



WORLD BEST PRACTICES 全球最佳范例

ASIA-PACIFIC EDITION 亚太版



Sustainable Buildings
and Climate Initiative

National Partner

SPRING / SUMMER 2016 春夏合刊
Vol.26 总第二十六期



Towards Habitat III
Promote the New Urban Agenda
迈向人居三
催生《新城市议程》

1976

Vancouver Habitat I 温哥华 · 人居一

1996

Istanbul Habitat II 伊斯坦布尔 · 人居二

2016

Quito Habitat III 基多 · 人居三



绿城扫一扫

关注范例新城·绿色宜居生活



United Nations Conference on Housing and Sustainable Urban Development and the 11th Global Forum on Human Settlements

联合国住房和城市可持续发展大会暨第十一届全球人居环境论坛 (GFHS- XI)

时间：2016 年 10 月 17-20 日 地点：厄瓜多尔首都—基多市

论坛主题：紧凑型可持续城市，迈向更美好的生活



二十年一次的机遇，携手迈向“人居三”

- 第三届联合国住房和城市可持续发展大会（简称“人居三”）将于 10 月份在厄瓜多尔首都基多市举办，通过《新城市议程》，为今后 20 年世界城市的发展确立目标和方向。作为这个快速城市化时代联合国唯一聚焦城市和人居环境议题的全球峰会，人居大会每 20 年举办一次。
- 第十一届全球人居环境论坛作为“人居三”期间的重要平行会议，拟于 10 月 18 日在基多市隆重举办，凝聚共识，促进《新城市议程》实施。届时，有着“世界人居环境奥斯卡”美誉的“可持续城市与人居环境奖”将隆重揭晓。
- 城市具有改变和提高人们生活水平的力量，但城市也是许多巨大挑战、机遇和承诺的核心。把握二十年一次的历史机遇，亲身参与峰会，发出自己的声音，共同见证《新城市议程》的诞生。

携手迈向“人居三”，携手迈向可持续发展的未来。



第十届全球人居环境论坛发布：第十一届全球人居环境论坛将于 2016 年 10 月“人居三”期间在基多举办



2015“全球人居环境奖”获奖者与颁奖嘉宾合影



人居三会议举办地



厄瓜多尔首都、被列入世界文化遗产保护名录的美丽城市—基多



加拉帕戈斯象龟是现存最大的陆龟，最长寿命可达 200 岁

- **组织机构：**全球人居环境论坛理事会 (GFHS) 联合国环境规划署 (UNEP) 厄瓜多尔及其它国家政府机构
- **参会嘉宾：**联合国高级官员、厄瓜多尔及相关国家政府高级官员、世界各地城市市长、外交使节、领袖企业、专家学者、国际组织负责人和妇女儿童代表等约 300 余人将出席会议。
- **议题：**紧凑型可持续城市、可持续交通与出行、可持续旅游与城市更新、快速城镇化进程中的妇女与儿童，以及智慧城市、灾后重建等热点话题。
- **飒飒奖：**2016 可持续城市和人环境奖（2016 SCAHSA）奖项设置
 - 城市类：**全球绿色城市（城区、城镇）
 - 景区类：**全球低碳生态景区
 - 建筑类：**全球人居环境示范建筑（住区）
 - 设计类：**全球人居环境规划设计奖
 - 技术类：**全球人居环境绿色技术范例
 - 个人类：**全球人居环境杰出贡献奖，全球绿色儿童大使，等



绿色品牌之道



WORLD BEST PRACTICES 全球最佳范例

— ASIA-PACIFIC EDITION 亚太版 —

国际视野 绿色平台 高端受众 成功典范

读者群与发行网络：联合国有关机构和国际组织负责人及专家，国内外政府官员、城市市长和商界精英、规划建设、城市管理、建筑与住房、低碳环保、交通等行业的企业家和专业人士。杂志纸质版赠阅、订阅和电子版订阅并重，此外进入深圳等地上千个商务场所、银行网点、休闲会所和高尔夫球场的展示终端，供高端顾客传阅，并可在手机等移动终端上阅读。

最佳范例甄选：本杂志面向全社会甄选人居与城市相关的最佳范例，城市、企业和个人均可申报。由杂志命名后向全球推广。由本杂志总结报道的汶川县水磨镇灾后重建范例经验等已成为可持续重建经典，体现了中国灾后重建的巨大成就和奇迹，广为传播。

杂志理事会：依托本杂志平台，由城市政府、人居环境领域的企业、科研院校等单位和社会各界人士自愿组成的服务联盟。理事会旨在为理事单位提供国内外交流合作及创新创业和提升发展的综合平台，加强能力建设，实现互惠多赢的目标。理事会不定期举行活动。

广告营销：本杂志以高端的国际化定位、前瞻性和实用性相结合的行业资讯以及高端读者群，为广大城市和企业提供了一个塑造绿色品牌、促进产品营销的独特超值的平台。

To the Spring 致春天

“没有谁是一座孤岛，每个人都是广袤大陆的一部分”

17 世纪，英国诗人多恩写下这句诗歌时，大航海已经使广阔世界连成了一个整体，葡萄牙的舰队穿越太平洋到东方寻找黄金和香料，东印度公司把中国的瓷器源源不断地运往世界各地……从此，世界上再也没有一个国家或城市是独立的存在，每个人都是广袤大陆的一部分，没有人能够自全。经济全球化使人与人之间的距离越来越小，在蝴蝶扇动翅膀也能刮起一场飓风的今天，万物相依独难住，每个个体的行为都会对地球产生影响，每个人对环境都负有不可推卸的责任。

2016 年 4 月 22 日，是人类历史上意义非凡的一个“世界地球日”，175 国代表在纽约联合国总部签署了全球减排协议——《巴黎协定》，史上第一次，这个地球上的所有国家，将共同应对气候变化带来的挑战。“没有后果而进行消费的时代一去不复”，《巴黎协定》是人类共同和未来签订的一个契约，是人类合作应对全球气候挑战的尝试与决心，它将世界所有国家都纳入了呵护绿色星球以确保人类可持续发展未来的命运共同体当中。在这个相互依存、休戚与共的世界上，我们一荣俱荣、一损俱损。

10 月 17 日至 20 日，第三届联合国住房和城市可持续发展大会（简称“人居三”）将在厄瓜多尔首都基多市举办。届时，各国领导人及全球利益相关者将相聚“人居三”，结合《2030 可持续发展议程》，通过《新城市议程》，为今后 20 年世界城市的发展确立目标和方向。全球人居环境论坛也和国际社会一道努力，积极筹备第十一届论坛年会，收集行业专家和公众建议，征集最佳范例，为“人居三”凝心聚力，为《新城市议程》建言献策，激发更多的觉醒和行动。

城市让生活更美好。城市和人类的纽带早在 7000 年前就已存在，城市是伴随着人类的文明与进步发展起来的，它随着人类的进化在不断地生长、适应。今天，我们为未来 20 年的城市所绘制的蓝图，不仅反映了当下我们所面临的机遇与挑战，也将定义 20 年后，我们能否拥有我们想要的城市和想要的生活，我们的后代，将生活在蓝天之下还是雾霾之中。

春天，是播种希望的季节。在通往可持续未来的道路上，一定布满了鲜花和陷阱。但我们也深信，只要国与国之间，人与人之间建立对话与交流，相互理解和尊重，知行合一，地球的未来将更蓝、更绿、更美好。

在这个春天相约，我们携手迈向“人居三”，迈向可持续发展的城市未来。

欢迎订阅 发布广告 加入理事会 提升品牌

前沿资讯 FRONTIER INFORMATION

- 006 前沿·数据 Frontier·Data
008 前沿·关注 Frontier·Focus

专题报道 SPECIAL REPORTS



- 012 从布拉格到基多，携手迈向“人居三”
——“人居三”欧洲区会议在布拉格召开
From Prague to Quito, Together Towards Habitat III
--The European Habitat for the Habitat III Held in Prague
- 018 我们需要的城市和我们憧憬的未来
——世界城市运动第十四次执委会在布拉格成功举办
The Future We Want, The City We Need
--The 14th Steering Committee of the World Urban Campaign Held in Prague successfully

联合国之声 VOICE OF THE UNITED NATIONS

- 024 我们需要的城市 2.0(摘要)
——迈向一个新的城市范式
THE CITY WE NEED 2.0 (Abstract)
--Towards a New Urban Paradigm



技术与观点 TECHNOLOGY & VIEWPOINT

- 034 综合空间规划，提升城市弹性与可持续性
Integrated Spatial Planning for Resilience and Sustainability
- 045 水汽能在城市可持续发展中的应用
Application of Water Vapor Energy in Sustainable Development of Cities



城市评论 CITY REVIEW

- 050 我们离慢行的城市有多远？
How Far Away are We From Slow City?
- 055 时隔 37 年，中国重绘未来城市发展蓝图
China's Urban Policy Unit Just Met for the First Time in 37 Years
- 062 范例新城：建设理想城市的行动范本
IGMC: The Action Framework for Building Ideal Cities



- 067 深圳美好城市研究院正式成立
——可持续城市高端智库，致力于让城市生活更美好
Shenzhen Better City Institute Formally Established
--Sustainable City Think-tank Committed to Better City Better Life



最佳范例 BEST PRACTICES



- 070 曼哈顿网格的原动力
——图上画线创造价值
The Generative Power of Manhattan Grid
Drawing Lines on Maps for Creating Value
- 086 为人居环境奉献清洁高效的能源
——华电山东分公司的节能减排、高背压供热改造之路
Dedication to Providing Clean and Efficient Energy for Human Settlements
--The Road to Energy Conservation & Emission Reduction and High Back-Pressure Heating Transformation of Huadian Power International Corporation Ltd, Shandong Branch
- 092 全球低碳生态景区——中国黄果树风景名胜景区
Global Low-carbon Eco Scenic Spot:
Huangguoshu Waterfall Scenic Area



人物视界 FIGURE



- 108 专访斯德哥尔摩水奖获得者 Joan Rose
Exclusive Interview with Joan Rose,
the Stockholm Water Prize Winner



- 113 威省：贯彻可持续发展目标，不让一个人掉队
——专访马来西亚威省市长拿督麦慕娜
Seberang Perai: Guiding By the Sustainable Development Goals, No One Will Be Left Behind
--Exclusive Interview with Dato' Maimunah, Mayor of Seberang Perai, Malaysia

可持续消费与生产
SUSTAINABLE CONSUMPTION AND PRODUCTION

- 122 绿色消费意见出台，开启可持续消费新模式
The Green Consumption Guidelines Unveils a New Mode of Sustainable Consumption



主 办 Host
全球人居环境论坛理事会 (GFHS)
联合国人类住区规划署最佳范例杂志促进中心
联合国人类住区规划署《全球最佳范例》杂志亚太区办事处
Global Forum on Human Settlements
UN-HABITAT Best Practices Magazine Promotion Center
UN-HABITAT World Best Practices Magazine Asia-Pacific Office

编辑出版 Edit Publish
《全球最佳范例》杂志社
World Best Practices Magazine Press

深圳办公室 Shenzhen Office
地 址：深圳福田区福虹路世贸广场 C 座 701 室
Address: Suite 701, Block C, World Trade Plaza, Fuhong Road, Shenzhen, China
Tel: 0755-83288289 83288296 Fax: 0755-83288619

香港办公室 Hong Kong Office
地 址：旺角彌敦道 625 号雅蘭中心二期 9 楼 909B 室
Address: 909B, 9/F, Two Grand Tower, 625 Nathan Road, HK

美国办公室 USA Office
地 址：美国纽约市曼哈顿滨水广场 20-E 室
Address: 10 Waterside Plaza, Apt 20-E New York, 10010
E-mail: gfhs@gfhsforum.org

网 址 Website: www.bestpracticesmagazine.org
http://www.gfhsforum.org

手机登陆网易云阅读 (http://yuedu.163.com/)，安装客户端即可搜索下载《全球最佳范例》杂志最新版，随时随地阅读

国际刊号 Issues No. ISSN 2072-392X
中国国际图书贸易集团有限公司深圳分公司
期刊刊号 Journal No. G290Y0100

社 长 President 维克多·费什特 Victor Fersht

执行社长兼总编辑 Executive President & Chief Editor
吕海峰 Lu Haifeng

特邀撰稿人 Guest Writer
薛杰 科斯汀·米勒 戴维·B·萨顿 贝一明 赛能·安东尼奥 高 志
Serge Salat Kirstin Miller David B. Sutton Emanuel Yi Pastreich Senen Antonio Gao Zhi

编辑部主任 Editorial Director
陈 新 杨晓鸿 Chen Xin Yang Xiaohong

责任编辑 Executive Editor
何 莲 蔡明君 Christine June

采 编 Reporters & Editors
赫 雪 秋 石 张祥震 田野 王伟迪 贾丽娜
Sabrina, Stone, Zhang Xiangzhen, Tian Ye, Eva Wang, Lina Jia

美术编辑 Art Editor 继 辉 Jihui
发 行 Distribution 安娜 Anna

法律顾问 Legal Advisor
北京中银律师事务所 谢兰军 朱耀龙 Xie Lanjun Zhu Yaolong

国内事务代理 Domestic Agent
深圳市锦绣联合展览有限公司
Tel: 0755- 83288289 83288296

北京联络处 Beijing Office
中国城市发展研究会
地址：北京阜外月坛北小街 2 号院 2 号楼社科院经济所
邮编：100836 Tel: 010-65244982 Fax: 010-65244975

声明：本刊选用了部分媒体作者的图片与文字资料，请未及通知到的作者与本刊联系，以便支付稿酬。
版权所有，未经许可不得转载。

WORLD BEST PRACTICES 全球最佳范例

ASIA-PACIFIC EDITION 亚太版

顾 问：（排名不分先后）

安瓦尔·乔杜里 联合国前副秘书长及高级代表、全球人居环境论坛理事会主席
杨 慎 建设部原副部长、全国工商联房地产商会名誉会长
王扬祖 国家环保局原副局长、研究员
戴维·安德森 联合国环境规划署管理委员会前主席、加拿大前环境部部长
理查德·瑞吉斯特 国际生态城市建设者协会主席
郝圣银 中国社会工作协会副主任，原建设部体改法规司副司长、办公厅副主任
徐宗威 亚洲建筑学会副主席、中国建筑学会副理事长、
原住房与城乡建设部法规司副司长、巡视员
维克多·维普里斯基 联合国人居署最佳范例远东中心主任、联合国人居署
与联合国教科文组织国际项目联合会总干事
维克多·考斯科夫 联合国教科文组织俄罗斯联邦委员会远东区执行主任
联合国教科文组织“海洋生态学”教席副主席

编 委：（排名不分先后）

朱铁臻 中国城市发展研究会副理事长、中国社会科学院研究员
王德辉 中国环境保护部国家环境评估中心顾问、原国家环境保护总局
自然生态保护司副司长兼中国履行生物多样性公约办公室主任
努尔·布朗博士 联合国友好理事会主席、著名环保外交家
泰吉·哈马德 世界非政府组织联合会秘书长
科斯汀·米勒 国际生态城市建设者协会执行主任
维克多·费什特 联合国人居署最佳范例指导委员会委员
联合国人居署最佳范例杂志执行秘书
张克科 深港产学研基地副主任、深港发展研究院执行院长
深港科技合作促进会会长
吕海峰 全球人居环境论坛理事会秘书长、中国城市建设开发博览会秘书长
陈可石 北京大学教授、博士生导师、北京大学中国城市设计研究中心主任
旷建伟 中国城市发展研究会秘书长
张柏龄 深圳市循环经济协会创会会长
侯百镇 《规划师》杂志社社长、教授级高级规划师
周国忠 联合国人居署《全球最佳范例》杂志亚太区办事处总干事
范志刚 环境景观策划及规划设计专家、国际企业四级教练
徐德福 香港大公报高级记者
万怀胜 深圳市中幼国际教育科技有限公司总裁

Editorial Board 杂志编委会

Advisors（Names Listed in No Particular Order）

○ Ambassador Anwarul K. Chowdhury Former Under-Secretary-General and High Representative of the United Nations, Chairman of Global Forum on Human Settlements
○ Yang Shen Former Vice-Minister of Ministry of Construction, Honorable President of China Real Estate Chamber of Commerce (CRECC)
○ Wang Yangzu Former Deputy Director of State Environmental Protection Administration; Researcher
○ David Anderson Former President of UNEP Governing Council, Former Minister of Environment Canada, Senator
○ Richard Register President of Eco-City Builders
○ Hao Shengkun Deputy Director, China Association of Social Workers; former Deputy Director, Department of Restructuring and Regulations and the General Office, Ministry of Construction, People's Republic of China
○ Xu Zongwei Vice Chairman of Asia Architectural Society, Vice President, Architectural Society of China, former Inspector and Deputy Director, Dept. of Policies and Laws, MOHURD
○ Victor Vipritsky Director of Far East Center UNHABITAT "Best Practices", General Director of UN HABITAT and UNESCO International Programs Association
○ Victor Korskov Executive Director of UNESCO Russian Federation Commission, Far East Branch and Deputy Chairman of UNESCO Chair "Marine Ecology"

Editorial Board（Names Listed in No Particular Order）

○ Zhu Tiezhen Deputy President of China Research Society Of Urban Development; Researcher of Institute of Economics, Chinese Academy of Social Sciences
○ Wang Dehui Consultant to China Environmental Assessment Center, Ministry of Environmental Protection of the PRC, Former Deputy Director-General of the Nature and Ecology Conservation Department, Concurrently Director of China Implementing CBD Office, SEPA
○ Dr. Noel Brown President of Friends of the United Nations, Environmental Protection Diplomat
○ Taj Hamad Secretary General of the World Association of Non-Governmental Organizations (WANGO)
○ Kirstin Miller Executive Director of Eco-City Builders
○ Victor Fersht Member of Best Practices for UN-HABITAT, Executive Secretary of UN Best Practices Magazine Promotion Centre
○ Zhang Keke Deputy Director of PKU-HKUST Shenzhen-HongKong Institution, Executive Dean of Shenzhen-HongKong Research Institution, President of the Council for the Shenzhen-HongKong Technology Cooperation
○ Lu Haifeng Secretary General, Global Forum on Human Settlements and China City Construction & Development Expo
○ Chen Keshi Professor, Doctorial Tutor of Peking University; Director of Chinese Urban Design Research Centre of Peking University
○ Kuang Jianwei Secretary General of China Research Society of Urban Development (CRSUD)
○ Zhang Bailin Chair of Shenzhen Association of Circular Economy
○ Hou Baizhen Professorial and Senior Urban Planner, Proprietor of Urban Planner Magazine
○ Zhou Guozhong Director-General of UN HABITAT World Best Practices Magazine Asia-Pacific Office
○ Fan Zhigang Landscape Planning Export, Senior Corporate Training Instructor
○ Xu Defu Senior Reporter of Hong Kong Ta Kung Pao
○ Wan Huaisheng President, Shenzhen Zhongyou International Education Technology Co., Ltd

Frontier · Data

前沿 · 数据

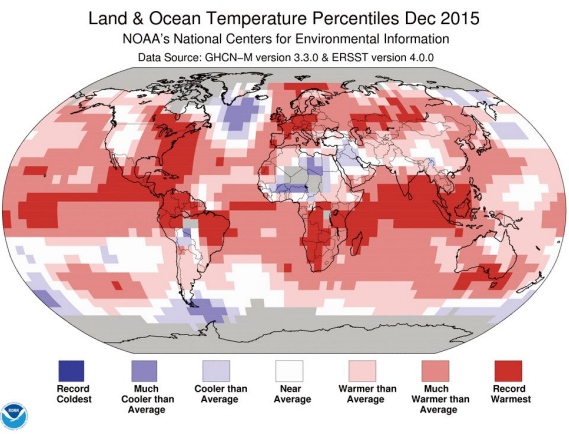
世界卫生组织：全球平均每 4 名死者中有 1 人死于环境问题

世界卫生组织 3 月 15 日发表报告称，2012 年约有 1260 万人因为在不健康环境中生活、工作而死亡，占全球死亡总数近四分之一。报告列举了各种环境风险因素，例如空气和水污染、土壤污染、接触化学品、气候变化、紫外线辐射等，可导致 100 多种疾病和损伤。

按死亡原因来看，占比例最多的是脑中风，达到 250 万人，之后依次为缺血性心脏病 (230 万人)、意外伤害 (170 万人)、癌症 (170 万人) 和慢性呼吸系统疾病 (140 万人) 等；按地区来看，在 PM2.5 污染严重的中国等西太平洋地区和东南亚中低收入国家，环境对健康的影响最为明显；按死亡年龄来看，环境风险对婴幼儿和老人影响最大，其中 5 岁以下儿童和 50 岁至 75 岁成年人受害最深。

报告强调指出，国家可以采取低成本、高效益的措施，扭转与环境有关的疾病和死亡上升趋势。这些措施包括少用固体燃料，进一步采用低碳能源技术等。

世卫组织总干事陈冯富珍指出，“健康环境是人口健康的基础。如果国家不采取行动创造有益健康的生活和工作环境，将有数以百万计的人生病和过早死亡。”



2015 年是有记录以来最热年份 全球平均气温比 20 世纪平均水平高出 0.90 摄氏度

美国国家海洋和大气管理局 1 月 20 日发布的报告显示，2015 年是全球自 1880 年有气温统计以来的最热年份。2015 年全球平均气温比 20 世纪平均水平高出 0.90 摄氏度，比上一个最热年份 2014 年高出 0.16 摄氏度，而且 “0.16 摄氏度” 这一破纪录的增加幅度是史上最大的一次。

美国航天局戈达德空间研究所主任加文·施密特表示，2015 年是 “不平常” 的一年，它的高温确实受厄尔尼诺的影响，但更多是长期变暖趋势的累积作用。考虑到厄尔尼诺影响还在继续，施密特预测，2016 年又将是 “格外温暖的一年”，甚至可能创下又一个最热年纪录。2016 年全球平均气温不断刷新纪录，继今年 1 月成为有记录以来最热的 1 月后，今年 2 月全球气温再创新高，并且全球气温已连续第 10 个月破同期单月全球气温纪录。

