



Sustainability in Action 可持续行动

On BROAD Low Carbon Life & Technologies
远大的低碳生活与技术

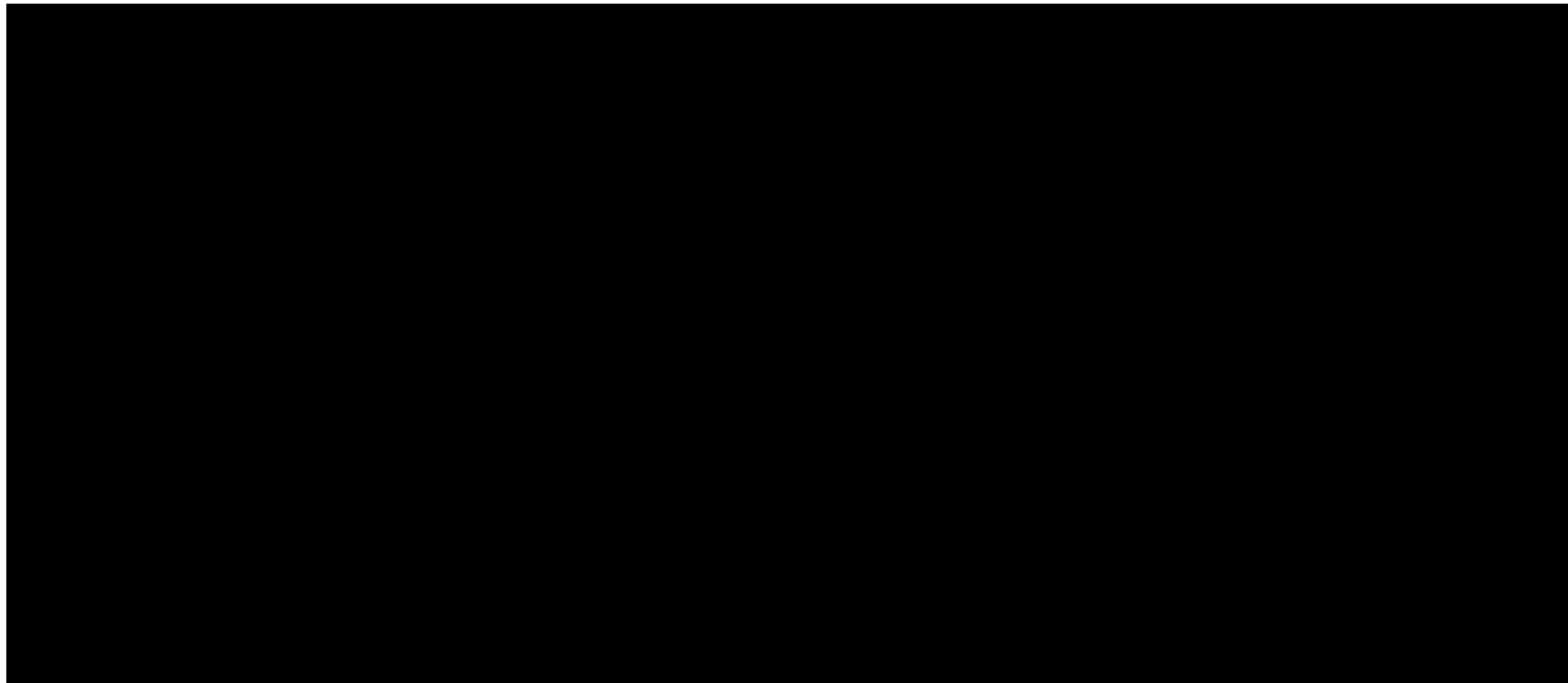
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江燕，远大科技集团副总裁

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BROAD creates a low carbon future
远大科技集团创造低碳未来



