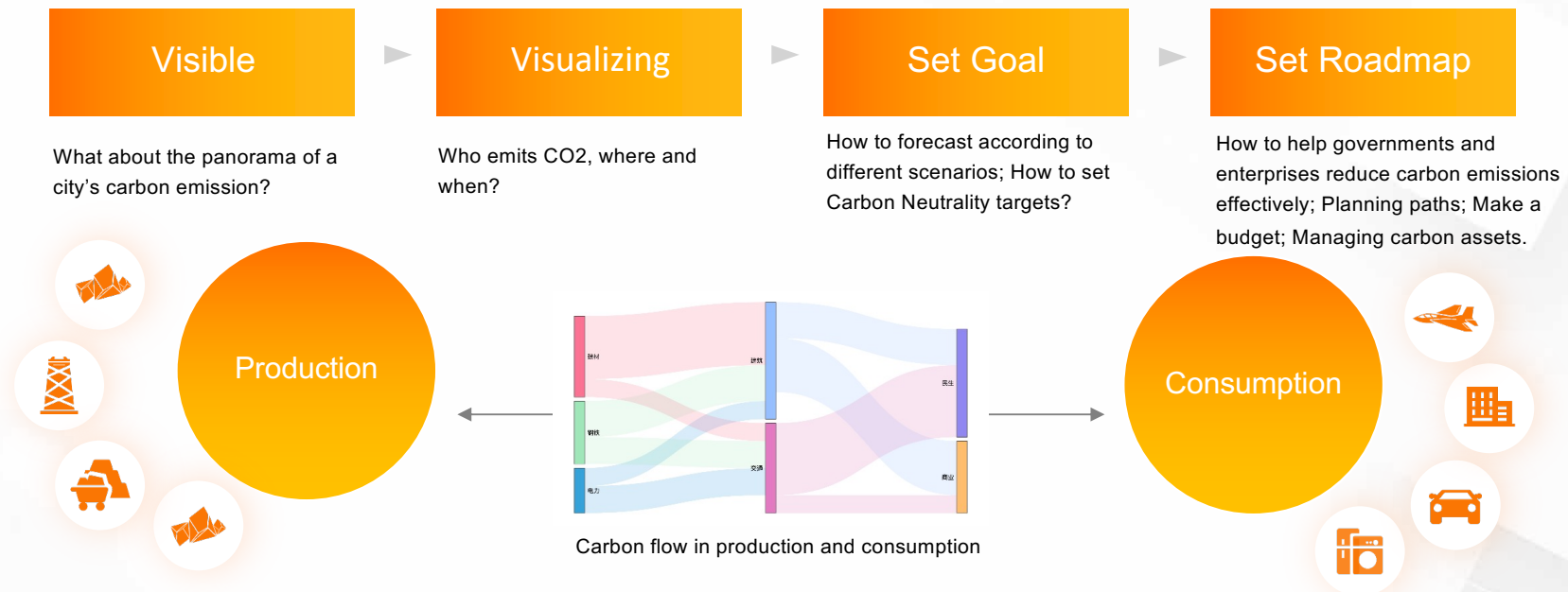
30%

Maximum daily  
saving

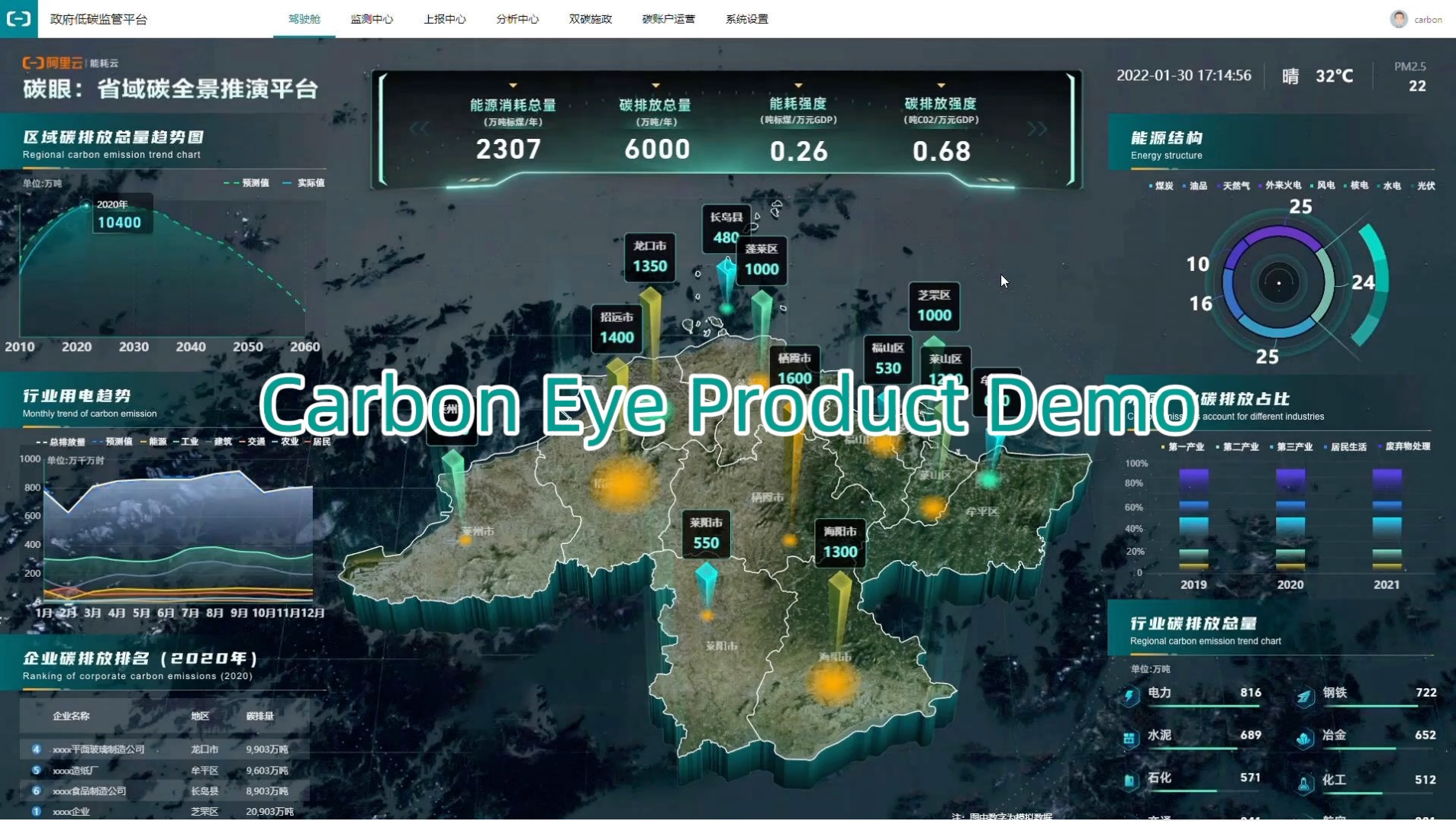


# Carbon Eye: Support Governance of Carbon Neutrality Strategy

Governance requires digital analysis and decision-making







# Practice of Carbon Eye

## Shanxi Province

《山西省重点领域行业碳排放控制及达峰研究项目》顺利通过评审验收

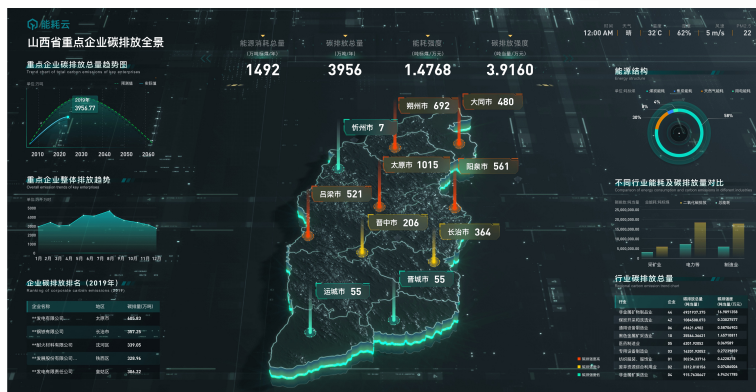
来源：碳眼中心 生态环境部环境规划院 2021-12-16 17:04



2021年12月10日，我院承担的“山西省重点领域、重点行业碳排放控制及达峰研究”项目顺利通过评审和验收。来自生态环境部、山西省生态环境厅、山西省政府、清华大学、北京师范大学、太原理工大学等单位的领导和专家以及项目技术人员共20余人参加了会议。

会议由山西省生态环境厅气候处宁处长主持，我院首席专家、项目负责人曹研究员对项目总体情况进行了介绍。张静副研究员详细汇报了山西省重点领域碳排放达峰研究成果。项目对山西省电力、钢铁、焦化、煤炭开采洗选、化工、有色、水泥及火电行业的发展和碳排放趋势进行了研判，明确了重点行业碳排放目标和路径，提出了行业低碳转型重点任务与举措。阿里云公司高级架构师左德汇报了山西省碳排放核算与跟踪管理系统研发成果，项目采用大数据、人工智能、区块链等技术，设计了山西省碳排放核算与跟踪管理系统，实现了数据上报、碳排放核算、全景展示、分析评估和跟踪预警等功能，这是我院与阿里云合作开发的“碳大眼”平台首次在省级层面得到应用。