欧洲中期天气预报中心的泰波称，全球变暖的长期趋势 “令《巴黎协定》的实施迫在眉睫”。为解决气候暖化危机，全球 195 个国家去年 12 月达成历史性的《巴黎协定》，目标是在 2100 年前全球气温上升幅度控制在不超过工业革命前水平 2 摄氏度的范围内，同时争取达到更困难的目标——1.5 摄氏度以内。各国也同意要在本世纪下半叶实现温室气体净零排放。

环境保护部发布 2015 年全国城市空气质量状况 城市空气质量达标城市比例为 21.6%

环境保护部 2 月 4 日向媒体通报，2015 年全国城市空气质量总体呈好转趋势。全国 338 个地级及以上城市平均达标天数比例为 76.7%，73 个城市空气质量达标，占 21.6%，达标城市主要分布在福建、广东、云南、贵州、西藏等省份。

从京津冀、长三角、珠三角等重点区域和直辖市、省会城市、计划单列市等第一批开展空气质量新标准监测的 74 个城市来看，2015 年空气质量相对较差的后 10 个城市（从第 74 名到第 65 名）依次是保定、邢台、衡水、唐山、郑州、济南、邯郸、石家庄、廊坊和沈阳；空气质量相对较好的前 10 个城市（从第 1 名到第 10 名）依次是海口、厦门、惠州、舟山、拉萨、福州、深圳、昆明、珠海和丽水。

环境保护部环境监测司司长罗毅分析 2015 年全国城市空气质量状况，有以下特点：一是全国空气质量持续好转，但京津冀区域 PM2.5 浓度仍超标较重。二是北方地区采暖季期间大气污染依然较重，采暖季期间静稳天气频发与污染物排放量大的相互叠加，导致我国北方尤其是京津冀及周边地区多次发生空气重污染，对人民群众生产生活影响较大。三是 O₃ (臭氧) 污染问题日益凸显。2015 年 74 个城市 O₃ 日最大 8 小时均值第 90 百分位浓度平均同比上升 3.4%，与 2013 年相比上升 7.9%，大气复合型污染特征突出。



全球环境竞争力排名揭晓 中国排名第 85 位

2 月 25 日，中国环境保护部环境规划研究院、国务院发展研究中心、全国经济综合竞争力研究中心等单位在京联合发布《全球环境竞争力报告 (2015)》(简称绿皮书)。绿皮书显示，2014 年，挪威、瑞士、德国位列全球环境竞争力排名的前三名，中国在全球排名第 85 位，比 2012 年上升了 2 位。

在绿皮书排名前 10 位的国家中，有 7 个是发达国家，比重达到 70.0%。而环境竞争力较低的国家基本上是发展中国家，这主要是由于发达国家和发展中国家长期以来在经济社会发展基础、环境保护投入、环境有效治理、环境技术水平等各个方面存在巨大差异而造成的 “鸿沟”。

该绿皮书根据全球各国环境发展的实际，构建了由 1 个一级指标、5 个二级指标、14 个三级指标和 60 个四级指标组成的全球环境竞争力评价指标体系，选取了全球 133 个国家作为评价对象，可为各国判断分析本国环境发展的优势与薄弱环节提供参考依据，也可各国完善制定环境经济政策、加快绿色经济转型和提升环境竞争力提供重要的决策借鉴。

2016 年一季度住宅价格均呈上涨态势 一线城市累计上涨 7.02%

中国指数研究院 4 月 11 日发布《2016 年一季度中国房地产市场研究报告》。报告中显示，2016 年一季度各级城市住宅价格均呈上涨态势，与去年同期相比，一线城市房价涨幅明显扩大，一季度一线城市累计上涨 7.02%，涨幅较去年同期扩大 6.30 个百分点，二线城市累计上涨 0.92%。

总体来看，随着当前城市房地产市场分化加剧，分类指导、因城施策仍是各级城市房地产调控的主要基调，未来一段时间各地施政仍将呈现三四线高库存城市千方百计去库存、一二线热点城市加码调控稳定市场的基调。

今年是十三五开局之年，也是推进结构性改革的攻坚之年，当前我国发展挑战更加严峻，经济下行压力加大，两会政府工作报告强调保持经济运行在合理区间，在适度扩大总需求的同时，突出抓好供给侧结构性改革。房地产方面，中央提出要完善支持居民住房合理消费的税收、信贷政策，适应住房刚性需求和改善性需求，因城施策化解房地产库存。同时中央也将通过构建以政府为主提供基本保障、以市场为主满足多层次需求的住房供应体系，稳步提高居民住房水平，更好地保障住有所居。WBP

Frontier · Focus

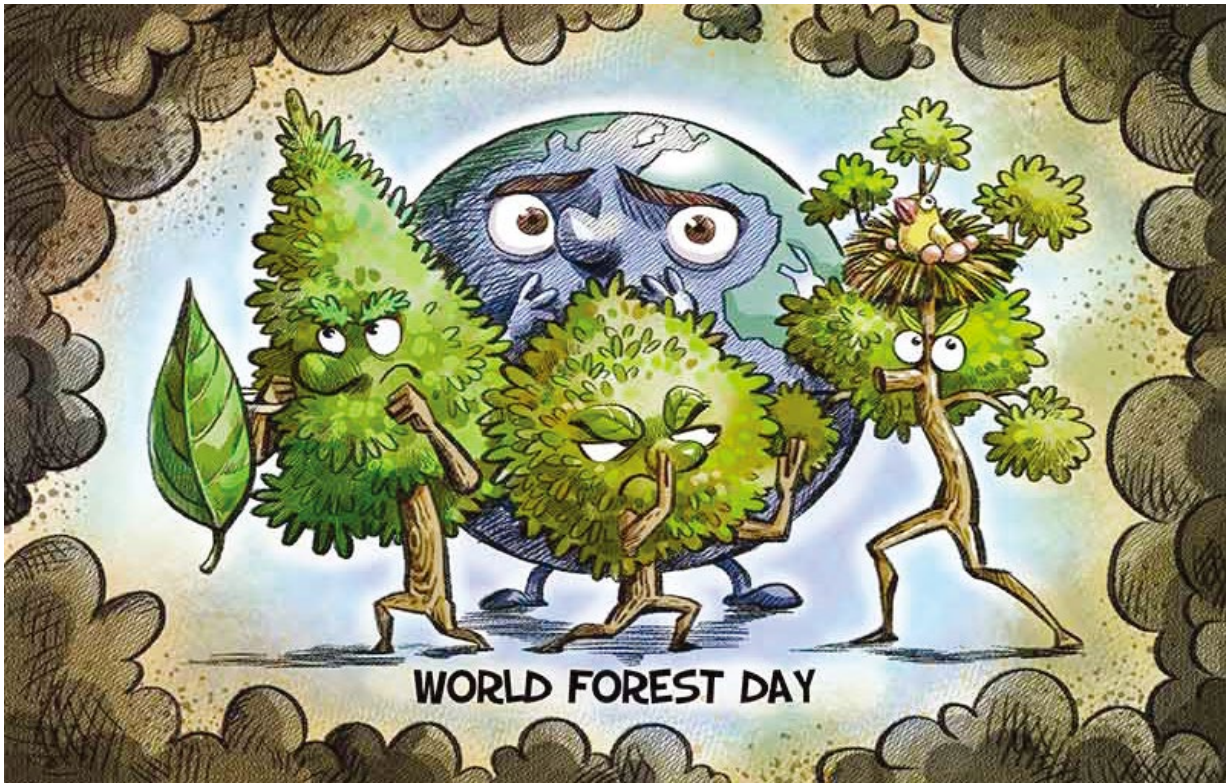
前沿 · 关注

粮农组织在国际森林日之际启动新的森林与水计划

2016 年“国际森林日”的主题是“森林与水”。3 月 21 日，联合国粮食与农业组织在“国际森林日”之际推出一项新计划，旨在促进森林对改善水质和水供应方面的重要作用。粮农组织利用今年的“国际森林日”庆祝活动强调森林如何能有助于各国（尤其是在水资源短缺的国家）改善水供应，而气候变化使得这一珍贵资源的重要性日益凸显。

该项以森林与水之间密切关系为重点的计划将首先探索如何改善八个西非国家（冈比亚、几内亚、几内亚比绍、马里、毛里塔尼亚、尼日尔、塞内加尔和塞拉利昂）的用水安全。粮农组织将与当地社区合作，提高他们对森林与水之间相互作用的认识，并帮助他们将森林管理纳入其农业实践以改善水供应。

联合国负责经济和社会事务的副秘书长吴红波在纽约联合国总部庆祝“国际森林日”的特别活动中致辞表示，在全球人口迅速增长以及对水资源的需求日益加大之际，保护森林提供水源的能力成为一项越来越紧迫的任务。吴红波呼吁国际社会团结一致，为保护森林和水这一对人类发展至关重要的自然资源采取协调一致的行动。



4 月 22 日世界地球日，175 国签署《巴黎协议》



4 月 22 号世界地球日，纽约联合国总部举行《巴黎协定》高级别签署仪式。在联合国秘书长潘基文正式发表讲话前，签署仪式打破了惯例，潘基文首先邀请一位来自坦桑尼亚的青年代表发言。

青年代表说：“或许你们会认为，我们实在太年轻了，并不了解气候变化的现实。去看看我们每天的生活吧。作为年轻一代，未来是我们的，但这不是我们自己想要的未来。或许我只是今天站在你们面前的一个女孩，但我并不是一个人。我们期待着比

一纸协议更多的承诺，我们期待更大规模的行动。行动必须从今天开始，而不是明天。”

国家主席习近平特使、国务院副总理张高丽出席《巴黎协定》高级别签署仪式，并代表中国签署《巴黎协定》。张高丽在签署仪式开幕式发表题为“推进落实巴黎协定，共建人类美好家园”的讲话。张高丽强调，中国是负责任的发展中大国，中国人民崇尚“言必信、行必果”。我们将贯彻“创新、协调、绿色、开放、共享”的发展理念，认真落实《巴黎协定》，为应对全球气候变化，坚持不懈地努力。

随后，中国气候变化事务特别代表解振华在联合国总部召开新闻发布会。解振华称，中国为了实现 INDC 目标，从 2005 年到 2030 年需要的投资是 41 万亿元人民币。“2005 年至 2015 年，中国已投入 10.4 万亿元人民币，从今年到 2030 年则需要投入 30 万亿元人民币。”他说，这不仅转变发展方式和人们的的生活方式，也将发展节能、环保和新能源产业等。

解振华强调，“一分纲领、九分落实”，中方愿与各方一道将领导人的政治意愿转化为进一步推进多边进程的切实行动，深入推进应对气候变化各项工作，既切实做好国内温室气体减排工作，也积极推动气候变化国际合作。

我国《城市适应气候变化行动方案》出炉

为积极应对全球气候变化，落实《国家适应气候变化战略》的要求，有效提升我国城市的适应气候变化能力，国家发展改革委、住房城乡建设部会同有关部门共同制定了《城市适应气候变化行动方案》（以下简称《方案》），并于 2 月 4 日正式发布。

《方案》提出，将按照地理位置和气候特征将全国划分东部、中部、西部三类适应地区，根据不同的城市气候风险、城市规模、城市功能，选择 30 个典型城市开展气候适应型城市建设试点。

30 个适应气候变化试点城市将成为重要抓手。这些试点城市将根据自身气候变化问题，编制气候适应型城市试点工作方案，选择城市气候脆弱性评估、城市规划、气候变化监测体系、投融资模式等领域中的一个或多个方面，启动相关适应工程或项目，在 2020 年之前取得阶段性成果，相关成果经考核验收后进行推广示范。

中央时隔 37 年再度召开中央城市工作会议

中央城市工作会议 12 月 20 日至 21 日在北京召开，这是时隔 37 年后，“城市工作”再次上升到中央层面进行专门研究部署，预示着我国城市工作将迎来重大变化。上一次召开全国性的城市工作会议是 1978 年，那次会议出台了《关于加强城市建设工作的意见》，基本奠定了此后 30 年我国城市建设和发展的思路。在本次中央城市工作会议上，中央提出要集约发展，树立“精明增长”、“紧凑城市”的理念，科学划定城市开发边界，推动城市发展由外延扩张式向内涵提升式转变。

经过 30 年发展，我国城市发展已经到了一个历史性的转折点。中国城市经济学会副会长牛凤瑞说，在这个时点，召开中国城市工作会议，是中国城市建设进入一个新阶段的标志。如何加快城市化进程，提高城市发展质量，成为亟需解决的问题，在这个时间节点召开城市工作会议，就是要从更高层面对城市建设发展做出顶层设计，是中央在准确把握我国城市发展现状后做出的科学决策部署。

今年 2 月，中央城市工作会议的首份配套文件《中共中央国务院关于进一步加强城市规划建设管理工作的若干意见》（以下简称《意见》）出台。《意见》明确了未来城市发展目标和任务，提出了城市规划建设管理工作的新路径和发力点，确定了“十三五”乃至未来一段时间中国城市发展的“时间表”和“路线图”。《意见》提出新建住宅要推广街区制，原则上不再建设封闭住宅小区，并树立“窄马路、密路网”的城市道路布局理念。

联合国首度公开竞选秘书长，全程网络直播



4 月 12 日至 14 日，8 位联合国秘书长候选人将开始接受联合国 193 个会员国和全球民众的“公开面试”，进行自我陈述并回答提问。这是联合国成立 70 年来，首次公开秘书长的遴选过程。

以往，甄选联合国秘书长需由安理会 15 个理事国闭门讨论一份不公开的名单，选出一名候选人并提交联大表决。2015 年 9 月，联大通过决议，取消遴选中不公开的做法，改成散发公开信、邀请所有会员国加入讨论、允许候选人自荐等。联合国历史上共有 8 任秘书长，但以往并没有让会员国和公众与候选人进行实质性和公开接触的机会。此次“面试”正是为推动遴

选过程公开透明化。候选人刚获得正式推荐，其简历等材料就在联合国网站公开。而为候选人提供公开陈述竞选主张的平台，更是联合国史无前例的尝试。

参与本次“公开面试”的 8 位候选人分别是新西兰前总理、联合国开发计划署署长海伦·克拉克、联大前主席、马其顿前外长斯尔詹·克里姆、联合国教科文组织总干事、保加利亚外交官伊琳娜·博科娃、黑山副总理兼外交部长伊戈尔·卢克希奇、克罗地亚第一副总理兼外交部长韦斯娜·普希奇、斯洛文尼亚前总统达尼洛·蒂尔克、摩尔多瓦第一副总理兼外交部长纳塔利娅·盖尔曼以及联合国前难民事务高级专员安东尼奥·古特雷斯。

联合国成立以来，历任秘书长均为男性。许多会员国呼吁，联合国应有一位女性秘书长。联合国大会主席莫恩斯·吕克托夫特此前也表示，鼓励各国提名女性候选人。目前的八位候选人中，共有四位是女性，新一任联合国秘书长究竟是“她”还是“他”？我们一起拭目以待。



SPECIAL REPORTS

专题报道

2016 年 3 月 16 日至 18 日，第三届联合国住房与城市可持续发展大会（简称“人居三”）欧洲区会议在捷克首都布拉格召开，共有来自 50 多个国家的政府高级官员、专家学者、企业负责人、国际组织负责人及利益相关者代表等约 4000 人出席。作为迈向“人居三”和《新城市议程》的一个重要节点，欧洲区会议讨论了如何确保人人享有体面、适当、经济适用及健康的住房，并对如何减轻住房问题对环境的影响给予了充分关注。

本刊特此刊登“人居三”欧洲区会议及其平行会议世界城市运动第十四次执委会的会议盛况，分享会议的嘉宾讲话与精彩瞬间。希望其中的观点与想法，能引发读者对可持续发展未来的不断思考。

导语 Introduction

2016年3月16日，“人居三”欧洲区会议在捷克首都布拉格召开，本次布拉格会议是二十年一次的“人居三”大会的区域会议之一。作为迈向“人居三”和《新城市议程》的一个重要节点，欧洲区会议讨论了如何确保人人享有体面、适当、经济适用及健康的住房，其成果《布拉格宣言》为人们从布拉格到基多的行动提供了指引。从布拉格到基多，携手迈向“人居三”。

On 16 March 2016, the European Habitat for the Habitat III was successfully held in the Capital of the Czech Republic, Prague. As a rallying point in the process leading up to Habitat III and the New Urban Agenda, it had discussed how to ensure access to decent, adequate, affordable and healthy housing for all. The official output of the European Habitat conference is the Prague Declaration, which gives some key directions from Prague to Quito. From Prague to Quito, together towards Habitat III.

From Prague to Quito, Together Towards Habitat III

--The European Habitat for the Habitat III Held in Prague

从布拉格到基多，携手迈向“人居三” ——“人居三”欧洲区会议在布拉格召开



“人居三”欧洲区会议开幕式 Opening of the European Habitat for Habitat III



捷克地方发展部部长卡拉·施莱赫托娃在开幕式上致辞
Ms. Karla Šlechtová, Minister of Regional Development of the Czech Republic, giving a speech at the opening ceremony

2016年3月16日至18日，第三届联合国住房与城市可持续发展大会（简称“人居三”）欧洲区会议在捷克首都布拉格召开。此次会议的主题是“宜居城市的可持续住房”。为期三天的欧洲区会议是二十年一次的“人居三”大会的区域会议之一，“人居三”将于2016年10月17日至20日在厄瓜多尔首都基多市举办。

本次欧洲区人居会议，共有来自50多个国家的政府高级官员、专家学者、企业负责人、国际组织负责人及利益相关者代表等约4000人出席。捷克地方发展部部长卡拉·施莱赫托娃，布拉格市长阿德里安娜·科尔纳乔瓦，“人居三”秘书长霍安·克洛斯博士，丹麦建筑师、城市设计顾问扬·盖尔，“人居三”筹备委员会联合主席玛丽斯·戈蒂埃，世界城市运动执委会主席欧仁妮·伯奇博士，巴塞罗那市长阿达·克劳等出席会议。

作为迈向“人居三”和《新城市议程》的一个重要节点，欧洲区会议讨论了如何确保人人享有体面、适当、经济适用及健康的住房，并对如何减轻住房问题对环境的影响给予了充分关注。会议聚焦可持续住房在区域层面所面临的挑战和优先事项，讨论了城市治理、城市经济与发展、创造就业机会、城市住房和公共服务、社会凝聚力与公平、城市环境与复原力等议题。会议成果《布拉格宣言》将为在“人居三”期间通过的《新城市议程》做出贡献。

捷克地方发展部部长卡拉·施莱赫托娃在会议开幕式中指出，“这次会议不仅仅是专家之间辩论的平台，它的议题和结论将对未来产生深远影响。我很高兴看到会议的议程——包括议题及相关的讨论——取得了丰硕的成果。部

On 16–18 March 2016, the European Habitat for the third United Nations Conference on Housing and Sustainable Urban Development (Habitat III) was successfully held in the Capital of the Czech Republic, Prague. The main theme is Sustainable Housing in Liveable Cities. The three-day conference is one of several regional meetings for the Habitat III which is organized always once in twenty years. The Habitat III will be held in Quito, Ecuador, from 17–20 October 2016.

The European Habitat gathered nearly 4000 participants from over 50 countries. Among them there are local government representatives, specialists and scholars, enterprise principals, NGO leaders and stakeholders. Major distinguished guests and speakers attending the meeting included: Ms. Karla Šlechtová, Minister of Regional Development of the Czech Republic; Ms. Adriana Krnáčová, Lord Mayor of the City of Prague; Dr. Joan Clos, Secretary-General of the United Nations Conference on Housing and Sustainable Urban Development; Mr. Jan Gehl, Danish architect and urban design consultant; Ms. Maryse Gautier, Co-chair of the Bureau of the Preparatory Committee of the Habitat III conference; Dr. Eugenie Birch, chair of the World Urban Campaign Steering Committee; Ada Colau, Mayor of Barcelona.

European Regional Meeting is a rallying point in the process leading up to Habitat III and the New Urban Agenda, it had discussed how to ensure access to decent, adequate, affordable and healthy housing for all, with due attention to reducing the impact of the housing sector on the environment. In this regard, European Habitat gathered consensus reflecting the challenges and priorities at the regional level on sustainable housing. There were some panel discussions on “Urban Governance”, “Urban Economy and Development, and Creation of Jobs”, “Urban Housing and Public Services”, “Social Cohesion and Equity”, “Urban Environment and Resilience”. The official output of the European Habitat conference is the Prague Declaration, which will be considered official inputs to the New Urban Agenda.

As Minister Karla Šlechtová indicated in her opening address on the first day, the conference was not only a platform for expert debate, but in particular a source of concrete topics and conclusions that would be meaningful also for the future. “I am very pleased that the agenda—both through its topics and through the debates—lead to concrete achievements. Some are implemented in the Prague Declaration.” During her speech, Karla Šlechtová also emphasized that cities are made of people, not brick walls.