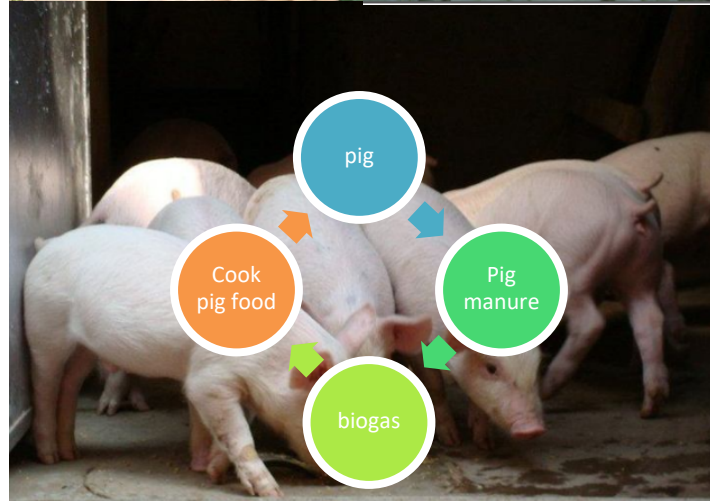


1km² BROAD Town is wholly owned by BROAD Group
面积为1km²的远大城由远大科技集团全资拥有





Eco-BROAD Farm 远大生态农场





BROAD Town Data 远大城数据

Green Land & Fish Pond Space: 680,000 m²

绿地和鱼塘面积: 680,000 m²

Pesticide & Fertilizer Utilization Rate: 0% since 1999

农药化肥使用率: 从1999年起为0%

Detergent Utilization Rate: 0% replaced by dietary alkali

洗涤剂利用率: 0%, 用食用碱代替

Food Organic Rate: 80% mainly from BROAD Town and BSB

(Broad Sustainable Building) Town

食品有机率: 80%, 主要产自远大城和湘阴

Garbage Categories: 8

垃圾分类: 8类

Virgin Forest: 148,000 m²

原始森林: 148,000 m²

Man-made Plants: 90 species

人工植物: 90余种

Wild Plants: 120 species

野生植物: 120余种

Advanced Wild Animals: 10 species

高等野生动物: 10余种

Resident Birds & Migrant Birds: 80 species

留鸟和候鸟: 80余种





Eco-BROAD Group 远大科技集团生态项目



Cereals & Oil
processing plant
粮油加工厂



Reverse Osmosis (RO)
Water Plant
反渗透水厂



8 kinds of
garbage classifications
8种垃圾分类



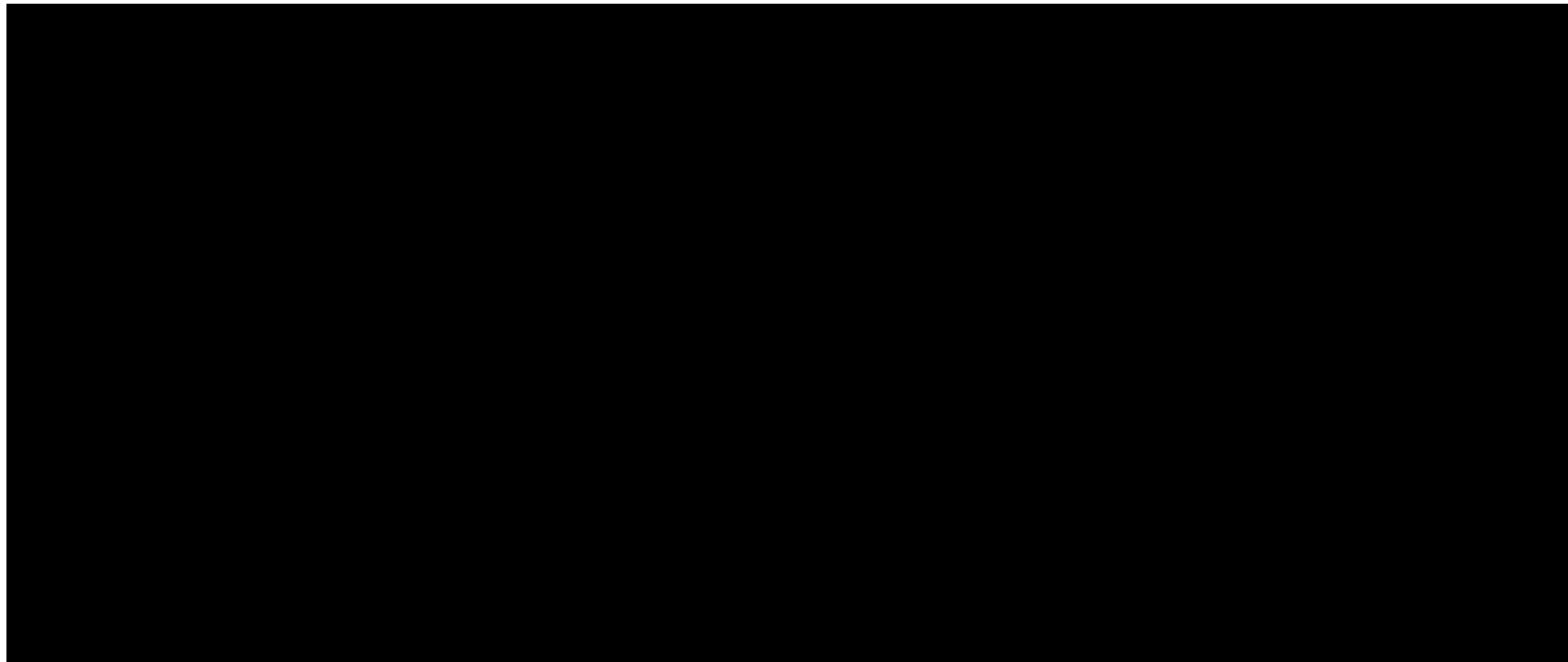
Low carbon bonuses to employees
without cars since 2009