与会专家充分肯定了项目成果，一致认为项目内容丰富，研究方法科学，技术路线清晰，任务措施可行，系统具有创新性，圆满完成了项目预定目标和任务，能够为山西省推动碳减排工作提供指导，特别是“碳大眼”系统，可作为山西省碳排放跟踪和分析预警的管理基础。



## New district in Lanzhou



## Yuhang district in Hangzhou



## Fushun district in Shenyang





# Energy Expert for Community: carbon inclusive platform

Electricity Consumption  
Household Equipment Activity  
Coupon Redemption



Energy saving in dormitory





# Practice of Energy Expert for community

China Academy of Art

The first near-zero carbon community in Shenzhen City

低碳国美 | 低碳校园创新实践

浙江文创设计制造业协同创新中心 2021-12-01 17:00



2021年11月，阿里云能耗云团队联合中国美术学院文创中心，共同发布“低碳国美”小程序，倡导“学院即社区、低碳即时尚”，进一步推动零碳校园观念普及，以及碳普惠体系在大学生群体中落地。

从产品体系来看，低碳国美小程序由寝室用电分析、碳宝地图，低碳活动、低碳权益四大板块组成，核心是以个人低碳行为数据为计算基础，构建国美碳积分体系。一方面助力校园碳中和转型；另一方面根据学生绿色行为的贡献程度，构建低碳校园平台动态权益体系，从而传播碳中和概念。



# Thanks!