“人居三”秘书长霍安·克洛斯博士发表了专题演讲
Dr. Joan Clos, Habitat III Secretary-General,
delivering a keynote speech

分成果已经写入《布拉格宣言》。”在讲话中，卡拉·施莱赫托娃还强调了城市不应该由“围墙”构成，“人”才是城市的重要组成部分。

本次会议的议题之一是住房问题及其未来发展，卡拉·施莱赫托娃部长认为这个问题对于捷克或者其他中欧国家都至关重要。“我们不断地讨论新的发展模式，讨论它们的必要性，将以何种方式呈现，以及应该给我们带来什么形式的服务，在这个过程中，我们却缺失了对以下问题的讨论：我们要如何改变，以及我们能够如何改进已有的住宅区。虽然现在已经有各种各样的计划用以延长预制房屋的寿命，但这只是一个过渡性的中间解决方案。这些住宅早已无法满足现今居民的需求，所以当务之急是开展工作以确保这些居民未来的体面住房。施莱赫托娃部长在欧洲区人居会议上和各国官员交换了对于住房问题的看法，“我们需要把住宅区改造成一个让人们安居的地方。为了达到这个目的，我们需要提供优质的建筑，改善社区生活的公共空间，为社区居民提供服务、娱乐、休闲活动及体育运动。这些成果将对居民的生活质量产生直接的影响。”施莱赫托娃部长说道。

在开幕式上，巴塞罗那市长阿达·克劳与“人居三”秘书长、巴塞罗那前市长霍安·克洛斯博士发表了同台演讲。她强调了关于公共空间的争论的重点：“我们不能脱离公共空间来讨论城市，公共空间是城市可持续发展的一个重要部分，我们必须为兼具参与性、包容性与可持续性的城市场景共同努力。

“人居三”秘书长霍安·克洛斯博士发表了专题演讲，在演讲中，他将城市化的两种新旧模式进行了对比。克洛斯认为，城市化的“旧模式”关注的是城市化带来的各种问题，而“新模式”则把城市化作为发展的驱动力。在布拉格会议期间，“人居三”政策组正式向霍安·克洛斯博士

One of the topics addressed by the European Habitat conference was the issue of housing estates and their future. It is one of the issues that Minister Karla Šlechtová perceives as a priority both for the Czech Republic and for the central European region. “We keep talking about new developments and whether they are needed or not, what they should look like and what kind of services they should offer. What is missing though is a debate about the way of changing and developing the existing housing estates. Although a number of different schemes have helped to extend the life of prefabricated houses, it is but a mid-term solution. The estates can no longer satisfy the needs and requirements of their today's residents and it has become obvious that serious work has to begin in order to ascertain their decent future,” pointed out Minister Šlechtová. In her discussions during European Habitat, she exchanged information with officials from other countries on their approach to housing estates. “We have to turn housing estates into a good place to live: providing adequate quality of housing, but also public space for community life, access to services, entertainment, leisure activities and sports. All this will have a direct impact on the factors affecting the quality of life”, explained Minister Šlechtová.

At the Opening Ceremony, Barcelona Mayor Ada Colau shared the stage with Dr. Joan Clos, Habitat III Secretary-General and former Mayor of the city. She highlighted the importance of the debate on public spaces: “We can't discuss cities without discussing public spaces, because the public space is an important component of sustainable city and we have to move forward to more participative, inclusive, and sustainable urban sceneries.”

Dr. Joan Clos delivered a keynote speech where he contrasted an “old paradigm” that focuses on the problems of urbanization with a “new paradigm”



欧洲区人居会议 The European Habitat



该成果文件主要体现四项重点：创新型和生产型的城市；绿色、紧凑、有复原力的城市；包容、安全的城市；良好的城市管理。

The document rests on four principles: Innovative and Productive Cities; Green, Compact and Resilient Cities; Inclusive and Safe Cities; and Good Urban Governance.



及“人居三”筹备委员会提交了他们的指导文件和主要观点，这些文件将对“人居三”会议的成果文件《新城市议程》做出贡献。克洛斯博士对政策组的工作和支持表示诚挚的感谢，并对十个政策组不懈的努力、渊博的知识以及完成指导文件的过程中表现出的专业性表示赞赏。克洛斯认为政策组的工作代表了联合国系统外的专家磋商成果，将为未来的会议设下参考“独立专家意见”的先例。

城市住房合作伙伴调解专员、联合国欧洲经济委员会住房和土地管理委员会主席埃琳娜也在会上分享了她对于住房问题的观点。她指出，确保欧洲市民能享受负担得起的住房，这不仅仅关乎人的尊严，更与经济问题高度相关。“我们看到不少欧洲城市都面临着日益增长的对可负担与可持续住房的需求，我们必须用恰当的法律和经济框架来应对这个问题。”埃琳娜说道，“城市住房合作伙伴的一个工作就是交换关于可负担住房方面的知识，这不仅是从个人层面，更需要从整体的角度来考虑——使人人享有可负担住房，促进社会融合，是实现稳定增长的先决条件。

丹麦建筑师、城市设计顾问扬·盖尔是本次欧洲区会议的重要嘉宾，他在会上展示了一个以居民为本的可持续城市的形象。盖尔认为，一个可持续的城市应该是一个行人和骑自行车者都能乐享其中的地方。在他看来，清晰的形象及明确的策略是健康和适当的城市发展的前提条件。“城市以及公共空间中行人的舒适感是至关重要的。在我的家乡丹麦，自行车是常见的交通工具，丹麦的王室家族，包括王子、公主都会带着孩子用自行车出行。”扬·盖尔说道。

在本次会议中，近 4000 名专家在 96 场官方活动中进行了 300 个小时的讨论，在 3 月 18 日会议结束的当天，通过了具有战略意义的成果文件《布拉格宣言》，其最终版



丹麦建筑师、城市设计顾问扬·盖尔在开幕式上演讲
Jan Gehl, Danish architect and urban design consultant
addressing at the opening

that treats urbanization as a tool for development. Also, during the Prague meeting, Habitat III Policy Units officially handed over their policy papers and key messages to UN-Habitat Secretary-General Joan Clos and the bureau of the Preparatory Committee, The Policy Paper would contribute to the outcome document of the New Urban Agenda at the Habitat III Conference. Dr. Joan Clos thanked the Police Units for their dedicated work and support, and commended the experts of all 10 Police Units for their tireless efforts, knowledge, and the expertise they demonstrated in finalizing the Police Paper. Dr. Clos said the Policy Units process represented the most extensive consultations with experts outside the UN system, and would set a precedent for informing future conferences with “independent expert knowledge”.

Elena Szolgayová, coordinator of the Urban Partnership on Housing and Chairwoman of the UNECE Committee on Housing and Land Management from Slovakia, shared her opinions on housing issues during the meeting. She pointed out that affordable housing for European citizens is not only an issue of human dignity, but also of high economic relevance. “We do see that a lot of European cities must meet a growing need for affordable and sustainable housing, and we must identify the appropriate legal and financial framework to realize this,” Elena Szolgayová said. “An important aspect in the partnership is the exchange of knowledge about affordable housing, not only in the individual perspective, but also in a holistic view – a good social mix with affordable housing for all is a precondition for stable growth conditions.”

The first day of European Habitat hosted a prominent guest, Danish architect and urban design consultant, Jan Gehl. He presented a vision of liveable



本已在欧洲区会议的官网上正式发布。该成果文件主要体现在四项重点：创新型和生产型的城市；绿色、紧凑、有复原力的城市；包容、安全的城市；良好的城市管理。《布拉格宣言》中强调，政府和地方当局、社区在城市规划和管理的合作过程中，亟需建立一个协调机制。国家、区域与地方当局三者之间的合作与意见交流，有助于社会与环境的保护，推动可持续经济的发展。

宣言中，涉及地区层面在可持续城市发展过程中遇到的多重挑战，包括：城市贫困、人口变化、气候变化与灾害风险、城市发展与扩张、城市发展的协调性、城市更新以及相关的科技应用。我们需要通过综合的方式，采取有效措施来解决影响城市发展的经济、环境、气候、人口、社会和文化等各个层面的危机。城市是推动可持续发展的重要角色，它们必须被赋予权力、义务和能力，并遵循可持续发展的原则，采取切实行动。同时，城市发展需要以“人”为中心，提升居民在幸福感、发展、人权等领域的状态。

《布拉格宣言》为人们从布拉格到基多的行动提供了指引，将对未来联合国制定可持续城市发展政策产生直接影响，并成为10月在基多市举办的“人居三”的重要会议文件。

在通往可持续发展未来的路上，城市的作用是一把双刃剑，成败皆由此。虽然城市是当今全球危机的核心和重点，但它们同时也是解决问题的源头和未来发展的驱动力所在。

1976年温哥华的“人居一”，标志着人类在快速城市化的进程中，第一次意识到全球面临的住房和住房挑战。

1996年伊斯坦布尔的“人居二”，主题为“人人享

cities designed with maximum consideration for their inhabitants. Gehl described a liveable city as a place where people can spend their time in public spaces that are friendly to both pedestrians and cyclists. In his view, a clear vision and a defined strategy are the essential prerequisites for a healthy and appropriate urban development. “The city and its public spaces for the convenience of its residents is crucial. In my home country, Denmark, cycling is a normal means of transport even for the prince and princess royal with their children.” said Jan Gehl.

During the European Habitat, neared 4,000 experts held discussions during 96 different official events which lasted in total 300 hours, and finally the conference closed on 18 March by the adoption of its strategic document, the Prague Declaration. Its final version is now publically available on the European Habitat website. The document rests on four principles: Innovative and Productive Cities; Green, Compact and Resilient Cities; Inclusive and Safe Cities; and Good Urban Governance. The Prague Declaration stresses that there is a need to plan and manage urban areas through the cooperation of national governments with regional and local authorities and communities within established coordination mechanisms. International cooperation and exchanges between national, regional and local authorities can promote sustainable economic development, social and environmental protection.

The Declaration covers various challenges relating to sustainable urban development in the region, including urban poverty, demographic changes, climate change and disaster risk, urban growth and sprawl, coordination in urban development, urban regeneration and relevant use of technology. We should address the above challenges through an integrated approach to sustainable urban development, setting out effective actions to tackle the economic, environmental, climate, demographic, social and cultural challenges affecting urban areas. Cities need to be enabled, entitled and empowered in order to act on the principles of sustainable development and to be key actors in the implementation of sustainable urban development. Meanwhile, cities should be “people-centered” and enhance conditions for wellbeing, development, and realization of human rights of all inhabitants.

The Prague Declaration gives some key directions from Prague to Quito. It will have a direct impact on future UN policy on sustainable urban development and will become an input document for the Habitat III conference taking place in Quito in October.

Cities are either helpful or unhelpful in achieving



有适当的住房和日益城市化进程中人类居住区的可持续发展”。会上通过了《人居议程》，这是一个全球性的行动计划，意味着人们意识到可持续的人居环境的重要性。

2016年的“人居三”，我们将继续往开来，评估我们城市的现状并寻找解决之策，通过《新城市议程》，为今后20年世界城市的发展确立目标和方向。

与此同时，作为“人居三”的重要活动，第十一届全球人居环境论坛将同期在厄瓜多尔首都基多市举办，共同见证《新城市议程》诞生。我们将促进社会各界知行合一，深化合作，共克挑战，推动“人居三”会议圆满成功，共同创建更加美好的城市未来。

从布拉格到基多，我们携手迈向“人居三”。

sustainable development. While cities are at the heart of today's global crisis, they are also the source of solutions and the driving force for a sustainable future.

Habitat I in 1976, Vancouver, alarmed by rapid and uncontrolled urban growth, people began to recognize the challenge for sustainable urban and human settlements. Habitat I resulted in the creation of UN-Habitat.

Habitat II in 1996, Istanbul, the Istanbul Declaration was adopted as a new global action plan for sustainable human settlements. The objectives for Habitat II were stated as: in the long term, to arrest the deterioration of global human settlements conditions and ultimately create the conditions for achieving improvements in the living environment of all people on a sustainable basis.

Habitat III in 2016, we will carry on the heritage so as to pave the way for future generations. We will address new and emerging urban challenges for the establishment of the New Urban Agenda, and set global urbanization strategy for the next 20 years.

In the meantime, the 11th Global Forum on Human Settlements will be taking place as an important associated event of Habitat III during the same period of time in Quito, to collectively witness the birth of the New Urban Agenda. It is our hope to build consensus, deepen cooperation and join hands to tackle challenges. We will walk the talk and contribute to the success of Habitat III and the creation of a better urban future.

From Prague to Quito, let's move towards Habitat III.



千塔之城——布拉格 The City of Thousand Spires, Prague.

导语 Introduction

2016年3月15日，世界城市运动（WUC）第十四次执委会在捷克首都布拉格召开。会议上，执委会通过了《我们需要的城市》最终版本，这份文件是所有合作伙伴在同一个目标的指导下，共同努力塑造的一个21世纪我们所需要的城市新范式。全球人居环境论坛高级代表拉尔夫·万查福特出席了会议。

On 15 March 2016, The Steering Committee of the World Urban Campaign (WUC) convened for its 14th meeting in Prague, Czech Republic. During the meeting, the Steering Committee adopted The City We Need 2.0. This document is a collective contribution of committed partners united by shared goals and a common vision of the city for the 21st century. Ralph Wahnschafft, High Representative for Global Forum on Human Settlements (GFHS) attended the meeting.

The Future We Want, The City We Need

--The 14th Steering Committee of the World Urban Campaign Held in Prague successfully

我们需要的城市和我们憧憬的未来

——世界城市运动第十四次执委会在布拉格成功举办



**our future is
a sustainable
urban future**

BE PART OF THE CHANGE

2016年3月15-16日，世界城市运动（WUC）第十四次执委会作为第三届联合国住房与城市可持续发展大会（简称“人居三”）欧洲区会议的平行会议，在捷克首都布拉格召开。世界城市运动是联合国人居署的合作伙伴筹备“人居三”的平台。作为一个全球性的宣传和合作平台，WUC促进了有关如何改善我们城市未来的对话、分享和学习。WUC由民间组织、地方政府、私营部门、研究机构、专业人士、学术界人士、议员、工会、青年团体和

On 15-16 March 2016, The Steering Committee of the World Urban Campaign (WUC) convened for its 14th meeting in Prague, Czech Republic. Parallel to Regional Meeting for Europe of the third United Nations Conference on Housing and Sustainable Urban Development (Habitat III). The World Urban Campaign is UN-Habitat's partners' platform preparing for the Habitat III conference. The Campaign acts as a global advocacy and partnership platform to promote dialogue, sharing,



“人居三”秘书处协调员安娜·莫瑞诺在会上讲话
Ms. Ana Moreno, Habitat III Secretariat Coordinator,
giving a speech at the meeting

媒体等各界热心的合作伙伴推动，由联合国人居署协调组织。作为世界城市运动的合作伙伴，全球人居环境论坛高级代表拉尔夫·万查福特出席了会议，并在会上就《我们需要的城市》提出了建议，作为全球人居环境论坛在通往“人居三”的过程中的一项重要行动和贡献。

世界城市运动致力于将《新城市议程》放在发展政策的最高层面，帮助合作伙伴之间分享最佳实践和创新理念，为更美好的城市未来共同努力。在本次会议上，执委会通过了《我们需要的城市》最终版本。这份文件是所有合作伙伴在同一个目标的指导下，共同努力塑造的一个21世纪我们所需要的城市新范式。它为“人居三”的成果文件《新城市议程》提供了核心原则与参考意见。

会议开始之际，“人居三”秘书处协调员安娜·莫瑞诺与大家分享了“人居三”筹备工作的进展。莫瑞诺女士在讲话中强调了合作伙伴联盟、世界城市运动以及由此衍生的城市思想家论坛在此进程中起到的重要作用。在讲话中，她提到“人居三”会议将会出台一份《基多实施议程》，在这份议程中，政府、利益相关者及地方当局将为《新城市议程》的具体实施做出贡献。莫瑞诺女士提到，《新城市议程》主要关注未来20年城市发展的模式和框架，而《基多实施议程》则重点关注具体的实施和城市解决方案。因



全球人居环境论坛高级代表拉尔夫·万查福特出席了会议
Ralph Wahnschafft, High Representative for GFHS
attended the meeting

and learning about improving our urban future. It is driven by a wide range of dedicated partners including civil society organizations, local authorities, the private sector, research institutions, professionals, academia, parliamentarians, trade unions, youth groups, and the media. The World Urban Campaign is coordinated by UN-Habitat. Ralph Wahnschafft, High Representative for Global Forum on Human Settlements (GFHS) attended the meeting. As an associate partner of WUC, GFHS shared its efforts on building The City We Need as well as its actions and contributions leading up to Habitat III.

The Campaign works to place the New Urban Agenda at the highest level in development policies. It also helps partners to share best practices and innovative ideas, working together towards a better urban future. During the meeting, the Steering Committee adopted The City We Need 2.0. This document is a collective contribution of committed partners united by shared goals and a common vision of the city for the 21st century. It sets key principles and establishes essential paths for building a New Urban Agenda towards the Habitat III Conference.

To begin the meeting, Ms. Ana Moreno, Habitat III Secretariat Coordinator, gave an update on the



“人居村”实地照片 The Habitat III Village

此，世界城市运动及《我们需要的城市》将为《基多实施议程》提供可借鉴的内容。

莫雷诺还向大家详细介绍了“人居三”期间将开展的一系列活动。她提到届时将设立一个“人居村”，作为城市解决方案的展示场地并为大家提供漫步基多市区的机会。她提出，所有合作伙伴和利益相关人士在未来几个月要加大投入和宣传的力度，这种精神在“人居三”会议结束之后也需要一直延续。莫雷诺强调，联合国的大门将永远为提出意见的利益相关者敞开，每个人的声音都非常重要。

世界城市运动执委会主席、合作伙伴联盟主席欧仁妮·伯奇博士向第十四次执委会的到场嘉宾们汇报了合作伙伴联盟截止目前的工作进展。合作伙伴联盟是由世界城市运动提出的一项倡议，旨在推动利益相关者对“人居三”会议的参与及贡献，其工作将随着2016年10月份在厄瓜多尔基多市举办的“人居三”会议的落幕而结束。

伯奇博士向大家简要介绍了2014年10月在意大利城市卡塞塔，第一届城市思想家论坛是如何别出心裁地提出“我们需要的城市”这个创新性倡议。伯奇博士强调，合作伙伴联盟致力于放大各方的不同声音，包括倡导《我们需要的城市》，并将其写入合作伙伴联盟的成果文件——《新城市议程伙伴关系》中。

世界城市运动的项目负责人克莉丝汀·奥克莱尔向大家展示了城市思想家论坛的发展进程。截至目前为止已共有7602名参与者，他们分别代表来自122个国家的2256个相关组织。这些代表各抒己见，建言献策，体现了利益相关者们的高度参与。

奥克莱尔女士在讲话中提到，世界城市运动在“人居三”会议结束之后，将作为联合国机构在全球与国家层面建立伙伴关系、强化合作联盟等事务的轴心。届时，引用人居署执行主任霍安·克洛斯博士的话——世界城市运动将进入3.0的时代。奥克莱尔女士详细阐释了未来在“人



莫雷诺强调，联合国的大门将永远为提出意见的利益相关者敞开，每个人的声音都非常重要。

Ms. Moreno emphasized that the door of the United Nations is always open, and that stakeholders' voices are very important.



preparations for the Habitat III. Ms. Moreno emphasized that the contributions of the General Assembly of Partners (GAP) and the World Urban Campaign through its Urban Thinkers Campuses (UTCs) were of crucial importance to this process. She explained that there will be a so-called “Quito Implementation Agenda”, in which governments, stakeholders and local authorities will commit themselves to the implementation of the New Urban Agenda. She noted that the New Urban Agenda focuses on the normative approach and the framework for city in next 20 years, whereas the Quito Implementation Agenda will focus on implementation and Urban Solutions. She mentioned that the Quito Implementation Agenda could be the space where the World Urban Campaign and The City We Need 2.0 could fit in.

Ms. Moreno also elaborated on the different activities that will take place during Habitat III. She mentioned the Habitat III Village, the showcase of Urban Solutions and allow for guided walks through the city of Quito. Ms. Moreno further pointed out that the need to bring all partners and stakeholders to the table, and to increase the outreach and campaign efforts in the coming months, as well as beyond Habitat III. Ms. Moreno emphasized that the door of the United Nations is always open, and that stakeholders' voices are very important.

Dr. Eugenie Birch, in her role as the chair of the World Urban Campaign Steering Committee and President of the General Assembly of Partners, gave an update on the GAP's activities to the SCM14 meeting attendees. The General Assembly of Partners, which will carry out its work until the end of the Habitat III Conference in Quito, Ecuador in October 2016, is a special initiative of the World Urban Campaign. GAP aims to support stakeholders' engagement and contributions to the conference.



居三”结束后，世界城市运动3.0要如何成为一个全球合作伙伴的平台，这要求世界城市运动既要评估过去成功的经验，也要为“人居三”以后的新机遇做好准备。

世界城市运动执委会名誉主席与创始人尼古拉斯·尤说到，“《我们需要的城市》是第一次这么多利益相关组织共同一致地提出一个成果文件”。这不仅是前所未有的，更代表着一个所有行动者齐心协力共筑‘可持续城市化’时代的来临。”他强调，我们必须意识到这是第一次非国家行动者们以这样的性质和方式来发表共同声音。

国际城市和区域规划师学会前主席伊斯梅尔·费尔南德斯·梅霍在会上讲到，我们讨论的关键并非世界城市运动、城市思想家论坛、合作伙伴联盟或《我们需要的城市》是否成功，因为它们的成功是毋庸置疑的。我们现在需要讨论的是该如何定义各个相关组织之间的关系，以及它们要如何构成世界城市运动3.0。费尔南德斯向大家展示了他心中的构想，他认为：世界城市运动 + 城市思想家论坛 + 合作伙伴联盟 = 世界城市运动3.0。

本次执委会会议于3月16日落下帷幕，取得了丰硕的成果。《我们需要的城市》提出了针对城市化问题的城市解决方案。其最终版本将翻译为六种联合国工作语言，成为政府和利益相关者解决住房和可持续城市发展问题的参考文件。这是联合国人居署历史上第一次通过如此大规模的参与者推动对话，达成共识，并建立一个共同的宣言。

《我们需要的城市》的标题可以追溯到2012年的“里约+20”可持续发展峰会的成果文件《我们憧憬的未来》。如果联合国的可持续发展议程可以形容为“我们憧憬的未来”，那么我们为“人居三”所做的准备则可以定义为“我们需要的城市”。在变革的时代，用行动改变未来，通过描绘我们心目中所需要的城市，才能更好地定义我们想要的未来。

Dr. Birch briefly explained how the World Urban Campaign partners developed this special initiative of The City We Need in Caserta, Italy at the first Urban Thinkers Campus in October 2014. Dr. Birch emphasized that the GAP is one channel through which The City We Need 2.0 will be advocated for. The aim of GAP is to magnify the many voices, and include The City We Need into the draft GAP outcome document, titled Partnerships for the New Urban Agenda.