自2009年起，对无车员工进行低碳奖励





You are invited to be
an armchair traveler to BROAD Town
欢迎视频参观远大城





BROAD Key Low Carbon Businesses 远大科技集团主要低碳业务



Non-electric air conditioning
cuts CO2 emissions, mitigates
climate change

非电空调减少二氧化碳排放，减缓气候
变化



air products extend human
life by 30 years
Enhance human health
用空气健康产品让人多活30年



Core tubular stainless steel
(CTS or Bcore) slab is an ultimate
light weight structural material,
transforming the world's
construction & transportation
industry from the root
远大芯板是终极轻量化结构材料，
从根部改变世界建筑交通工业



24 world's first inventions 24项全球首创

1. The world's first floating-ball controlled, pressure-free hot water boiler (1989)
2. China's first non-electric direct-fired air conditioner (DFA) (1992)
3. The world's largest production lines & biggest testing platform for non-electric A/Cs (since 1996)
4. The world's No.1 seller of non-electric A/Cs by sales volume (since 1996)
5. The world's first three-in-one non-electric A/C, providing cooling, heating, and hot water (1994)
6. The world's first non-electric A/C equipped with a plate heat exchanger (1997)
7. The world's first non-electric exhaust-fired A/C (1999)
8. The world's first exhaust, waste hot water, or natural gas powered non-electric A/C (2001)
9. The world's first non-electric A/C with no vacuum pump used throughout its operation life (2006)
10. The world's first zero-resistance inverter-controlled water distribution system for central A/C (2003)
11. The world's first global networking monitoring system of central A/C (1996)
12. China's first to implement "Energy Management Contract" for central A/C (2005)
13. The world's first non-electric A/C manufacturer with its complete product range passing the European and American quality and safety certifications (1999)
14. China's first DFA national standard (2001)
15. The world's only indoor unit with an electrostatic cleaner (2005)
16. The world's only air purifier with the functions of electrostatic cleaning and oxygen deficiency monitoring (2006)
17. The world's only clean fresh air machine that can filter 99.9% of PM2.5 and recover 80% of the heat (2008)
18. The world's only mobile phone that can detect PM2.5 level (2009)
19. China's first thoroughly-renovated community with 15 cm thermal insulation and 3-paneled windows (since 2008)
20. The world's first factory-made building with a construction speed of 3 floors per day, 5X energy efficiency, and 100X cleaner air (2009)
21. The world's only ultra-light and ultra-strong structural technology that replaces honey comb slab with core tubular stainless steel slab (CTS slab) (2016)
22. The world's only hot air copper brazing technology for CTS slab (2017)
23. The world's only CTS slab building (2017)
24. The world's only CTS slab bridge (2018)

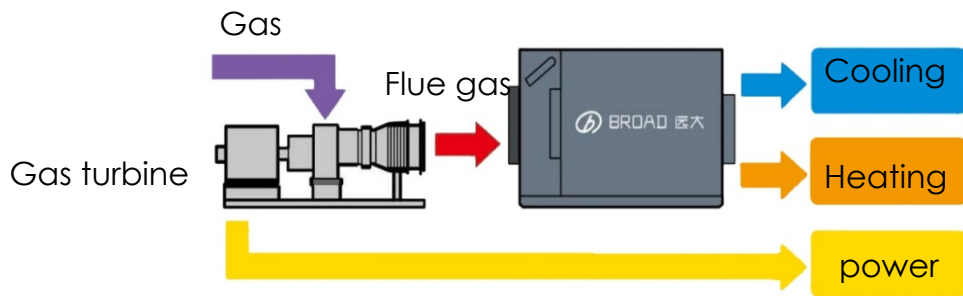


BROAD is in 80+ countries
远大科技集团产品销往80多个国家和地区



the world's first flue gas air conditioning in 1999 1999年世界上第一台烟气非电空调问世

energy efficiency 200% higher
CO² emissions 0%
能源效率至少提高一倍
零二氧化碳排放

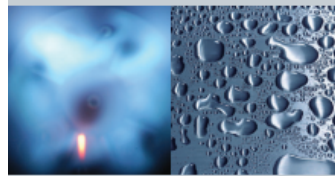


It is called CHP (cooling-heating-power) System
它被称为冷热电联产系统



Electric chillers

The overall energy efficiency is about 65% after 5 conversions



Non-electric chillers

The overall energy efficiency is about 116% with only one energy conversion.