Christine Auclair, Project Leader of the World Urban Campaign, presented the unprecedented Urban Thinkers Campus process, which involved 7602 participants representing 2256 organizations from 122 countries. She noted that these figures speak for themselves, showing the strong involvement of stakeholders.

Ms. Auclair explained that the WUC could become a hub for United Nations agencies to build partnerships and implement concrete alliances in the Post-Habitat III era at the global and national level, turning the existing World Urban Campaign into “WUC 3.0”, an idea proposed by the Executive Director of UN-Habitat, Dr. Joan Clos. Ms. Auclair elaborated the vision for a future WUC 3.0 in the Post-Habitat III era. WUC 3.0 should be a global partner's platform, which requires an evaluation of previous success of the WUC, as well as analysis of the new opportunities arising after Habitat III.

Nicholas You, Founder and Honorary Chair of the World Urban Campaign Steering Committee, said “The City We Need 2.0 is the first time that so many different stakeholder groups have come together to produce a single document and speak with one voice. This is not only unprecedented, it represents the coming of age of 'sustainable urbanization' in terms of all actors prepared to work together to make it happen.” He insisted that we must capitalize on the fact that this is



如果联合国的可持续发展议程可以形容为“我们憧憬的未来”，那么我们为“人居三”所做的准备则可以定义为“我们需要的城市”。在变革的时代，用行动改变未来，通过描绘我们心目中所需要的城市，才能更好地定义我们想要的未来。

If the UN's sustainable development agenda could be described as “the future we want”, then the lead-up to Habitat III should in turn define “the city we need”. Elaborating the city we need can help to define the future we want. It's time for action, it's time for change.



the first time that Non-State actors have developed a joint statement in this nature and format.

Mr. Ismael Fernandez Mejia, Past President of the International Society of City and Regional Planners, stated that the question is not if WUC, the UTCs, GAP or The City We Need 2.0 are successful. The success is very clear, and it must be discussed how this can be capitalized, in particular by defining how the different components are linked to each other and how they can form the proposed WUC 3.0. Mr. Fernandez presented a formula to explain his vision for WUC 3.0: WUC+UTC+GAP = WUC 3.0.

The Steering Committee lowered the curtain with fruitful result on 16 March. The City We Need proposed urban solutions to urban challenges. The City We Need 2.0 has been translated into all 6 United Nations

languages, to be disseminated widely and to be used as a reference document for all governments and stakeholders dealing with housing and sustainable urban development. Never before in the history of UN-Habitat has such decentralized process been able to engage participants on that scale in a structured dialogue, giving a voice to everyone to build a joint manifesto.

The title of The City We Need derives from the Future We Want, the outcome document from the Rio+20 Conference on Sustainable Development, held in 2012. If the UN's sustainable development agenda could be described as “the future we want”, then the lead-up to Habitat III should in turn define “the city we need”. Elaborating the city we need can help to define the future we want. It's time for action, it's time for change. 



美丽的布拉格 Beautiful City, Prague

VOICE OF THE UNITED NATIONS

联合国之声

在 21 世纪，我们需要什么样的城市？

2014 年 10 月，第一届城市思想家论坛在意大利城市卡塞塔提出了这样一个问题，之后，来自 122 个国家的 2256 个相关组织的 7602 名参与者，通过 2015 至 2016 年间共 26 场城市思想家论坛，共同探讨了一个可持续发展的城市未来。他们各抒己见，建言献策，塑造了一个 21 世纪我们所需要的新的城市范式。

2016 年 3 月，在布拉格的世界城市运动第十四次执委会上，大家通过了成果文件《我们需要的城市》的最终版本，它将翻译为六种联合国工作语言，成为政府和利益相关者解决可持续城市发展问题的参考文件，并为《新城市议程》内容做出贡献。这是联合国人居署历史上第一次通过如此大规模的参与者来推动对话，达成共识，并建立一个共同的宣言。



THE CITY WE NEED 2.0 (Abstract)

--Towards a New Urban Paradigm

我们需要的城市 2.0（摘要） ——迈向一个新的城市范式

正 如我们在《2012 城市宣言》中声明的，我们在此重申：“在通往可持续发展未来的道路上，城市是成败的关键所在。”

如何规划、建设和管理当下的城市，将决定我们为可持续与和谐发展的未来所付出的努力能否实现。规划良好

As we declared in the 2012 Manifesto for Cities and further reiterate here: “the battle for a more sustainable future will be won or lost in cities.”

How we plan, build, and manage our cities today will determine the outcome of our efforts to achieve a sustainable and harmonious development tomorrow.



世界正处于十字路口，在未来的几十年里，城市居民的数量将会翻倍，达到世界总人口数的四分之三。到 2030 年，我们还需要再建设超过 60% 的居住区来容纳这些新的城市居民。那么，我们未来的城市将会是什么样的？

The world is at a crossroads. In the next few decades, urban dwellers will double in number, reaching nearly three-quarters of world's population. More than 60 percent of the built environment needed to accommodate these new urban dwellers by 2030 has yet to be constructed. So what will our cities be like?



的城市能使居民享受安全、健康以及富足的生活。精心设计的城市能为国家提供促进社会融合、复原以及繁荣的重要机会。

世界正处于十字路口，在未来的几十年里，城市居民的数量将会翻倍，达到世界总人口数的近四分之三。到 2030 年，我们还需要再建设超过 60% 的居住区来容纳这些新的城市居民。那么，我们未来的城市将会是什么样的？

“城市是商业与创新的引擎。通过良好的治理，它们能带来就业、希望与增长，同时建立可持续性。”在 2030 年到来之前，我们仍有 60% 的土地尚待开发，城市意味着前所未有的机遇，将为人们打造一个新的城市时代，人们可以在其中享受自由、灵感、繁荣、健康与安全。这意味着我们有机会通过正确的基础建设和规划选择，克服过去犯下的许多错误，为我们的城市和社区带来真正的再生与弹性。

我们看到公共、私人与民间社会组织共同致力改善城市居民生活品质的新趋势。这些组织借助自然资源来改善城市服务，他们的努力无疑改善了人们的生活。但归根结底，这些方法并没有解决最根本的问题，也没有给出针对未来危机的合适答案。为了达到此目的，我们需要反思现有的城市结构并展望其未来。因此，我们亟需建立一个我们所需要的新的城市范式。

我们需要的城市必须能够适应当地的环境、文化和风俗，同时，它必须建立在两个关键基础之上：尊重土地的公共和私人用途，以及具备协调良好的系统体制。一个城市的正常运行，需要土地使用、住房、能源、水、废物、交通、健康、教育、经济发展以及促进性别平等、文化活力和社会包容等众多相关条件的协调。

为了建造 21 世纪我们需要的城市，我们的城市新范式将遵循一系列指导原则，具体的原则阐述如下，同时还附有关键变革驱动力的介绍。

Well-planned cities allow all residents the opportunity to have safe, healthy, and productive lives. Well-designed cities present nations with major opportunities to promote social inclusion, resilience, and prosperity.

The world is at a crossroads. In the next few decades, urban dwellers will double in number, reaching nearly three-quarters of world's population. More than 60 percent of the built environment needed to accommodate these new urban dwellers by 2030 has yet to be constructed. So what will our cities be like?

“Cities are the world's engines for business and innovation. With good management they can provide jobs, hope and growth, while building sustainability.” With sixty percent of their area still to be built before 2030, cities represent unparalleled opportunity to forge a new urban era where people can find freedom, inspiration, prosperity, health and security. They represent a unique chance to make the right infrastructure and planning choices to overcome many of the mistakes of the past and to make our cities and communities truly regenerative and resilient.

We see emerging trends of public, private, and civil society organizations working together to improve quality of life and livelihoods. We see these organizations leveraging resources to improve urban services. These and other efforts undoubtedly improve the lives of the people they touch. But, in the end, these approaches do not address basic structural problems nor do they offer answers appropriately scaled for tomorrow's challenges. To do so requires rethinking the very organization of a city and envisioning its future. For this reason we need to forge a new urban paradigm for the city we need.

While the city we need must recognize local contexts, cultures, and customs, it is founded on two key conditions: the respect of public and private uses

一个新城市范式的原则

原则 1：我们需要的城市是具有社会包容性与参与性的

我们需要的城市是以人为本，道德和正义的。它消除了物理或空间层面上一切形式的隔离、歧视和排外。它尊重所有居民尤其是穷人与弱势群体的生命与潜力。它接受文化的多样性，包括不同的信仰和语言，并鼓励移民与难民的社会融合。

我们需要的城市提倡“城市的权利属于每一个人”。这意味着人们有权享有尊严且安全的生活，这种生活包括体面的住房、公共产品及服务、决策的声音等。

我们需要的城市是一个宽容的城市，对于所有居民，不论年龄、种族、信仰、性别或其他任何形式的差异，它都欣然接受。我们需要的城市能够认识到性别差异化的需求，并在规划与制定政策的过程中让妇女成为关键的角色，提高他们的参与度和决策能力。

《新城市议程》需要通过更有效的公众参与来认识并整合不同城市居民的不同利益、生活方式及价值观，特别是在地方或全市范围的项目的规划实施阶段中。

原则 2：我们需要的城市是可负担的、便利的以及公平的

在我们需要的城市里，资源是公平分配的，机会也是人人平等的。在土地、基础设施、住房、交通和基本服务的规划与实施过程中，会重点考虑妇女、低收入人群以及弱势群体。

在我们需要的城市里，每一位居民，不论其法律地位如何，都是城市的一员。我们需要的城市认为，公共空间是居民共有的，因此需要根据大家的参与来规划设计，并有意地照顾妇女、老人、儿童、青年、残疾人或边缘人群的需求。

《新城市议程》应提倡一个连续统一的合法居住权制度，其中涉及针对强制拆迁、剥夺、毁坏等违法行为的法律的保护。

原则 3：我们需要的城市是充满经济活力与包容性的

我们需要的城市鼓励并促进地方经济发展，包括从小型企业到大型集团。《新城市议程》需要意识到，非正式经济部门为城市的贫困阶层特别是妇女提供了重要的生计来源，并有助于消除这些人群实现他们全部潜能的障碍。

我们需要的城市要认识到，健康是生产力的前提，以及共享经济在使公共服务更加实惠、方便并促进当地经济发展中所扮演的角色及潜力。

of land, and a well-coordinated system of systems. If a city is to function properly, it needs to coordinate very diverse agendas related to land use, housing, energy, water, waste, mobility, health and education, economic development, and the promotion of gender equality, cultural vitality and social inclusion.

To build The City We Need in the 21st century, our new urban paradigm will be guided by a set of principles. These principles are presented below and are accompanied by key drivers of change.

PRINCIPLES FOR A NEW URBAN PARADIGM

PRINCIPLE 1: The City We Need is socially inclusive and engaging

The City We Need is people-centered, ethical, and just. It eliminates all physical and spatial forms of segregation, discrimination and exclusion. It values the lives and potential of all inhabitants, especially the poor and other disadvantaged groups. It embraces cultural diversity, including differences of belief and language, and encourages social integration of migrants and refugees.

The City We Need promotes the “right to the city for all”. This entails the right to a dignified and secure existence with access to decent housing, public goods and services and a voice in decision-making.



新城市模式的原则

原则 1:
我们想要的城市
是社会包容和有
参与性的

原则 2:
我们想要的城市
是亲民、公开和
公平的

原则 3:
我们想要的城市
是有经济活力和
社会包容的

原则 4:
我们想要的城市拥
有统一和民主的管
理方式

原则 5:
我们想要的城市
推进联动的
地区发展

原则 6:
我们想要的城市
是资源再生
和弹性的

原则 7:
我们想要的城市有
城市特征并且具有
地方风貌

原则 8:
我们想要的城市是设计
合理、适合步行并拥有
便利的公交系统的

原则 9:
我们想要的城市是安
全和健康的，并且
能够促进居民的福祉

原则 10:
我们想要的城市
会学习和创新



原则 4：我们需要的城市是共同管理的和民主施政的

我们需要的城市是参与式的，它鼓励全体社会成员与合作伙伴（包括公共、私人和民间组织）的有效合作及积极参与。我们需要的城市具有强烈的社区意识。其居民具备知识和方法来表达对于影响他们生活质量的问题的观点。

我们需要的城市使社区变得自立，并重视地方能力的发展。它给予地方领导和协作机构支持，使其提高自立意

The City We Need is a tolerant city. It accepts and embraces all inhabitants regardless of age, race, creed, gender or other forms of diversity. The City We Need recognizes gender differentiated needs and supports women as key actors in planning and adopts measures that enhance their involvement and their ability to participate effectively in decision making.

The New Urban Agenda should aim to recognize and integrate divergent interests, lifestyles and values of different city dwellers through more effective civic



我们需要的城市是以人为本，道德和正义的。它消除了物理或空间层面上一切形式的隔离、歧视和排外。它尊重所有居民尤其是穷人与弱势群体的生命与潜力。它接受文化的多样性，包括不同的信仰和语言，并鼓励移民与难民的社会融合。

The City We Need is people-centered, ethical, and just. It eliminates all physical and spatial forms of segregation, discrimination and exclusion. It values the lives and potential of all inhabitants, especially the poor and other disadvantaged groups. It embraces cultural diversity, including differences of belief and language, and encourages social integration of migrants and refugees.



识和自我决策力。我们需要的城市将公共服务作为一种就业的选择，通过合适的专业人士的参与及道德实践来推动政策与计划的实施。我们需要的城市需要意识到妇女在各自的群体中所扮演的重要角色，并加强她们在城市与地方的决策过程中的参与。

原则 5：我们需要的城市培育紧密结合的土地开发

我们需要的城市能通过一个综合的和紧密结合的实体框架来协调各部门的政策与行动，比如经济、交通、住房、生物多样性、能源、水、废物等领域。在权力下放的前提下，所有利益相关者的角色与职责都遵循同一个纲领，并对资源进行战略性及公平的分配。

我们需要的城市，在其管辖的区域范围内，是促进可持续发展的催化剂。它积极地协调并执行政策、进行投资、采取行动，在提高区域间合作的同时仍保持地方自治权。

《新城市议程》应促进紧密结合的土地开发，避免城市蔓延并保护自然资源。它鼓励通过适当的建筑、工业、服务和教育机构等要素的聚集，减少货品和人的交通需求。鼓励通过跨城市合作来形成规模经济和聚集经济。在地方政府与其他公共机构内优化资源利用，防止恶性竞争。

原则 6：我们需要的城市是可再生和弹性的

我们需要的城市应设计成为有弹性的，不断地进行风险评估，并且当地利益相关者、个人和社区有能力去面对无论是自然或是人为的突发状况和长期压力，并从中吸取经验和自我恢复。

我们需要的城市是可再生的、能源高效的、低碳并且对可再生能源的依赖程度不断提高的。它能够不断进行能

engagement, particularly during the planning to implementation stages for local and city-wide projects.

PRINCIPLE 2: The City We Need is affordable, accessible and equitable

In the City We Need resources are distributed equitably and opportunities are available to all. Land, infrastructure, housing, transport and basic services are planned and operated with special attention to improving access by women and low-income and disadvantaged groups.

The City We Need regards every inhabitant as a citizen of the city regardless of his or her legal status. The City We Need recognizes that its inhabitants are co-owners of the public space, which are designed with their participation and consciously include the needs of women, the elderly as well as children and youth, persons with disabilities and marginalized populations.

The New Urban Agenda should recommend a continuum of legitimate tenure arrangements that involve legal protection against forced evictions, dispossession, destruction and other violations.

PRINCIPLE 3: The City We Need is economically vibrant and inclusive

The City We Need encourages and fosters local economic development from the smallest entrepreneur to the largest corporations. The New Urban Agenda should recognize that the informal sector of the economy provides an important source of livelihood for the urban poor and especially for women and actively eliminates the barriers and obstacles that prevent them from realizing their full potential.

源消耗补给以及废弃物回收和再利用。它能够以一种和谐的方式管理水、土地、能源和其腹地。它能够保证生态系统修复和城区粮食供给系统，包括城市和城郊的粮食生产和社区农业。它具备多功能和适应性强的基础设施，既能确保地区生物多样性又能为提高生活品质创造更多的公共空间。它能够认清自身的承载能力和自然系统的有限度，也能够重视其在城市健康、环境保护、美学和宜居等方面所扮演的角色。

《新城市议程》应该呼吁城市为刺激产业循环经济繁荣提供规划和基础设施，并实行可持续的生产和消费模式。

原则 7：我们需要的城市有着共同的身份和地方归属感

我们需要的城市培养强烈的责任感和地方归属感。我们需要的城市对不同邻里和追求地方归属感的民众进行多方面的认同。它认可文化是人格尊严的关键并承认文化多样性在知识型经济里，是创新、成长和学习的来源。

我们需要的城市通过城市公共空间和自然空间设计来提升美学体验。我们需要的城市不仅是从怀旧的角度来看待遗产，更是以进化和创新的观念来审视它。它既尊崇最现代化的城市进化特性，也尊重本土知识、文化和观点的价值。它认可艺术在创造独特和美观场所的重要作用，并且不同的形式和表达方式在城市中都可以拥有一席之地。



原则 8：我们需要的城市是良好规划的、适宜步行和交通友好型的

我们需要的城市需要进行综合规划，以满足土地、住房、基础设施和服务的当前和长远需求。它采用参与式规划方式，将所有利益相关者纳入城市规划和建筑规范发展中。由此产生的结果就是土地使用能够整合其形式、功能和连通性。社会和经济交流的多式联运网络形成了相互关联的公共空间框架。

The City We Need recognizes that health is a precondition for productivity, and the role and potential of the shared economy both as a means to make public services more affordable and accessible and to promote local economic development.

PRINCIPLE 4: The City We Need is collectively managed and democratically governed

The City We Need is participatory. It promotes effective partnerships and active engagement by all members of society and partners (public, private and civil society). The City We Need cultivates a strong sense of community. Its inhabitants are equipped with the knowledge and means to express their views on issues affecting their quality of life.

The City We Need empowers communities to be self-supporting, developing local capacities and supporting local leadership and collaborative institutions to boost self-reliance, awareness and self-determination.

The City We Need makes public service an employment of choice and engages appropriate professionals and ethical practices to carry out its policies and plans. The City We Need recognizes the important roles that women fulfill in their respective communities and strengthens their participation in urban and local decision making.

PRINCIPLE 5: The City We Need fosters cohesive territorial development

The City We Need coordinates sectoral policies and actions, such as economy, mobility, housing, biodiversity, energy, water and waste, within a comprehensive and coherent territorial framework. Roles and responsibilities between all stakeholders, while respecting the principle of subsidiarity, are clearly defined with resources allocated strategically, equitably, and around a common agenda.

The City We Need is a catalyst for sustainability planning across jurisdictions within the region it occupies. It actively seeks to coordinate and implement policies, make investments and take actions that retain local autonomy while building and enhancing regional cooperation.

The New Urban Agenda should encourage cohesive territorial development to avoid urban sprawl and preserve natural resources. It should recommend reducing the need for transporting goods and people through appropriate clustering of housing, industries,



我们需要的城市不仅是从怀旧的角度来看待遗产，更是以进化和创新的理念来审视它。它既尊崇最现代化的城市进化特性，也尊重本土知识、文化和观点的价值。它认可艺术在创造独特和美观地方的重要作用，并且不同的形式和表达方式在城市中都可以拥有一席之地。

The City We Need looks at heritage not just nostalgically but in an evolutionary and innovative sense. It celebrates the rapidly evolving nature of most modern cities as it cherishes the value of indigenous knowledge, culture and perspectives. It recognizes the importance and role of art in creating uniquely distinguishable and aesthetically pleasing places and that different forms and means of expression all have a place in the city.



我们需要的城市是紧凑型的。具有良好细分纹理的街道和街区网络以及提供便利的服务，建筑和设施具备混合功能和尺度，让城市具备可达性。我们需要的城市具有高效和经济实惠的交通系统，能够保证所有人的出行权利以及进入工作、礼拜和娱乐场所、文化和服务场所的公平性。

《新城市议程》应该呼吁城市以一种灵活的方式实施他们的城市规划，定期更新关键内容以更好地满足所有合作伙伴、民众和社区的需求。

原则 9：我们需要的城市是安全、健康和幸福的

我们需要的城市是没有暴力、冲突和犯罪的。无论白天或黑夜，所有人都能够放心地在街道和公园出行活动。它能够保障妇女儿童和年长者在公共空间和工作场合的安全性。为此，需要男人、女人、女孩和男孩都参与到规划、设计、预算和实施过程。我们需要的城市促进文化和平。为此，需要联合所有利益相关团体参与到组织跨年代、跨文化的对话和活动中，以加强理解、宽容和沟通交流。

我们需要的城市积极推动居民体育运动，并提供公共休闲空间，尤其关注特殊群体的特殊需求。我们需要的城市需要关注因为肥胖、不健康的饮食、久坐的生活方式、滥用药物和环境污染引起的慢性疾病的上升趋势。此外，也需要进一步保证所有人都能够获得优质的食品。

《新城市议程》应该认识到良好的健康不仅需要卫生部门，更需要推进跨部门之间的交流和合作，以寻求解决方案。《新城市议程》也应该认识到健康问题应作为发展中的基本目标，同其他目标具备同等重要性，所有城市部门涉及到的健康行动影响都应该被重视。

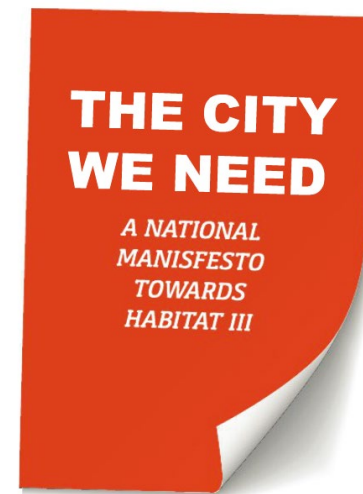
services and educational institutions. It should recommend inter-municipal cooperation to achieve economies of scale and agglomeration, optimize use of resources and prevent unhealthy competition among local authorities and other public agencies.

PRINCIPLE 6: The City We Need is regenerative and resilient

The City We Need is designed to be resilient, continuously assessing risks and building the capacities of local stakeholders, individuals and communities to prepare for, absorb, recover from and learn from acute shocks and chronic stresses, both natural and anthropogenic.

The City We Need is regenerative, energy and resource efficient, low-carbon, and increasingly reliant on renewable energy sources. It replenishes the resources it consumes and recycles and reuses waste. It manages water, land, and energy in a coordinated manner and in harmony with its hinterlands. It supports ecosystem restoration and city-regional food systems, including urban and peri-urban food production and community-based agriculture. It is endowed with multifunctional, adaptable infrastructure that supports local biodiversity while providing public space that improves quality of life. It recognizes the carrying capacities and limitations of the natural systems which support it, and values ecosystem services for the roles they play in urban health, environmental protection, aesthetics and livability.

The New Urban Agenda should call on cities to plan for and provide infrastructures and incentives



原则 10：我们需要的城市是不断学习和创新的

我们需要的城市是一个对未来可替代方案不断尝试的“实验室”。它创造协作学习和探索的机会，来重新审视和界定为实现可持续未来的城市范式和社会契约。

我们需要的城市认识到城市正在发生变化，需要不断地学习和反思，也需要更灵活的规划和决策方案。我们需要的城市尽可能地利用技术方式来提高效率和效益，并减少碳足迹。这些技术提供了交流的新渠道，工作的新形式和新商业模式和事业。

《新城市议程》应该认识到克服信息鸿沟的重要性，确保所有居民能够充分的享用城市开放平台和合作空间。这种开放性有助于提高居民、决策制定者和私营部门之间的理解和信任度。



我们需要的城市是一个对未来可替代方案不断尝试的“实验室”。它创造协作学习和探索的机会，来重新审视和界定为实现可持续未来的城市范式和社会契约。

The City We Need is a "laboratory" for experimenting with alternative scenarios for the future. It creates collaborative learning and discovery opportunities to revisit and redefine urban paradigms and social contracts for sustainable futures.



for industries to prosper in a circular economy and to implement sustainable production and consumption patterns.

PRINCIPLE 7: The City We Need has shared identities and sense of place

The City We Need fosters a strong sense of place and generates a sense of belonging for all. The City We Need has a multifaceted identity made up of diverse neighborhoods and peoples who consciously seek ways to share a common sense of place. It recognizes culture as key to human dignity and values diversity as a source of creativity, growth and learning in a knowledge economy.

The City We Need designs urban public and natural spaces to actively promote aesthetic experiences. The City We Need looks at heritage not just nostalgically but in an evolutionary and innovative sense. It celebrates the rapidly evolving nature of most modern cities as it cherishes the value of indigenous knowledge, culture and perspectives. It recognizes the importance and role of art in creating uniquely distinguishable and aesthetically pleasing places and that different forms and means of expression all have a place in the city.

PRINCIPLE 8: The City We Need is well planned, walkable, and transit-friendly

The City We Need adopts integrated planning to meet present and future needs for land, housing, infrastructure and services. It adopts participatory planning by bringing on board and empowering all stakeholders in the development of its plans and building codes. The resulting land use integrates form, function and connectivity. Multimodal networks of social and economic exchange form a framework of interconnected public space.

The City We Need is compact where accessibility is supported by a fine-grained block and street network lined with buildings and facilities providing amenities and services with a mix of uses and sizes. The City We Need has efficient and affordable mobility systems that guarantee the right to mobility for all and an equitable access to workplaces, places of worship and recreation, culture and services.

The New Urban Agenda should call on cities to adopt and implement their respective plans in a flexible manner, periodically updating their key components to better meet the needs of all partners, people and communities.

PRINCIPLE 9: The City We Need is safe, healthy and promotes well-being

The City We Need is free from violence, conflict and crime. It is welcoming night and day, inviting all people to use its streets, parks, and transit without fear. It guarantees the safety of women and girls and the elderly in both public and workplaces. It does so by involving men and women and girls and boys in the planning, design, budgeting and implementation of security interventions. The City We Need fosters a culture of peace. It does so by working together with all stakeholder groups in organizing inter-generational, inter-cultural dialogue and events to promote understanding, tolerance and communications.

The City We Need promotes sports among its inhabitants and provides public space for recreation, with special attention to people with specific needs. The City We Need must address the rising tide of non-communicable diseases (NCDs) associated with obesity, unhealthy diets, sedentary lifestyles, substance abuse, and environmental pollution. It should further recognize the essential role of and guarantee equal access to quality food and food markets.

The New Urban Agenda should recognize that good health requires solutions that transcend the health sector and recommend improved inter-sectoral communication and coordination for health. The New Urban Agenda should also recognize health as a fundamental aim of development, co-equal with other aims, and the impacts

on health of actions in all urban sectors should be explicitly considered.

PRINCIPLE 10: The City We Need learns and innovates

The City We Need is a “laboratory” for experimenting with alternative scenarios for the future. It creates collaborative learning and discovery opportunities to revisit and redefine urban paradigms and social contracts for sustainable futures.

The City We Need recognizes that cities are changing, which calls for continuous learning and reflection and more flexible planning and decision making. The City We Need harnesses the full potential of technologies to improve efficiency and effectiveness in its operations and to reduce its carbon footprint. These technologies introduce new channels of communication, new forms of work and new business models and enterprises.

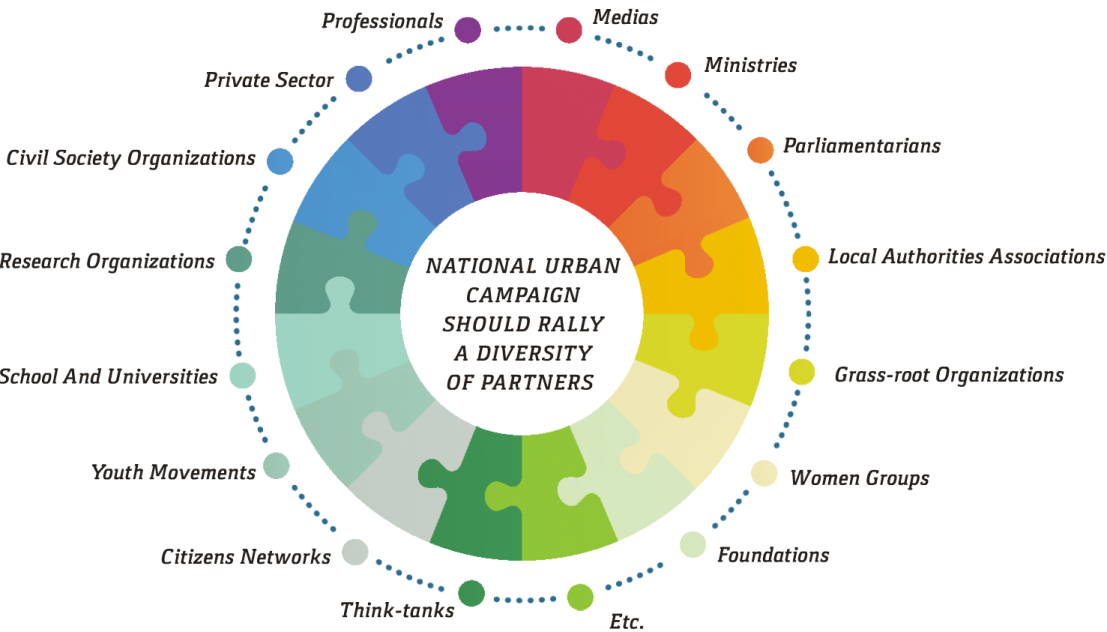
The New Urban Agenda should recognize the importance of overcoming the digital divide to enable all of its inhabitants to take advantage of the city as an open platform and a collaborative space. This openness contributes to improved understanding and trust among inhabitants, policy makers and the private sector. 

TECHNOLOGY & VIEWPOINT

技术与观点

Integrated Spatial Planning for Resilience and Sustainability
综合空间规划，提升城市弹性与可持续性

Application of Water Vapor Energy in Sustainable Development of Cities
水汽能在城市可持续发展中的应用





伦敦就业聚集在地铁站周围
London's Jobs densities are clearly clustered around subway stations

Integrated Spatial Planning for Resilience and Sustainability

综合空间规划 提升城市弹性与可持续性

随着城市日渐发展，城市各个组成系统之间的相互依赖性也日益复杂。空间规划对城市的能源供需、城市的宜居性和城市的经济效率都有很大的影响。因此我们的规划必须采用系统性方法，而这种系统性的方法，应基于 10 条重要原则。

As cities grow, we have to take into account the increasingly complex inter-dependencies in the different urban systems that make up a city. Spatial planning has a strong impact on both the energy demand, the energy supply, and on the livability and economic productivity of cities. Thus we need a systemic approach which should be based on 10 key principles.

Serge Salat, President, Urban Morphology and Complex Systems Institute

薛杰 法国城市形态和综合系统研究所主席

在未来 40 年城市人口将增加一倍，城市不能再按照过去的模式来建设。同时，也必须解决好有限的资源问题。为此，我们需要重新审视并设计未来城市的总体基础设施。我们今天决定建造的基础设施将在很长一段时间发挥作用。因此，我们需要为未来 40 年至 100 年的城市生活打造一个良好的基础。空间规划对城市的能源供需、城市的宜居性和城市的经济效率都有很大的影响。随着城市的发展，政策制定者和土地使用规划者必须考虑到：在城

In the next 40 years the number of people in cities will double. Cities cannot be built as in the past. Resource limitations must be addressed. We need to rethink and redesign the totality of infrastructure for the cities of tomorrow. The infrastructure decisions we make today will be in place for a very long time. So we need to build the foundation for the next 40 to 100 years. Spatial planning has a strong impact on both the energy demand, the energy supply, and on the livability

“

我们今天决定建造的基础设施将在很长一段时间发挥作用。因此，我们需要为未来 40 年至 100 年的城市生活打造一个良好的基础。

The infrastructure decisions we make today will be in place for a very long time. So we need to build the foundation for the next 40 to 100 years.

”

市各个组成系统之间存在相互依赖性，并且这种依赖性日益复杂。只有采用系统性方法解决好城市各个区域的能源问题，才能成功地解决城市系统中的能源效率问题。这种系统性的方法应基于 10 条重要原则，这些原则在不同范围采用综合系统性方法解决城市空间经济学、交通和土地利用综合规划、城市设计和能源规划问题。这 10 条重要的空间规划原则，还在规划之外的一些区域取得了明显的协同效益，并促使城市可持续性和适应能力政策与持续的经济增长和竞争力政策以及社会包容和负担能力政策结合起来。

1. 跨区域连通性是 全球竞争力的关键所在

采用无缝整合方式，通过多种交通方式（飞机、高铁、区域列车，地铁，公交车）使不同区域里，人与人、人与工作地点之间连通，这在经济发展和资源利用最大化方面发挥着至关重要的作用。在注重高效紧凑的换乘枢纽区域，应该确保不同的区域和交通方式能够实现无缝对接，这些区域为城市发展带来众多机会，但它们也应是可进入，以行人为本及充满活力的开放型社区。跨区域连接也要确保交



薛杰 Serge Salat

法国国际城市形态与复杂系统研究所所长、城市规划师（生态学、建筑学、艺术史博士）。曾是法国建筑科学技术中心创办人，可持续城市发展研究主任。在建筑、设计、城市规划、能源工程等方面有着 30 多年丰富经验。国际知名创意性建筑设计师，城市形态学和城市复杂系统科学研究的领军人。

and economic productivity of cities. As cities grow, policy makers and land use planners have to take into account the increasingly complex inter-dependencies in the different urban systems that make up a city. Only a systemic approach addressing energy issues through the scales that make up a city can address successfully the challenges of the energy productivity in urban systems. This systemic approach should be based on 10 key principles addressing urban spatial economics, transport and land-use integrated planning, urban design and energy planning in an integrated and systemic way through different scales. These 10 key spatial planning principles achieve significant co-benefits in areas usually separated in planning efforts and allow bundling urban policies for sustainability and resilience with policies for ensuring sustained economic growth and competitiveness, and with policies to ensure social inclusion and affordability:

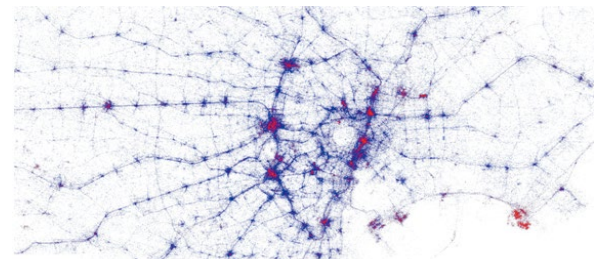
1. Connectivity across scales is key for global competitiveness

Connecting people to people and people to jobs in a seamless integrated way through many modes (planes, HSR, regional trains, subways, buses) and across many scales is essential for economic development and for resource use minimization. Seamless integration of scales and modes should be ensured in efficient and compact interchange hubs that are high opportunities for urban development provided they are open on permeable, pedestrian oriented, and vibrant neighborhoods. Connectivity across scales ensures resilience of networks. A connected network pattern (streets, energy, information) similar to a leaf structure, with connections of all ranges and scales connecting directly at the same level in the hierarchy, is resilient, adapts itself to variable flows (avoids congestions) and reorganizes its flows when a part is damaged.



像亚特兰大这个城市在交通领域每年每人产生的 CO₂ 排放量是巴塞罗那市的 10 倍以上，但是巴塞罗那市人口超过亚特兰大，建筑足迹也只有亚特兰大市的二十六分之一，并且建筑物也比亚特兰大数量更多布局更密集。

A city like Atlanta, for example, emits 10 times more CO₂ /people/year for transportation than Barcelona that has a larger population but is more compact and has a 26 times smaller built footprint.



东京城市形态：树叶型 Tokyo urban form: a leaf pattern

通网络的适应能力。这是一种类似于叶片结构的连接网络模式（街道、能源和信息），其在一水平同一等级上能够直接连接所有范围内的区域，只有这样其才具有弹性，并能适应不同的交通流（避免拥堵），并在部分交通发生损坏时重组其交通流。

2. 交通和土地利用的整合： 土地利用密度必须符合交通可达性要求， 在 30 分钟内可抵达工作地点的 交通可达性会促进地方发展

把空间经济和工作岗位及经济发展密度，与交通可达性结合起来（即，把在交通节点周围高密度的工作岗位和人群与规定高度差异化容积率的计划联系起来），可增加公交载客量、降低汽车保有量、减少交通能耗和温室气体排放量、降低基础设施成本和相关能耗，并提高单位土地面积的经济效率。在大都市，有效的发展强度需符合这样一个标准：采用公共交通在 30 分钟内可抵达相关人员处、工作地点和商业场所（今天，这可通过大数据的算法来衡量），强化原本已密集的及可进入的区域。如果符合该标准，表明该区域仍具有较高的发展潜力，而非非要采用疏散政策和打造新城来分散发展。

2. Integration of transit and land use: Densities must be aligned with transit accessibility; Jobs accessibility by transit in 30 minutes fosters local development

Integrating the space economy and jobs & economic densities with transit accessibility (that-is clustering jobs and people at high densities around a hierarchy of transit nodes with plans specifying highly differentiated FARs) leads to high transit ridership, low car ownership, low transportation energy & GHG emissions, low infrastructure costs and associated embodied energy, and higher economic productivity per unit of land. Efficient intensity of development at metropolitan scale follows accessibility to people, jobs and commercial space at 30 minutes by transit (as can be measured today by big data algorithms) reinforcing the already dense and accessible areas, which have a high potential for growth, rather than dispersing development with decentralization policies and new towns.

As in any system, optimization should start at the higher scales of the urban system, that-is a compact distribution of people and jobs densities through the urban space and their alignment with transit accessibility. Sprawl (fragmented leapfrog urban growth where urban built footprint grows much faster than population) is extremely resource consuming. A city like Atlanta, for example, emits 10 times more CO₂ /people/year for transportation than Barcelona that has a larger population but is more compact and has a 26 times smaller built footprint. Urban Morphology and complex System Institute research has also shown that urban GDP is distributed according to a Pareto principle with 20% of urban land producing 80% of its GDP while 80% of the

正如在任何系统中，优化都是在更高级的城市体系开启，即，人口和就业岗位密度在城市空间的密集分布及其符合交通可达性要求。无序的城市扩张（分散的跨越式城市发展，会造成城市建筑足迹的增长速度大大超过人口增长）尤其会导致巨大的资源消耗。例如，像亚特兰大这个城市在交通领域每年每人产生的 CO₂ 排放量是巴塞罗那市的 10 倍以上，但是巴塞罗那市人口超过亚特兰大，建筑足迹也只有亚特兰大市的二十六分之一，并且建筑物也比亚特兰大数量更多布局更密集。城市形态和综合系统研究所的研究还表明，城市的 GDP 一般符合帕累托法则，即 20% 的城市土地产生 80% 的 GDP，而其余 80% 的城市土地只创造 20% 的 GDP¹。在一定的城市半径内，网络长度 / 平方公里和成本 / 平方公里是随着城市扩张而降低²，而超出这一城市半径范围后，所创造出的 GDP 将大大低于基础设施的成本，从而导致城市扩张的基础设施在长度和成本（和基础设施的能耗）都高于所贡献的经济产出，导致在经济和环境上造成一种低效的城市形态。

为了解决这些问题，公交导向型发展（TOD）倡导提高综合街区交通节点的密度，这类综合街区包括很多小街区和密集的交叉点，以确保城市的活性和活力，并确保当地居民可无障碍地进入交通车站。

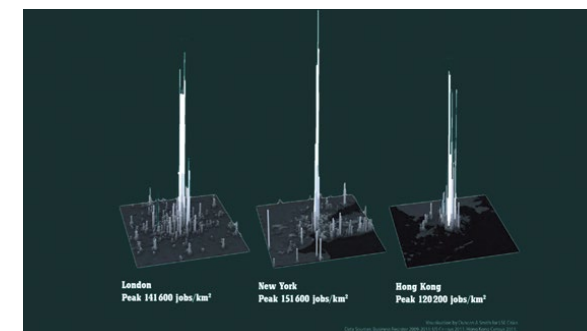
城市形态与综合系统研究所最近的研究表明，在全球性大城市，如巴黎、伦敦、纽约、东京和香港，它们交通网络的形状和密度轮廓都具有复杂系统的最佳结构特征，即：高效、富有弹性和低能耗。首先，最优结构的地铁网络覆盖范围为周围 4 至 6 公里的密集性核心区域，在这些区域交通车站连续、均匀、密集，并具有高度的互连性，可确保 500 米范围内大多数居民和上下班人员无障碍进入地铁站。在密集性核心区域之外，交通车站的分布密度降低，特别是在远离核心区后车站的分布密度大幅降低³。核心区域具有最高的交通可达性⁴，也集中高密度的工作岗位，这样可确保高度的集聚性经济和来自城市四周上班人员的交通可达性。二十分钟的步行和交通时间限制了该最大区域的范围，而这种集聚性力量在全球经济体中

urban land produces only 20% of the GDP¹. Networks lengths/km² and costs/km² decrease only smoothly with urban expansion², thus as GDP decreases more sharply than infrastructure costs, beyond a certain radius of urban expansion infrastructure lengths and costs (and embodied energy in infrastructures) become higher than additional economic output, resulting in both an economically and environmentally inefficient urban form.

To address these issues, Transit Oriented Development (TOD) advocates increasing densities around transit nodes in mixed-use neighborhoods based on small blocks and a high density of intersections ensuring livability, urban vibrancy and local accessibility to transit stations.

Recent work by the Urban Morphology and Complex System Institute has shown that the shape of transit networks and the shape of densities in global cities, such as Paris, London, New York, Tokyo, Hong Kong, follow optimal shapes characteristics of complex systems that are both efficient, resilient, and low energy. First, subway networks converge towards optimal shapes made of a dense core of between 4 to 6 km radius, with a constant and uniform density of stations that are highly interconnected and ensure accessibility to stations at less than 500m for most residents and jobs. Radiating from the core, spokes extend outwards. At the limit of the core the density of stations drops and decreases sharply when moving away from the core³. The core is the area with the highest accessibility⁴ and should concentrate jobs at high densities for both ensuring high agglomeration economies and accessibility to a high number of jobs from the radiating spokes. Twenty minutes door to door by walk and transit defines the maximum area where forces of agglomeration shape high economic densities in one or several poles in global economies. Cities like London, New York, or Tokyo show a moderately polycentric shape within the core where the secondary poles are very close one to the other in a very compact organization highly interlinked by transit (at 20 minutes by transit from Midtown to Lower Manhattan, or around Tokyo's Yamanote loop line that surrounds an area of only 60 km², and at only 20 minutes between the City of London and Canary Wharf).

Recent work by the Urban Morphology and Complex System Institute has also shown that accessibility to a high number of jobs in 30 minutes by transit determines local growth in efficient market economies (residents + jobs densities increase with the number of accessible jobs leading to real estate





全球经济体中的工作岗位和公司密度表明，工作岗位密度可以提高生产力、竞争力和就业机会。

Jobs and companies densities in global economies show that jobs densities increase productivity, competitiveness and job creation.