(the energy efficiency is even higher if waste heat is used)



The biggest global district cooling project

全球最大的区域制冷项目

DLF Cyber City, New Delhi (46 units, 270MW in total)

新德里DLF数码城 (总共46台, 270兆瓦)

Oil saving yearly: 137,000 t

每年节油 : 137,000吨

CO₂ emissions cut: 410,000 t annually

每年二氧化碳减排量 : 410,000吨



Equals 22 million tree planting

相当于植树2200万棵



Payback: 1.5 years

投资回收期 : 1.5年





15 old buildings were converted into energy efficient ones at BROAD Group

15栋旧楼改建成远大科技集团的节能建筑

(energy efficiency enhanced 80%, payback less than 3 years)

能源效率提高80%，投资回收期不超过3年



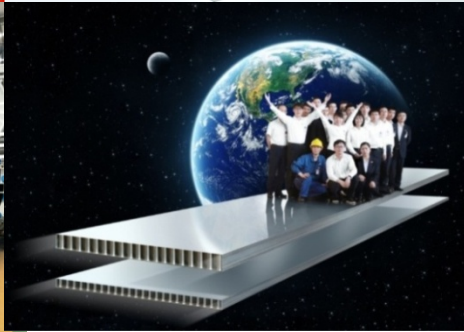


Disruptive Bcore Slab with copper brazing 用铜钎焊制芯板

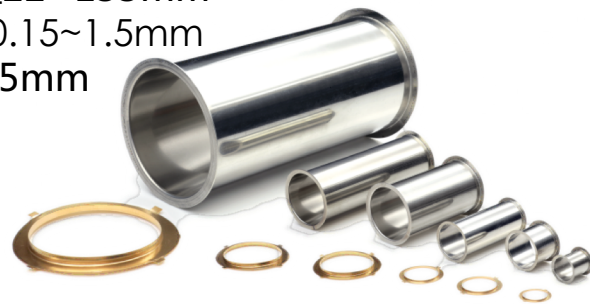
1100°C oven with
300,000m³ hot air/h
1100°C钎焊炉
每小时300,000m³热风