形成一极或多极高经济密度。像伦敦、纽约或东京这类城市，其核心区域表现出一种适度的多中心结构形状，其中第二极都非常靠近第一极，并通过便捷的交通彼此之间相互高度互联（从曼哈顿市中心到曼哈顿下城区只需 20 分钟，而东京山手环线所环绕的区域只有 60 平方公里，而从伦敦金融城到金丝雀码头也只有 20 分钟的车程）。

城市形态与综合系统研究所最近的研究还表明，乘坐交通工具 30 分钟内可无障碍抵达的区域范围，决定了该区域是否对有效市场经济体产生局部促进作用（居民 + 就业岗位密度随着可获得就业机会的增加而增加，从而导致房地产发展和土地价值增值，这是获取价值的必要条件，也是开始基础设施和公开领域再投资良性反馈循环的必要基础）。因此，空间规划和交通可达性整合的最佳结构，可

growth and land values increases that are necessary for value capture and for starting a positive feedback loop for financing infrastructures and public realm). Thus the optimal structure for integrating spatial planning and transit accessibility is increasing jobs densities at the core of the transit system and increasing FAR both for population and jobs increase around transit stations in spokes radiating from the core.

This policy has allowed Hong Kong to ensure that 75% of its population and 84% of its jobs are located less than 1 km from a mass transit station, achieving a decoupling between economic growth and CO₂ emissions per capita. Between 1993 and 2009, GVA/capita increased 50% while CO₂ emissions per capita and road gasoline per capita decreased about 10%.

¹ 可使用内外伦敦之间是 GDP 差异予以验证，并且也可在对郑州市详细研究中运用指数 -1 反幂律来验证。也可通过指数接近 -1 的幂次定律来粗略地验证，该指数用于衡量巴黎、伦敦和纽约城镇空间的工作岗位密度分布。

² 幂指数为 -0.5；而幂指数为 -1 时国内生产总值（GDP）将下降。

³ 距离市中心半径内的车站密度急剧下降情况遵循 R- 1.6 逆幂律。

⁴ 在核心区交通系统中，较高的可达性和连通性，可以通过图论中不同中心性指数来衡量：点度中心性是衡量一个给定车站的连接线路数量，即衡量的是交通连通性；接近中心性是衡量该网络离所有其它车站的距离，即衡量的是交通可达性；中间中心性衡量该经过一个车站最短路径的数量，车站吸引大量乘客流的能力，以及车站连接不同区域或连接网络中不同子系统的特性。城市形态与综合系统研究所最近的研究表明，不同类型的中心性对应局部区域不同的发展概率（例如，东京山手线和伦敦环线的中间中心性和点度中心性可转化为高概率的发展机会，如在日本新宿和英国国王十字车站），并且通过把交通网络最核心区设置为最高容积率，这样网络中的中心性就可用来指导密度分布和土地利用规划。

¹ This is verified with the differences in GDP between Inner London and Outer London, and has been verified under the form on an inverse power law of exponent -1 in a detailed study of Zhengzhou and is more broadly confirmed by the universal power law with an exponent close to -1 that organizes the distribution of jobs densities in the urban space in Paris, London and New York.

² At the power - 0.5 while GDP decreases at the power -1.

³ The sharp decrease in the density of stations with the radius from the city center follows an inverse power law of the form R - 1.6

⁴ This accessibility and connectivity that is higher in the core of the transit system can be measured by different indexes of centrality derived from graph theory: degree centrality measures the number of connections of a given station and is a measure of its connectivity; closeness centrality measures the distance on the network to all the other stations and is a measure of accessibility; betweenness centrality measures the number of shortest paths that go through a station, and thus its capacity to capture a high number of passenger flows and is a characteristic of stations that articulate different scales or different sub-systems in the network. Recent work by the Urban Morphology and Complex Systems Institute has shown that the different types of centrality translate into different probabilities of growth at local scales (for example betweenness and degree centralities in Tokyo's Yamanote line and London's Circle Line translate into high probabilities of growth like in Shinjuku or King's Cross) and that centralities in the network should guide densities distributions and land uses planning by setting FAR's at higher values in the most central places of the transit network.



以增加在核心区交通系统周围的工作岗位密度，也可提高核心区之外交通车站周围人群的容积率和工作机会。

这一政策使得香港在距离轨道交通站不到 1 公里的区域容纳 75% 的人口和创造 84% 的就业机会，从而实现经济增长和人均 CO₂ 排放量之间的联系解耦。从 1993 年到 2009 年，人均总增加值增长了 50%，而人均 CO₂ 排放量和人均道路汽油消耗量却降低了 10% 左右。

3. 空间规划和经济密度的整合：市场力量下集聚经济创造就业岗位密度的高峰值

在高效率和高竞争力城市中，如伦敦和纽约，有三分之一的就业机会都集聚在大约 1% 的核心都市区，这些区域创造高度的知识溢出价值，而另外三分之二的市区车站林立。全球经济体中的工作岗位和公司密度表明，工作岗位密度可以提高生产力、竞争力和就业机会。纽约和大伦敦三分之一的工作岗位（这两个城市的居民数是 850 万，而核心区提供 150 万个工作岗位）都集中在面积仅有 15 平方公里的市区，而纽约的总面积有 790 平方公里，大伦敦的总面积为 1572 平方公里。而在这些狭小的核心区域，这些先进服务经济体的管理领导机构在这里更集中。比如，在伦敦，29% 的办公空间集中在面积不到 1% 的伦敦金融城商业区（每平方公里拥有 45 万个就业岗位，在过去十年间增长率为 30% 以上）；而在纽约市，60% 的市办公空间都集中在面积 9 平方公里的曼哈顿，也就是占纽约市大约 1% 的面积。在这些超级集聚的区域，每平方公里提供的工作岗位数最高为 15 万个。尽管在这些核心地带人员高度聚集，但由于提供了高质量的公共空间，这些区域仍保持着良好的宜居环境，如伦敦金丝雀码头。在纽约和伦敦这两个全球化城市中，另外三分之二的工作岗位大部分是沿交通走廊及周边交通节点分布；而在全球范围内，大约 2/3 的工作岗位都集中在距离公共交通站 1 公里范围内的区

3. Integration of spatial planning and economic densities: Agglomeration economies under market forces create high peaks of jobs densities

In efficient and competitive cities, such as London and New York, one third of the jobs are agglomerated in about 1% of the metropolitan area creating intense knowledge spillovers, while the other two-thirds are clustered around transit stations. Jobs and companies densities in global economies show that jobs densities increase productivity, competitiveness and job creation. One third of New York City and Greater London jobs (1.5 million jobs of these two cities of 8.5 million inhabitants) are concentrated in only 15 km² in each city while New York covers 790 km² and Greater London covers 1,572 km². The command functions of these advanced services economies are even more concentrated with 29% of Inner London office space concentrated in less than 1% of its area, in the City of London (450,000 jobs in 2.9 km² with a growth of 30% during the last decade) and with 60% of New York City office space concentrated in 9 km² in Manhattan, that is in about 1% of NYC area. These extreme concentrations peak at 150,000 jobs/km² and are made livable by high quality public space like in London's Canary Wharf. The other two thirds of the jobs are distributed in these 2 global cities for their most part along transit corridors and around transit nodes, ensuring globally that about 2/3 of the jobs are less than 1 km from a mass transit station. High accessibility to jobs across urban scales (locally by a good job/housing balance; and at city scale by the alignment of jobs densities with jobs accessibility in particular with a high density of jobs at the core of the transit network) ensures that many localizations within a TOD city have access to a high number of jobs and thus have a high growth potential and a high land value.

4. Job/housing balance is key for a balanced development at local scale

Job/housing balance is key to ensure inclusiveness and reduce commuting time. It can be jeopardized by excessive decentralization policies. Job/housing balance at local scale is key for ensuring local vitality and development around transit nodes. It is not contradictory with a high density of jobs at the core: Manhattan, Seoul, and Tokyo have also high residential densities (21,000, 16,000 and 15,000 inhabitants/km² respectively). The other 2/3 of the jobs at high density around transit nodes

域。跨市区的工作岗位也具有较好的交通可达性（在当地，工作地点 / 居住地点之间有良好的平衡关系；在市区，就业岗位密度要符合工作地点的可达性，特别是在核心区方便的网络保证了高密度工作岗位的交通可达性），这就确保了在 TOD 城市的当地居民可获得大量的就业机会，因而这类城市也具有较高的增长潜力和较高的土地价值。

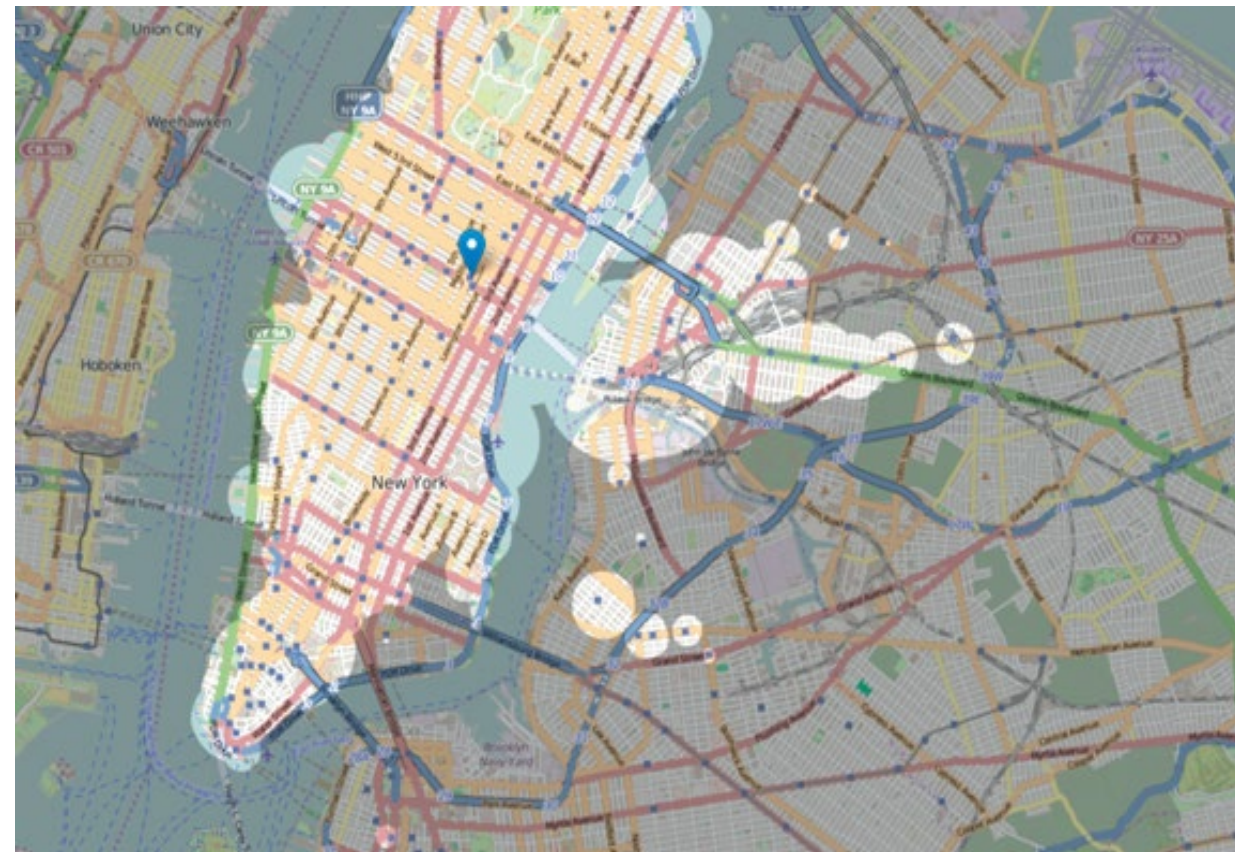
4. 实现职位平衡是地方均衡发展关键所在

职位平衡的关键是确保包容性，减少上下班的通勤时间。但是，过多的分散政策破坏了这种平衡。在地方层面，职位平衡也是确保当地在交通节点的经济活力和发展的关键。这与在核心区域的高度集中的工作岗位并不矛盾：曼哈顿、首尔和东京也有较高的居住密度（分别为每平方公里 2.1 万居民、1.6 万居民和 1.5 万居民），另外 2/3 的工作岗位都聚集在交通节点附近，这就确保大都市能够实现当地的平衡发展。应避免建设低密度（容积率大约为 1，居民密度为 3000 人 / 平方公里）单一功能型新市镇，因为它们远离城市核心区，会分散交通密度并增加交通网络的成本和能耗。

ensures a balanced local development at metropolitan scale. Low-density (FAR around 1, and density around 3,000 inhabitants/km²) mono functional new towns, far away from city cores such as Science Parks should be avoided as they contribute to sprawl and increase the cost and embodied energy in networks.

5. Inclusiveness: TOD can unlock land for affordable housing

An inclusive society is based on access to a large number of jobs opportunities for all (that can be ensured by transit-oriented development following the above principles), and by affordable housing located around transit nodes. High concentration of jobs art high densities in urban cores should be complemented by specific policies to increase jobs accessibility by transit in deprived areas. Inclusionary zoning should ensure affordability as in the United States. Hong Kong example shows that public policies based on value capture for financing public goods has unlocked land for 600,000 new housing units in the New Territories between 1970



交通网络的可达性，应该通过各交通节点周围具有良好局部可达性的设施来确保实现，这通常被称为“最后一英里”问题。

Accessibility within the transit network should be completed by a high level of local accessibility around transit nodes, often referred to as the "last mile" issue.



5. 包容性： TOD 可以释放经济适用住房用地

一个包容性社会的基础是能为交通节点附近的所有人员提供大量的就业岗位（根据以上原则，通过公共交通为导向的发展来确保）和经济适用住房。在城市核心区，对于高度集中的高密度工作岗位也应辅之以具体的政策，以增加在城市相对不发达地区工作地点的交通可达性。包容性区划应像美国一样确保居民的负担能力，例如，在香港，基于获取的价值来资助公共服务的公共政策已经在 1970 年和 2010 年之间在新界地区释放了 60 万套新住房用地，该地区具有方便的公共交通条件和大量的工作岗位，并且上下班通勤时间都低于 30 分钟。

6. 局部可达性的实现必须有一个密集的、 有良好连通性的街道网络

交通网络的可达性，应该通过各交通节点周围具有良好局部可达性的设施来确保实现，这通常被称为“最后一英里”问题。在具有国际高竞争力的城市，这主要通过密集而具有良好连通性的街道网络来解决。在这类城市，每平方公里大约有 100 个道路交叉点。城市发展应基于具有良好连通性的街道网络，这些街道也同时界定小块的街区。应避免宽度达 400 米的超级街区和带有障碍物的主干道。在这方面，纽约算是最成功的世界级大城市，它采用 30 米宽的宽阔大道和 20 米宽街道组成的道路网络来界定街区。大多数情况下，一个街区一般长 60 米、宽 160 米。在这方面，一个城市街区、城市广场和城市花园的最佳小面积是 10000 平方米，但根据具体的要素要求，这个面积也可以更大或更小一些。

7. 良好的公共领域是高密集区域 是否宜居性的关键所在

公共领域促进人的社会交往，使城市环境更宜居并创造经济价值。公共领域应该是连续性的，不设大门、紧靠

and 2010 in areas with excellent access to mass transit and high number of jobs in reasonable commuting time below 30 minutes.

6. Local accessibility must be based on a dense network of connective streets

Accessibility within the transit network should be completed by a high level of local accessibility around transit nodes, often referred to as the 'last mile' issue. This is achieved by a high density of connective streets with, in international competitive cities, about 100 intersections per km². Urban developments should be based on a fine grid of connective streets defining small blocks. Superblocks 400 m side and large arterials with setbacks should be avoided. The most successful world city, New York, is based on a grid of 30 meters wide avenues and 20 meters wide streets defining blocks 60 meters wide and in most cases 160 meters long. 10,000 m² is the optimum size for an urban block, an urban square and an urban garden, although to ensure variety some elements should be smaller and very few bigger.

7. Public realm is key for livability in high-density areas

Public realm fosters social interactions, makes the urban environment livable and creates financial value. It should be continuous, with no gates, with streets as places for people and people centered. Many small gardens in the urban fabric are part of strategies of densification + greenification, like in Rotterdam, and contribute to a bioclimatic urban fabric enhancing solar gains, natural ventilation and cooling and reducing heat island effect, while ensuring 10-minutes walk accessibility to public parks for all, such as in Singapore and Manhattan. High quality public realm is key for livability. It is based on a high density of connective narrow streets designed as places for people, shaded by trees and with benches, on plazas and gardens at

街道，是一个人群集中的地方。在城市结构中，许多小花园也是密集化 + 绿化战略的一部分。在鹿特丹，城市花园有助于建立一个生物气候型城市结构，因为城市花园提高了太阳能利用收益、自然通风和散热，并降低热岛效应。而在新加坡和曼哈顿，城市公共花园一般保证居民步行 10 分钟即可到达。因此，高品质的公共领域是宜居性关键所在。公共领域是基于密集的、狭窄的、相互连通的街道网络，这些街道设计成供人群休闲休憩的地方，配有树木、长凳、广场和小花园，并且没有任何物理障碍，如人行道的隔离障和住宅小区的大门，这样就形成了人们可自由进出的公共领域。当沿街道布局的商店辅之以小型建筑就界定了街道边缘，这样就形成了公共领域。基于一些设计原则，外部空间设计成为人群休闲娱乐的公共领域，而这些设计原则有时也把一个地点设计成一个主题突出、令人难忘的空间。这些公共领域具有一定的结构，富有人性化、可视的景观，既可供人自由欣赏，也可在那里获取丰富的信息内容，同时确保了城市空间之间的连贯性、易识别性和联结性。



8. 小众区域的综合用途确保了多样性

小众、综合用途和多样性是非常重要的，可以确保社区友好性，并为周围人群提供方便使用的日常设施。在小众区域（纽约为 200 平方米的地块）或在同一建筑物内都能实现这种用途的组合。

9. 小众土地市场，自下而上的过程和增量增长都是适应性城市在市场力量下保持经济活力的关键所在

增量增长确保了城市能够适应经济、社会和市场的变化。小众地块在曼哈顿网络规划中为 200 m² 的地块，但却创造了一个充满活力的土地市场，并利用获取的土地增值



a small scale, on a free flow of public realm without physical barriers, such as barriers separating sidewalks from streets of gates surrounding blocks. Public realm is created when small buildings aligned along streets with transparent shops define street edges. It is also based on design principles that make outside space an enjoyable public realm for people, with a sense of place created by design principles such as a well-defined and memorable space, with a sense of enclosure, human scale, transparency offering views, complex and rich information field offering a wealth of details at different scales, while ensuring coherence, legibility and linkage between urban spaces.

8. Mixed-Use at fine grain scale ensures diversity

Fine grain, mixed-use and diversity are essential to ensure that communities are friendly to people and offer them all daily amenities at walking distance. The mix of uses should be achieved at very fine grain (200 m² plots in NY) and within the same buildings whenever possible.

9. Fine grain land markets, bottom up processes, and incremental growth are key to the economic resilience of adaptive cities evolving under market forces

Incremental growth ensures the city adaptation to economic, social and market changes. Fine grain platting with plots of 200 m² in Manhattan grid plan has created a vibrant land market and land value increase has been captured for the city growth. New York growth has been based on a vibrant land market based on tiny plots of 200m². On an area of 66 km² such as Manhattan area, there were originally 300,000 plots of land - to be compared to only 250 in Chinese superblocks developments. This small-size land market has ensured

资金促进城市发展。纽约的发展是基于 200 平方米小地块来形成一个充满活力的土地市场。在面积 66 平方公里的曼哈顿城区，原本有 30 万个地块——而相比之下在中国的超级街区发展中却只有 250 个地块。这种小规模的土地市场确保了土地有较多的开发类型，以及富有弹性和适应性的城市形态。在可追溯至 2 世纪的原有地块中，高达 40% 的地块仍现存于曼哈顿——这是一座在 21 世纪全球经济中富有号召力的城市——但仍拥有属于 19 世纪的赤褐色砂石建筑，而在其它地块还有从中等规模的建筑物到摩天大楼各种大小⁵ 的建筑群。这些小众土地市场与中国基于超级地块的非常粗糙的土地市场截然相反。小众地块确保对不断变化的经济形势的较强适应性，并采用自下而上的过程，通过增量增长来不断提高城市的多样性和致密性。



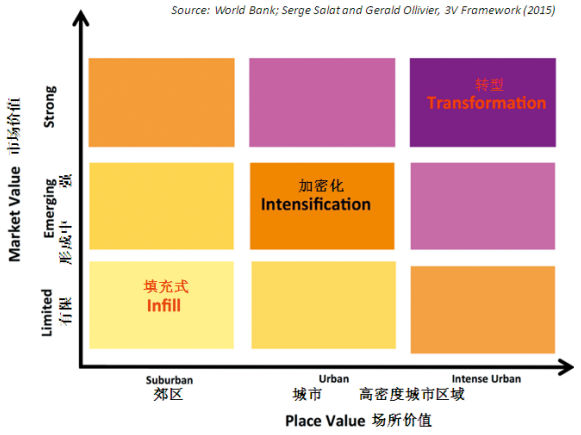
10. 通过价值获取进入的积极反馈循环，确保综合性交通及土地利用计划的财务可持续性

工作地点的高交通可达性，可通过重大交通投资和交通与土地利用综合规划来实现，这反过来又确保了高地价，但前提是土地市场须具备如上所述的灵活性和增量性。这样就可以获取这些价值资金来资助交通基础设施的建设、完善公共领域和在交通节点周围提供经济适用住房。价值获取金融是一种最大限度地提高城市资产的创新性方法。作为一种金融机制，它不仅分担公共和私营部门的城市发展风险和成本，而且也分享发展成果。价值获取金融，把促进城市发展的相关成本都置于发展本身的资产负债表内。这样，通过城市发展而非按比例抽取公共资源来提供公共产品，这在其它方面也为公共领域提供资金。尽管具有很大的广阔度，价值获取金融机制仍具有一个独特的共同点。这涉及到积极的金融反馈循环，其包括四个组成部分：创造价值、价值实现、价值获取以及当地的值回收。

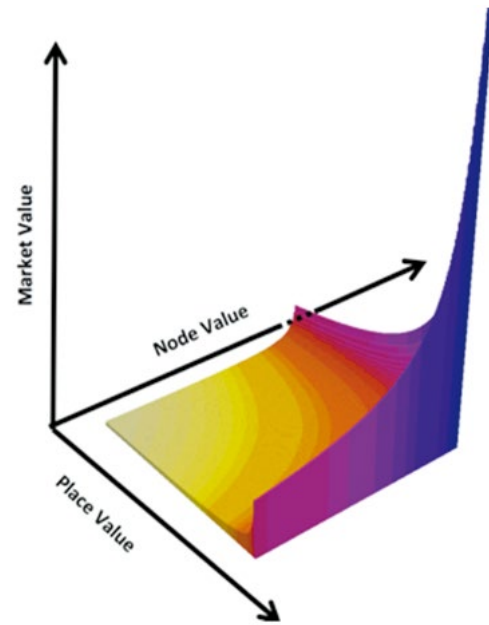
a high variety of development types and a resilient and adaptive urban form. 40% of original plots dating back 2 centuries ago still exist in Manhattan - the command city of 21st century global economy - with 19th century brownstones while other plots have consolidated in a high variety of sizes from medium scale buildings to skyscrapers. These fine grain land markets are quite the opposite of Chinese very coarse land market based on superblocks. Fine grain ensures adaptive resilience to ever changing economic conditions with bottom up processes constantly increasing the diversity and complexity of the city through incremental growth.

10. Financial sustainability of integrated transport and land use schemes is ensured by the positive feedback loop of value capture finance

High accessibility to jobs - procured by major transit investments, and transit and land-use integrated planning - ensures high land values and, provided land markets are flexible and incremental as described above, these values can be captured to finance transit infrastructure, public realm enhancement and affordable housing near transit. Value capture finance represents an innovative means of maximizing a city's assets. It is a finance mechanism, which not only shares the risks and costs of urban development between public and private actors, but also the rewards. Value-capture finance sees some of the costs associated with making urban development succeed internalized within the balance sheets of the developments themselves. Public goods are consequently provided by urban development without the proportional draw on the public resources, which would otherwise finance them. Despite their breadth, value capture finance mechanisms have a



价值创造是由于公共部门的干预措施释放使用中的资产（土地和/或结构物），并增加其潜在价值，以刺激私营部门的需求。价值实现是来自私营部门的后续投资和发展，从而确保潜在的资产价值增加。价值获取是由公共部门为从私营部门获取一定比例的回报并用于地方再投资所进行的安排。私营部门可以采取货币或实物形式向公共部门出资。价值回收是从使用私营部门在同一发展区域或计划中获取的货币或实物出资而进行的一种再投资。这种再投资是对首次公共干预措施的响应，但往往为进一步的干预措施提供资金支持。这些进一步的干预措施必须对他们而言有一个公益元素，并且也有助于私营部门巩固已取得的价值收益。价值获取政策的一个成功案例是香港地铁的建设。香港地铁的建设并没有花费香港市政预算一分钱，但是地方政府通过交通基础设施的联合发展和沿线房地产开发获利高达 140 亿美元。



unique common denominator. They involve a financial positive feedback loop with four components: value creation; value realization; value capture; local value recycling.

Value creation is the unlocking of and increase in the potential value of under-used assets (land and/or structures) as a result of a public sector intervention to stimulate demand from the private sector. Value realization is subsequent investment and development from the private sector, which ensures that potential asset value increases. Value capture is arrangements by the public sector for the acquisition of a proportion of private sector returns for local reinvestment. This can take the form of monetary or in-kind contributions from

the private to public actors. Value recycling is the re-investment of acquired monetary or in-kind contributions from the private sector within the same development site or scheme. This re-investment can pay for the initial public intervention but tends to fund further interventions. These further interventions must have a public good element to them but may also benefit the private sector by consolidating value gains already made. As an example of successful value capture policy, the construction of Hong Kong subway did not cost anything to Hong Kong municipality budget and the local authority got 14 billion US\$ profit through the joint development of transit infrastructure and real estate development along transit lines. 

⁵ 曼哈顿的地块大小实际上遵循一种幂定律，其与某种类型的地块频率和大小有关。目前，只有少数几个大地块、一般数量的中等地块以及“大量”小地块。这种分布遵循一种数学规律（在曼哈顿网络中存在指数为 0.6 的幂定律，而在曼哈顿下城区、中世纪的巴黎、19 世纪奥斯曼的巴黎改建以及香港都存在指数为 0.5 的幂定律），表明在市场力量之下土地市场创造了发展的多样性，从而组织成一种复杂的系统，这种系统具有复杂自适应性系统所具有的数学规律性特点。

⁵ Plot sizes in Manhattan actually follow a power law linking the frequency of plots of a certain type to their sizes. There are only a few large plots, an average number of medium scale plots, and a 'long tail' of small plots. This distribution follows a mathematical regularity (a power law of exponent 0.6 in the Manhattan grid, and of 0.5 in Lower Manhattan, Medieval Paris, 19th century Haussmannian Paris, and in Hong Kong) showing that land markets under market forces create a diversity of development organized as a complex system following mathematical regularities characteristic of complex adaptive evolving systems.

Application of Water Vapor Energy in Sustainable Development of Cities

水汽能在城市可持续发展中的应用

Guohe Huang, Hunan Dongyou Energy Conservation Co.,Ltd
黄国和 湖南东尤节能有限公司董事长

人类的生存与发展离不开能源的利用，为了满足人们日常的工作、生产和生活的需求，人类对环境进行了大量的开采，不断利用自然界各种能源。在对能源大量无序的开采利用过程中，造成了环境污染、资源浪费，进一步危害了人类自身的生存。与此同时，人类为了更好地生存与发展，不断地向大城市集中，造成城市的拥挤与资源的浪费，城市的能源利用问题亟待解决。为了寻找新的能源，人类付出了艰辛的劳动，无论太阳能、风能、潮汐能、核能等等的利用，都不断地带动了人类社会的进步与发展。进入 20 世纪，人类对能源消耗更加巨大，对新能源的渴求变得更加急切。

地球表面的水体与各类大气下垫面（如土壤、森林、草地、建筑等）及各类含水物体中蕴含了大量的液态水，液态水在各类物质的表面无时无刻地发生汽化，也就是从液态转变为气态。在其转变过程中，液态水吸收环境的热量（即汽化潜热）后变为气态的水汽进入到空气中，因而空气中的水汽本身含有了大量的热量。就其本质而言，其所吸收的所有热量均来自于太阳所赋予地球的热量，所以，这部分能量也是太阳能的一部分。



冷水江市行政中心



全球人居环境论坛副主席泰吉·哈马德（左一）为东尤颁发“全球人居环境绿色技术范例奖”

Human survival and development cannot be separated from the use of energy, and in order to meet the needs of people's daily work, production and life, the human conducts a large number of mining on the environment, and constantly uses various energy sources in nature. In the process of the out-of-order exploitation and utilization of a large amount of energy resources, the human causes environmental pollution and resource waste to cause further harm to human survival. At the same time, for the sake of better survival and development, the human constantly focuses on large cities, resulting in urban congestion and resource waste, and the city's energy use issues require to be resolved. In order to find the new energy, human beings have been working hard, and the utilization of solar energy, wind energy, tidal energy, nuclear energy and so on has been constantly promoting the



联合国环境规划署可持续消费与生产部部长
阿拉布·霍巴拉（左一）为东尤技术点赞

空气体量相对于人类而言是无限大的，所以在空气中的水汽含有的热量也是无限的。这部分热量一直都存储在空气中的水汽内，当水汽遇冷凝结时又会释放出来，在这个过程中，水会呈现气态、液态共存的现象，而热量就是在这个转变过程中得到了释放。由于水汽的形成是自发进行的，热量是自动进入到水汽内的，所以这部分能源是无偿且无限的。由于这部分能源是储存在空气中的水汽内、由水汽与液态水转变过程中得到，因此它的发现者黄国和将之命名为水汽能。由于空气中的水蒸汽体量巨大，其蕴含的热量超过了地下所埋藏的煤炭、石油和天然气所含热量的总和，因此水汽能的储存量是极其巨大的，水汽能的利用是可循环的，不存在枯竭与短缺，在利用过程中不存在对环境的污染。

水汽能热泵技术是一种充分利用空气中水蒸汽热量的可再生能源技术，在冬季充分利用水汽能收集器收集空气含有的水蒸汽所蕴含的热量，通过水汽能热泵将这部分低品位热量提升，作为中央空调的热源提供以及生活热水供应的技术；在夏季，水汽能热泵将吸收的建筑热量回收为生活热水，利用水汽能收集器作为高效冷却器将多余部分的热量散发到空气中，从而作为中央空调的冷源提供。

水汽能热泵空调系统主要由水汽能收集器、水汽能热泵、水汽能运输系统、水汽能利用系统构成，水汽能收集器放置于建筑的室外（屋顶或者裙房楼顶），水汽能热泵放置在建筑地下机房内，利用水汽能运输系统中的外循环水泵将外循环液在水汽能收集器与水汽能热泵之间来回循环（外循环液在冬季为防冻液，在低温下不结冰，不板结，具有较好的流动性与热交换率，在夏季为普通的自来水）。同时，利用水汽能运输系统中的内循环水泵将内循环液在水汽能热泵与水汽能利用系统中的室内设备之间来回循环。在冬季，低温防冻液在水汽能收集器中吸收空气中水汽的热量，温度升高；温度升高后的防冻液在外循环水泵的作用下进入水汽能热泵，水汽能热泵工作后将热量品质提升、温

progress and development of human society. Entering the twentieth Century, the human has greater energy consumptions, and the desire for new energy becomes more urgent.

There contains a large amount of liquid water in the earth's surface water and various types of air pad surface (such as soil, forest, grassland, construction, etc.) and all kinds of water body, and liquid water on all kinds of material surface at all moment occurs the vaporization, that is from liquid into gas. In the process of its transformation, the liquid water after absorbing the heat (i.e. vaporized latent heat) changes into the gaseous vapor and then enters the air, so the water vapor in the air itself contains a lot of heat. In essence, all the heat absorbed by it comes from the heat that the sun gives to the earth, so this part of the energy is also part of the solar energy.

Air mass is infinitely large relative to the human, so the quantity of heat contained in the water vapor in the air is infinite. The heat is always stored in the water vapor of the air, and when the water vapor condenses, it will release again. In this process, the water will present the gaseous and liquid coexistence phenomenon, and the heat gets released in the process of transformation. Since the formation of water vapor is spontaneous, and the heat automatically enters the water vapor, so this part of the energy is free and unlimited. Because this part of the energy is stored in the water vapor of the air and obtained by the water vapor and liquid water in the process of changes, so Huang Guohe who finds it names it as the water vapor energy. Due to the huge volume of energies in the water vapor of the air, the heat it contains are far over the heat sum contained in the buried underground coal, oil and natural gas, so moisture storage capacity is extremely huge, and the moisture utilization is recyclable, not situated in exhaustion and shortage, and in the process has no pollution on the environment.

Water vapor energy heat pump technology is a kind of renewable energy technologies making full use of the heat of water vapor in the atmosphere, and in winter making full use of water vapor collector to collect the heat contained in the water vapor of the air to improve the low grade heat by water vapor energy pump, as the heat source for central air conditioning and the domestic hot water supply technology; in the summer, the water vapor energy pump recycles the absorbed building heat for domestic hot water, using the water vapor energy collectors as a high efficient cooler to distribute excess calories into the air, thus as the cold source provider for central air conditioning.

Water vapor energy heat pump air conditioning system mainly comprises of the water vapor energy



浏阳高新产业园签约

度提高，将热量传递给内循环液，内循环液在内循环水泵的作用下流入水汽能利用系统设备，从而将热量传递到最终室内用户。在夏季，内循环液在水汽能利用系统设备中将最终室内用户的热量提取出来，通过内循环水泵传递给水汽能热泵，水汽能热泵将这部分热量传递给外循环液，外循环液在外循环水泵的作用下进入水汽能收集器内，通过水汽能收集器将热量传递给空气。

现阶段，水汽能热泵主要应用于建筑节能与能源应用领域，在占建筑能耗 60% 以上的暖通空调系统中，水汽能热泵能够完成冬季低温制热、夏季高温制冷、全年供应生活热水工作。通过水汽能收集器与水汽能热泵的高效联合运行，绝大部分地区（包括严寒地区、夏热冬冷地区）大部分时间段内（高温低湿时期以及低温高湿时期）都能够实现低成本、高效率地提供建筑用冷热源及生活热水源。通过采用水汽能热泵的暖通空调系统，能够将建筑能耗大大降低；同时由于其冬季制热效果突出，完全可以取代燃油及燃气锅炉进行冬季供热，故能够减少化石能源的消耗、减少燃烧化石能源过程中所排放的污染物，达到节能、环保的目的。根据现有利用水汽能热泵进行暖通空调供应的具体示范工程统计，水汽能热泵中央空调系统比常规中央空调系统节能 50% 以上，年减少碳排放 70% 以上，全球推广使用水汽能热泵率达到 20%，则可以减少碳排放 3.2 亿吨。因此当水汽能热泵在城市可持续发展中具有不可替代的作用。

湖南东尤节能有限公司专注于水汽能的开发与应用，近几年已投产的水汽能热泵系列产品，已成功通过中国住房及城乡建设部的审核认证，载入《中国建筑节能推广手册》，已获得“世界自然基金会节能环保气候创行者”奖，公司热源塔热泵系统关键技术和成套装置整体技术已被湖南省科技厅认定为“国际先进水平”。2015 年 6 月，被列入湖南省《节能新技术新产品目录》，并推荐到国家发改委《节能新技术新产品目录》。2015 年东尤水汽能热泵技术已进入《长沙市两型产品采购目录》。2015 年被湖南省发改委列入《节能新技术新产品推广目录》，2015 年水汽能热泵



参加世界环保大会

collector, water vapor energy heat pump, water vapor energy transport system, water vapor energy utilization system. The water vapor energy collector is placed on the outdoor of the building (roof or podium roof) and water vapor energy heat pump is placed in the underground building room to utilize the external circulating water pump of the water vapor energy transport system to cycle back and forth the internal circulating fluid between water vapor energy heat pump and water vapor energy utilization system (the external circulating liquid in winter is the antifreeze, without freezing at low temperatures, not hardening, with good fluidity and heat exchange rate and converting into ordinary tap water in the summer). At the same time, it uses the inner circulating water pump in the water vapor energy transportation system to cycle back and forth the internal circulating fluid between water vapor heat pump and water vapor energy utilization system. In winter, cold antifreeze elevates its temperature after absorbing the heat in the air in the water vapor energy collector; the antifreeze after the temperature rise enters the water vapor energy pump under the influence of external circulating water pump, and the water vapor energy pump can enhance the quality of the heat and raise the temperature after the work to pass the heat to the internal circulating liquid, and the internal circulating liquid flows into the water vapor utilization system equipment under the influence of internal circulating water pump, and transfers the heat to the end indoor users. In summer, the internal circulating liquid extracts the heat from end indoor users from the water vapor heat utilization system equipment to pass to the water vapor pump through the internal circulating pump, and the water vapor pump transfers this part of the heat to the external circulating liquid, external liquid circulation in the role of external circulation pump into water vapor collector, and the the external circulating liquid flows into the water vapor utilization system equipment under the influence of external circulating water pump.

At this stage, the water vapor energy pump is

及系统技术被可再生能源协会列入“可再生能源系统”。2015年10月28日在联合国总部荣获“全球人居环境绿色技术范例奖”。2016年1月17日在世界环保大会上，水汽能热泵技术荣获“国际碳金奖”。水汽能热泵技术成功运用于冷水江政府行政中心、冷水江人民医院、新邵人民医院、邵东邦盛国际大酒店等四十多个项目、上百万平米建筑，在城市的可持续发展中不断贡献自己的力量。

mainly used in the building energy-saving and energy-application field, and in the HVAC system accounting for more than 60% of the building energy consumption, water vapor energy heat pump can complete the work such as the low temperature heating in winter, high temperature refrigeration in summer, annual supply of living hot water. Through the joint and efficient operation of water vapor energy collector and water vapor energy heat pump, in most of the regions (including severe cold areas, areas hot in summer and cold in winter) and during most of the time periods (during the period of high-temperature and low-humidity and the period of low-temperature, high-humidity) it is able to achieve with low cost and high efficiency to provide cold and hot energy source for buildings and living hot water. Through the air-conditioning system using water vapor energy heat pump, building energy consumption can be greatly reduced; at the same time because of the outstanding winter heating effect, it can replace fuel oil and gas boiler for the heating in winter, so it can reduce the fossil energy consumption and reduce emissions of pollutants in the burning process of fossil energy, to achieve the purpose of energy saving and environmental protection. According to the existing specific demonstration project statistics utilizing water vapor energy heat pump for HVAC supply, **water vapor energy heat pump central air conditioning system saves 50% above of the energy than conventional central air-conditioning system, and annually reduces carbon emissions more than 70% and when water vapor energy heat pump use-promotion rate in the world reachess 20%, 3.2 million tons of carbon emissions can be reduced. So the water vapor energy**



水汽能热泵中央空调系统比常规中央空调系统节能 50% 以上，年减少碳排放 70% 以上，全球推广使用水汽能热泵率达到 20%，则可以减少碳排放 3.2 亿吨。因此当水汽能热泵在城市可持续发展中具有不可替代的作用。

Water vapor energy heat pump central air conditioning system saves 50% above of the energy than conventional central air-conditioning system, and annually reduces carbon emissions more than 70% and when water vapor energy heat pump use-promotion rate in the world reachess 20%, 3.2 million tons of carbon emissions can be reduced. So the water vapor energy pump plays an irreplaceable role in the sustainable development of the city today.

pump plays an irreplaceable role in the sustainable development of the city today.

Hunan Dongyou energy-saving Co., Ltd. pays special attention to the development and application of water vapor energy, and the water vapor energy heat pump series products put into production in recent years, has successfully passed the certification by Chinese Ministry of housing and urban rural development to load in "China building energy conservation promotion Handbook" and has obtained the award of "the energy-saving and environment-friendly climate walker of World Nature Foundation", the company's heat source heat pump tower system key technology and the overall technology of complete sets of equipment have been regarded as "the international advanced level" by the science and Technology Department of Hunan Province. In June 2015, it was included in the new energy-saving product and technology directory in Hunan province, and recommend to the "new energy-saving technology and new product directory" of the national development and Reform Commission. In 2015, Dongyou water vapor energy pump technology has entered the "Changsha city amphitypy product-purchase catalogue". And in 2015 it was included in the "new energy technology and new product promotion catalog" by the development and Reform Commission in Hunan province, and in 2015 its water vapor energy heat pump and system technology was included in the "renewable energy systems" by Renewable Energy Association. On October 28, 2015, it won the "Global Human Settlements Model of Green Technology" in United Nations Headquarters. On January 17, 2016 at the World environment-protection Conference, water vapor energy heat pump technology had won the "International Carbon Gold Award". Water vapor energy heat pump technology has been successfully adopted in Lengshuijiang government administrative center, Lengshuijiang City People's Hospital, people's Hospital of Xinshao, Shaodong Bangsheng International Hotel and other millions of square metres' buildings projects, and continues to contribute its own strength in the sustainable development of the city.



CITY REVIEW

城市评论

How Far Away are We From Slow City?
我们离慢行的城市有多远？

China's Urban Policy Unit Just Met for
the First Time in 37 Years
时隔 37 年，中国重绘未来城市发展蓝图

IGMC: The Action Paradigm for Building Ideal Cities
范例新城：建设理想城市的行动范本

Shenzhen Better City Institute Formally Established
--Sustainable City Think-tank Committed to Better City Better Life
深圳美好城市研究院正式成立
——可持续城市高端智库，致力于让城市生活更美好



How Far Away are We From Slow City?