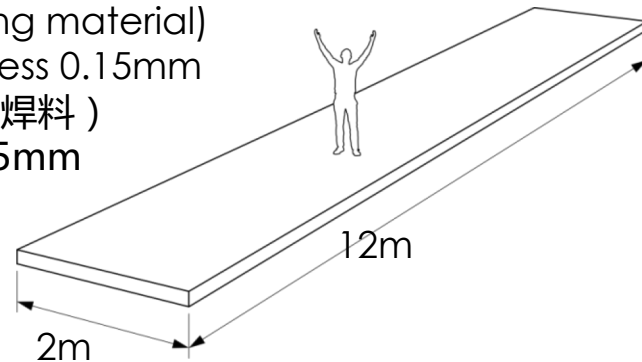
240m²/4h



Core Tubes: diameter 22~133mm
芯管：直径22~133mm
thickness 0.15~1.5mm
厚 0.15~1.5mm



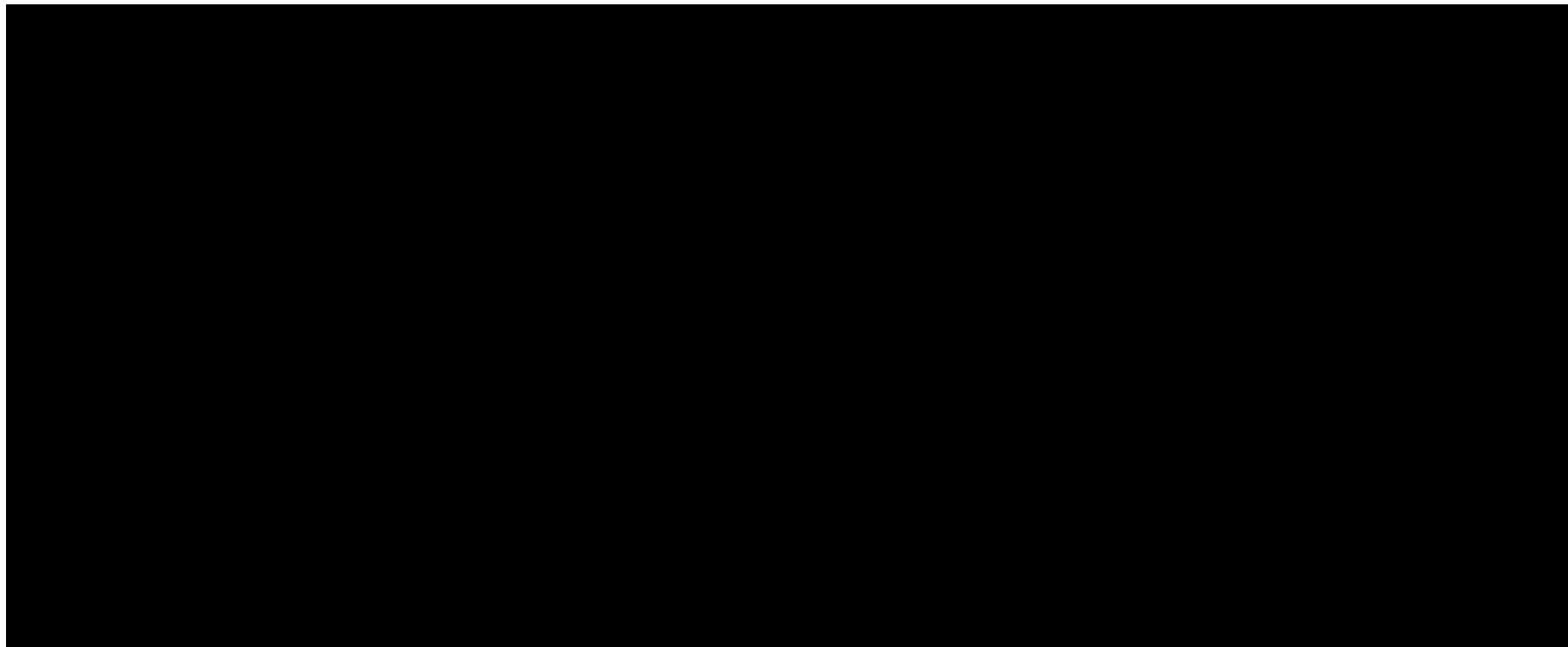
Copper Foil
(brazing material)
thickness 0.15mm
铜箔 (焊料)
厚 0.15mm





Bcore Video

芯板视频





The Bcore Building 芯板建筑



Rendering for The Sound of Nature (300F)
300层天籁方案



The 16 F office building is to be built in one week
一周建成16层高的办公室建筑



Bcore Slab Applications

远大芯板的应用



Bcore Bridge
芯板桥梁



Bcore vehicle
芯板车辆



Bcore ship
芯板船舶

Note: BROAD will only serve as a material supplier
注：远大仅作为材料提供商



Bcore Slab Applications 远大芯板的应用



Bcore Wind Turbine
芯板风电



Bcore aircraft
芯板飞机

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Benefits of Bcore Slab 远大芯板的价值

Technological Benefits:

1. Optimal mechanical structure
2. Huge size
3. Low cost fabrication makes Bcore slab the ultimate light-weight structural material

Social Benefits:

1. Can be passed down as a generational legacy
2. Superb seismic performance for buildings, roads & bridges. Ultra safe vehicles, ships and aircraft.
3. Transforming the world's construction & transportation industry from the root

CREATING
EVERLASTING
CIVILIZATION

Investment Benefits:

1. Inviolable Bcore patents
2. Brazing equipment under long-term strict confidentiality management
3. The world's biggest market shares (refers to equity investment & industry circle investment)

Environment Benefits:

1. Annual carbon reduction of building: 90kg/m², equivalent to planting 5 trees
2. Vehicles, ships and aircraft to save energy exponentially
3. Extremely durable wind turbines may popularize renewable energy

技术价值

1. 最佳力学结构
2. 巨大尺寸
3. 低成本制造，成为终极轻量化结构材料

社会价值

1. 人类财富世代相传
2. 建筑、路桥极抗震
车船飞机极安全
3. 从根部改变世界
建筑交通工业

建设
永恒文明

投资价值

1. 不可逾越的芯板专利
2. 可长久保密的钎焊设备
3. 全球最大的市场空间
(指股权投资及产业圈投资)

环境价值

1. 建筑每m²年减碳90kg，
相当于种5棵树
2. 车船飞机成倍节能
3. 风电极耐久，使普及
可再生能源成为可能



Welcome to BROAD Group!
To see is to believe!
欢迎参观远大科技集团！眼见为实！



Thank you!
谢谢

bsbs@broad.net