我们离慢行的城市有多远？

慢与快往往是相对的，往往慢就是快，快就是慢。与汽车拥堵的“快行”相比，所谓的“慢行”是一种节能低碳又不失“快捷”的出行方式。慢行也反映了一种世界范围内的对于当代不可持续的城市化进程的反思和探索。

吕海峰 全球人居环境论坛（GFHS）秘书长，GFHS 驻联合国主要代表

我们处在一个空前快速且不可逆转的城市化时代，当前已经有超过一半的人口聚居在城市。伴随着人类工业化的进程，城市快速蔓延，对环境和气候的影响加剧。据联合国人居署统计，从 2000 年到 2030 年，世界城市人口增加 1 倍，而城市建成区面积将增加 3 倍，从 20 万平方公里增加到 60 万平方公里，城市密度快速下降，土地利用效率降低。从 2000 至 2010 年，中国城市人口增加了 45%，大多数中国城市的面积增加了 1 倍多（世界银行 2014）。

城市无序扩张造成了生活空间的急剧膨胀和出行距离的大幅增加，人们普遍对私家车和机动化交通产生了过度依赖，造成了巨大的资源浪费和很多难以解决的问题：大片农田和绿地被钢筋水泥侵蚀，雨水和地下水的循环被切断，城市空气质量普遍受到严重污染，居民健康遭到威胁，基础设施投入巨大，政府债务缠身，居民交通开支快速增加；车满为患，道路拥堵成为常态，回家的路越来越远，可达性越来越差。



根据古代埃及的记载，当第一次创建城市时，创建者的任务是把各位天神、地祇安置在他们的神殿里。未来城市的使命基本上与此没有多大区别：他的任务是把人类的最高利益放在他全部活动的中心地位。



上个世纪，美国成为汽车车轮上的国家。作为曾经的自行车王国，中国已经在 21 世纪之初取代美国一跃成为了世界上生产和消费小汽车最多的国家，快速进入汽车时代。城市交通拥堵越来越严重，可达性越来越差。为了治理拥堵，北京等多个城市采取了尾号限行和购车限号措施，但是效果并不理想。

根据百度发布的一份“2015 全国 50 城市上班距离及时间排行榜”显示，北京市上班距离最远，平均为 19.2 公里，平均时间 52 分钟，高居榜首。高德发布的《2015 年度中国主要城市交通分析报告》显示，北京驾车出行的上班族要花费畅通情况下 2 倍的时间才能到达目的地，每月每人多付出的拥堵时间成本代价近 1 千元。北京的雾霾成因中，机动车贡献率达三分之一。闲暇和蓝天成为奢侈品，GDP 增长带来的幸福指数在日日拥堵的路上和十面霾伏中烟消云散。

美国著名的城市学家刘易斯·芒福德曾在其《城市发展史》中尖锐地批判了大都市无序扩张和小汽车依赖现象：“第二次世界大战时对伦敦城闪电式的猛烈空袭所用炸弹造成的破坏，不会超过现在每天都在进行的无限制的建设高速路和停车场所造成的破坏，之外还有全国性的公路建设计划，这种计划是建立在这样的假设上的：单用汽车这一交通工具就能把人们‘从家门口送到目的地门口’。”

城市是什么？

人们前赴后继从乡村来到城市，为了什么？亚里士多德曾说过：“人们来到城市，是为了生活；人们留居在城市，是为了生活得更好。”2010 上海世博会“城市让生活更美好”的口号深入人心，延续了这一论断，也成为联合国设立“世界城市日”（从 2014 年开始、每年的 10 月 31 日）的基本理念。

刘易斯·芒福德说过：“根据古代埃及的记载，当第一次创建城市时，创建者的任务是把各位天神、地祇安置在他们的神殿里。未来城市的使命基本上与此没有多大区别：他



的任务是把人类的最高利益放在他全部活动的中心地位。”他深刻地指出“城市应当是一个爱的器官，而城市最好的经济模式应是关怀人和陶冶人。”

城市应该是一个宜居的家园，正常人每天都应当有适量的运动才能保持身体健康。人们本来可以用上帝赋予的本能——自己的双腿在城市街道上惬意地步行，往返于居住和工作或商业场所，沿途欣赏四季的景色和有趣的街道，和街坊邻居打招呼，从容不迫。可是，现在人们每天不得不被大规模装进各种小汽车和其它大容量机动化交通工具，远距离搬来搬去，大量的时间浪费在车上和路上，拥挤的交通让人情绪烦躁，疲惫不堪，停车难、肥胖症、高支出困扰着进城寻求美好生活的人们。

慢行为什么？

过度依赖小汽车、并依靠拓宽道路解决交通拥堵的模式在美国早已失败。上世纪覆盖加州 30 个县的一项持续近 20 年的研究发现：大都市地区的道路容量每增加 10%，机



动车行驶里程在随后的四年里增加 9%，这就是诱导性交通定律。正如一位美国工程师所言：“企图通过增加容量的方法治理交通拥堵，就像试图通过放松腰带来治疗肥胖一样。”这一点在中国也已经被证明行不通。

世界银行关于可达性的研究表明，可达性是决定城市成功与否的关键指标。体现在以下三个层面：（1）机动车辆道路可达性（如良好的路网）；（2）公共交通可达性（如高覆盖率交通系统）；（3）慢行可达性（如安全便利的行人和自行车设施）。城市往往只重视道路和公交基础设施建设，却忽视慢行特别是行人可达性。行人可达性是公交系统成功的关键。当城市具备安全、可靠、方便的行人可达性时，城市中心居民会更多选择公共交通工具，而非私家车。

用“以人为本”的城市发展理念取代“以车为本”的理念，减少强制性交通，方便居民以步行、自行车等个人运输工具慢速出行、以慢行+公交的综合模式提升城市可达性的慢行城市就是“以人为本”理念的体现，也是促进城市回归人性、建设可持续城市的重要策略。

慢与快往往是相对的，往往慢就是快，快就是慢。表面上看，慢行速度不如私家车快，但在市区短途交通中却占有优势，因为慢行基本不堵。高德发布的《2015 年度中国主要城市交通分析报告》显示，北京高峰期平均车速仅为 22.61 公里/小时，和自行车差不多，部分路段更是在 5 公里左右，和步行无异。

慢行也反映了一种世界范围内的对于当代不可持续的城市化进程的反思，其代表就是上世纪 80 年代兴起于意大利的、以一只蜗牛为符号的“慢食运动”和由此而产生的“慢城运动”。迄今全球已有 180 多个城市被授予慢



以慢行 + 公交的综合模式提升城市可达性的慢行城市就是“以人为本”理念的体现，也是促进城市回归人性、建设可持续城市的重要策略。



城称号。在“慢城”标签的小城市里，人们有更多的空间用于散步，有更多的绿地用于休闲，有更便利的商业用于娱乐和享受，以及更多的广场用于交流。小汽车也被禁止进入旧城区的某些街道，车速被严格限制在 20 公里/小时，禁止鸣笛。

哥本哈根经过 50 年的努力，实现了从汽车主导的城市到世界最绿色的慢行城市。截至 2012 年，哥本哈根市民上班通勤使用的出行工具中，自行车为 36%，公交为 33%，步行 6%，小汽车为 25%。在这个城市，包括市长和企业高管在内的众多人士常年骑自行车上下班。

《上海市城市交通白皮书》认为“步行交通作为综合交通体系的重要组成部分和绿色交通体系的首要构成，预计到 2020 年这一比例仍将维持于 20% 左右。‘步行 + 公交 + 步行’、‘公交 + 步行 + 公交’模式将成为一体化交通的必要组成。”这体现了中国城市对慢行重要性的觉醒。

让我们从以下 6 个纬度来看看慢行有哪些优势吧：

市民：减少肥胖和久坐引发的各种病症，节约时间，减少支出，减轻焦虑，让身体更健康，提高生活质量和幸福指数；

政府：减少基础设施投资，降低政府债务危机，提高城市宜居性和吸引力；

社会：和谐邻里，促进社会交往，减少社会隔离，增强包容性；

环境：减少尾气排放，减轻雾霾，减少能源消耗和环境破坏，减少土地占用，保护耕地和更多自然资源，让城市环境更宜人；

经济：繁荣街道，集聚人气，提高单位土地的密度和生产率；

交通：更多人乘坐公交，减少交通拥堵、停车难、交通事故激增等问题。

为此，由全球人居环境论坛和联合国环境署共同推动的《国际人居环境范例新城倡议》十二原则中包含了“绿色交通和联系”原则，其标准要求城市的绿色出行比例（步行 + 自行车 + 公交）不低于 80%，平均通勤时间小于 30 分钟。

慢行策略和案例

建设慢行城市的整体策略是实施精明增长，紧凑型发展，建设便于步行的邻里和宜人街道，完善慢行路网，优化慢行 + 公交的衔接，提升可达性。具体来讲：

1、划定城市边界，提高土地利用效率

为了控制城市蔓延扩张，城市必须划定明确的边界，实现城市由数量型向质量型的转变，提高土地利用效率。政策应明确开发的优先次序，鼓励在基础设施完善的现有建成区内进行旧城旧村改造更新、填充式开发、棕地开发，尽量避免在基础设施不完备特别是交通连接不畅的新区和郊区进行开发，杜绝在环境敏感区域的开发，提高建成区内土地利用效率，在可以接受的范围内，提高人口密度。

美国俄勒冈州的波特兰市是较早划定城市增长边界、实施精明增长的典范。据波特兰市长黑尔斯在接受《全球最佳范例》杂志专访时介绍（第 20 期 P74-79），“我们的城市是向上增长而不是向外扩张。这意味着我们的社区是不断变化的：我们没有简单地在旧社区的边缘兴建新社区，而是帮助现有社区提升发展，努力保护其优秀品质，同时改善服务和设施。这一切如果没有城市增长边界，我们



波特兰的社区规划

很难想象结果会怎样。”至今，波特兰市人口增长一半，土地面积仅增长 2%，成为美国最适合慢行和最具吸引力的绿色城市之一。

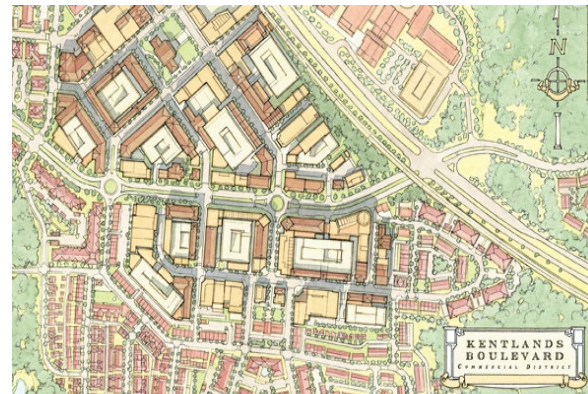
2、混合功能规划

采用组团式的、混合功能和职住平衡的空间规划可以让居住、工作、购物、教育、就医、休闲就近解决，这是减少大量钟摆式的强制出行的关键。为此，交通和土地利用规划决策要同步制定。在建成区每个面积大小适宜的组团内，合理分配土地资源，综合规划区域中心、各种功能区、廊道（交通走廊或自然绿色空间）和邻里社区，混合各种功能，便于该组团内的市民就近生活和工作。细分到每一个最小型的地块上（纽约为 200 平米），乃至在一幢单体建筑内部，都要鼓励进行商住混合功能的规划设计，垂直分布商店、住宅和办公场所等。国内大城市中深圳市的组团式规划较好地体现了这一点。

邻里开发更是如此。在一个半径为 400 米左右或步行 5 分钟距离的传统邻里内，应努力实现不同户型的住宅、学校、幼儿园、社区医疗、公交设施、办公、商店、社区中心、开放空间、食品生产等功能的混合平衡。日常生活都可以在步行范围内解决。美国马里兰州的 Kentland 社区的经验值得借鉴。

3、采用 TOD 开发模式

开发项目沿着交通走廊如铁路、地铁、BRT 快速路、公交主干道布局而不是漫无目的的四处开花，这种交通导向型发展模式是方便慢行、提高公交利用率、减少对私家车依赖的重要策略。德国柏林就是一个成功的案例。柏林拥有历史上形成的星形的铁路交通网络，沿轨道发展住区。柏林每千人有机动车 324 辆，45% 家庭无车。绿色出行（公交、步行、骑行）占日出行量的 2/3，是德国二氧化碳排放强度最低、交通安全最好的城市。此外，TOD 开发模式可



美国马里兰州的 Kentland 社区

以有效提升土地利用价值，政府可以把捕获的收益用于沿线交通等基础设施的建设。这方面国内外已有很多成功的案例，如香港等。

4、建设完善的慢行路网和宜人的街道

“以人为本”的城市必须为慢行路网系统提供优先权，形成安全、连续、可达性良好且令人愉悦的步行和自行车路网，并与公交设施无缝连接。有吸引力的街道、广场等公共空间和公共生活，使人们愿意以步行和自行车或者公共交通的方式抵达，即使这些地方限制机动车驶入。曾几何时国内城市完整的步行和自行车路网近年来被机动车道侵蚀得面目全非，步行和自行车道路空间被严重压缩、归并或干脆消失，且行且凑合，慢行安全性降低。这提高了居民对私家车的依赖，形成了恶性循环。现在到了该把完善的慢行路网还给市民的时候了。

国内城市建设完善的路网还要适度提高道路交通用地面积比例，重点提高路网尤其是二级路网的密度、而不是增加道路的宽度。应缩小街区的规模，避免闭合性的大院或邻里对交通的阻隔，这些封闭的社区瓦解了路网，造成了大量的断头路，对可达性的影响很大，是被精明增长原则所明确禁止的。此外，还要精心设计慢行设施，如道路横断面、交叉口及路段过街设施、交通信号管理及控制、与公交协调及无障碍设施等，优化慢行环境，保障包括老年人、小孩、残疾人等弱势群体在内的行人安全和便利。

纽约曼哈顿的路网具有良好的行人可达性。世界银行2008年起对纽约、伦敦和北京三市中心商务区开展的行人

可达性研究〔转载于《全球最佳范例》杂志15期（P71）和16期（P69）〕显示，和伦敦相比，纽约步行20分钟可到达的商业设施的平均面积高出了20%，而和北京相比，纽约的平均面积则高出了97%；纽约市的路比北京的路窄29%，但比伦敦的宽34%。但是，就道路总长度而言，纽约的路网比北京的长52%，比伦敦的长15%。纽约的街区通常为“200米×60米”，且没有街区封闭、阻断道网的现象，北京的街区为250米×180米，且大多是封闭式的，造成很多断头路。

5、包容性的邻里开发

邻里社区要提供多种类型的建筑和住房，包括大户型住房、中、小户型搭配的公寓、保障性住房、商住两用房，写字楼等，满足不同用途和不同收入的人群。真正的社区社会网络依赖于年龄和收入多样性的存在，多样化的住房也可以方便居民在全生命周期选择，随着年龄和收入的变化扩大或缩小自己的住房，而不用离开已经建立的社区网络。这样子女就可以和父母同住一个社区，学生也可以和自己的老师同住一个社区，减少强制出行。

政府应该将保障性住房在整个城市区域内进行分布，而不仅仅把保障性住房集中建在偏远的郊区。比如美国蒙哥马利县要求所有大型开发都要包括10%的可支付住房（保障性住房），从而在20年里提供了10000套可支付住房。

各类开发都应应为自行车提供良好的停车空间，办公区要为骑自行车的人士提供淋浴室，使他们在夏天高温骑行后可以方便地浴洗更衣，身心舒畅地投入工作。WBPM



纽约曼哈顿的建筑群布局紧凑，可达性良好

China's Urban Policy Unit Just Met for the First Time in 37 Years

时隔37年，中国重绘未来城市发展蓝图

2月21日，中国国务院颁布新的城市发展指导方针，《意见》中的新指导，是根据去年12月召开的中央城市工作会议中提出的意见制定的。再上一次中央城市工作会议召开的时间是1978年，迄今已有37年。直截了当地说，这些新指导是一个里程碑，必将对中国未来的城市发展产生深远的影响。

On 21 February, when China's State Council released a new set of urban development guidelines, these new directives were taken from the recommendations derived from a rare meeting of the Central Urban Work Conference this past December – the last time it met was in 1978. They are, to put it bluntly, an enormous milestone that should have a drastic impact on how China's cities develop into the future.

Wade Shepard, the author of "Ghost Cities of China", a regular contributor to CityMetric.

韦德·谢帕德 《中国鬼城》一书作者，CityMetric 定期撰稿人

C. C. Huang, Analyst for environmental policy firm Energy Innovation.

黄 C.C. 能源创新（环境政策公司）分析师



2月21日，中国国务院颁布新的城市发展指导方针：《关于进一步加强城市规划建设管理工作的若干意见》（以下简称《意见》）。这次，国务院摒弃了过去二十年快速城市化中的许多传统做法。新的指导方针旨在制定一个基本框架来改造和振兴中国的城市，从而创造一种交通改善、社区紧密交织、商业区和公共区更为便利、资源消耗更低的城市。

《意见》中的新指导，是根据去年12月召开的中央城市工作会议中提出的意见制定的。再上一次中央城市工作会议召开的时间是1978年，迄今已有37年。直截了当地说，这些新指导是一个里程碑，必将对未来中国的城市发展产生深远的影响。

在过去的几十年，中国经历了前所未有的城市化热潮。在全国各地，所有城市都在热火朝天地建设新城、新区和新镇，数目高达数百个之多。结果，中国的城镇人口从1978年占全国人口不到20%飞跃到今天的57%。

这一时期城市化发展的特点是速度惊人，但通常缺乏高质量的规划。中国的城市由此逐渐演变为土地用途单一、依赖小汽车出行、苏联式的超级城市。这就造成在全国出现众多面目相同、“千城一面”的城市。从环境的角度来说，这些耗水量巨大、消耗土地和依赖汽车的庞大新城是非常可怕的。更重要的是，在千方百计获取新土地来大量建设新城的过程中，有上百万个村庄、历史保护区、古老的地标建筑和具有传统风格的城市街区都被不分青红皂白地夷为平地。

但是，最近一段时间，一些城市规划师、建筑师和政府官员萌生了一种新共识，他们认为中国的城镇化道路——无论在社会上、经济上和环境上——都不够理想，并认为中国所建的城市必须要各有不同、各有千秋。为此，中央

On 21 February, when China's State Council released a new set of urban development guidelines, it backtracked on many of the conventions that have defined the past two decades of rampant urbanization. These new guidelines aim to produce a framework which will revamp and revitalise China's cities – to create urban areas that have improved navigability, tighter-knit communities, better access to commercial and public areas, and are less resource intensive.

These new directives were taken from the recommendations derived from a rare meeting of the Central Urban Work Conference this past December – the last time it met was in 1978 – and come down from the top echelons of power in the country. They are, to put it bluntly, an enormous milestone that should have a drastic impact on how China's cities develop into the future.

Over the past couple of decades China has been undergoing an unprecedented urbanization boom. Cities across the country have been building hundreds of completely new sub-cities, districts, and towns, as China's urban population jumped from under 20 percent in 1978, to 57 percent today.

The breakneck speed of urbanization during this era often outpaced quality planning, and China gradually became a land of single-use, car-dependent, Soviet-style superblocks. This has resulted in a uniform urban landscape across the country – “a thousand cities with the same face,” as it is often said. Environmentally speaking, these water-heavy, land-intensive, and car-dependent sprawling new urban areas were horrendous. What's more, over a million villages, myriad historic areas, ancient landmarks, and traditional-style urban neighborhoods have been razed in the pursuit of new land for building these new developments.



新的指导方针旨在制定一个基本框架来改造和振兴中国的城市，从而创造一种交通改善、社区紧密交织、商业区和公共区功能完善、资源密集度低的城市。

These new guidelines aim to produce a framework which will revamp and revitalise China's cities – to create urban areas that have improved navigability, tighter-knit communities, better access to commercial and public areas, and are less resource intensive.



政府提出一套新的城市发展方针，其目的是让中国的所有城市都遵循城市可持续发展的原则。

卡尔索普是一家一直致力于改善中国的城市地区的建筑公司，其总裁彼得·卡尔索普说道，“这些新标准是城市设计领域的一场革命”，“他们打破由超级街区、封闭式社区和巨型街道构成的中国式破坏性城市发展模式，这种模式很长时间以来一直在吞噬城市的宜居性。（当局）多年来一直在检验这种观点的合理性，但现在他们将把它应用到前所未有的规模中。”

世界各地的城市如纽约、伦敦、哥本哈根已经成功制定了众多城市设计方法，这些经验在《意见》中得到体现。具体地讲，《意见》中的具体方针促使以下七个方面成为人们关注的焦点：

1. 建立密集街道网络

这些城市化方针的核心是在市区进行街道布局的改造，以完善交通网络，增加步行可达的区域范围，并创造更多的临街商铺，提升城市社区的社会结构。通过用狭窄的单行街道打破超级街区以及逐步开放和淘汰封闭式小区，来逐步实施这一进程。

But for some time now there has been a budding consciousness among some urban designers, architects, and government officials that China's brand of urbanization was far from optimal — socially, economically, and environmentally — and that the country must build its cities differently. To this end, the central government stepped in to deliver this new set of urban development guidelines, which aim to apply principles of sustainable urban development to all cities across China.

"These new standards are an urban design revolution," says Peter Calthorpe, a principal at Calthorpe Associates, an architecture firm that has been working to improve China's urban areas. "They overturn the destructive Chinese model of superblocks, gated communities, and giant streets that has been too long eroding the livability their cities. [The authorities] have been testing these ideas for years, but now they are moving them to a scale that is unprecedented."

These new guidelines support many urban design strategies that have been developed successfully in cities around the world, such as in New York, London, and Copenhagen. More specifically, these guidelines bring the following seven areas into focus:

1. Denser street networks

At the root of these urbanization guidelines is a revamping of the street layout in urban areas – to improve the transportation network, increase walkability, create space for more street-facing shops, and enhance the social fabric of urban neighbourhoods. This process will be partially carried out by breaking up superblocks with narrower, one-way streets, as well as opening up and phasing out gated communities.

This last move which has been highly controversial





当你比较曼哈顿和北京时，你会发现在北京过马路要花费 10 分钟，因为你必须上下人行天桥或穿过地下通道。如此说来，曼哈顿的确恍如人间天堂，是真正意义上的为人们建造的城市。

When you compare Manhattan to Beijing, where it can take 10 minutes to cross a road because you have to take a pedestrian bridge or walk underground, Manhattan really seems like heaven, and is truly a city built for people.



在中国，这条举措饱受争议。ZGF 公司合伙人 Wen Zhao 说：“针对现在关于封闭小区的讨论，我个人认为重点不在于如何拆除小区的围墙。最近我们听到的沸沸扬扬的谈论全都集中在小区围墙拆除上，但这并不是重点所在”。ZGF 是一家设计公司，该公司自 2006 年以来一直在中国进行开放街区的试验。“我认为这是一种新的城市设计趋势，专注于如何创造一种符合当地生活方式和文化的新型开放式街区。”

2. 划定城市增长边界

在过去的几十年中，中国的城市已经吞噬大片的乡村土地，城市的规模膨胀了许多倍。在城市化如火如荼之时，政府每年征用高达 2000 平方公里的农村土地来建设新城区。

在许多城市，扩建项目的规模几乎大到人们不敢想象的程度：上海的城市面积在十五年中增大了七倍；丹徒是镇江的一个新区，面积高达 748 平方公里（约半个伦敦的大小）；昆明的呈贡区面积也有 461 平方公里；天津的滨海新区更是高达 2270 平方公里；江苏省常州市有一个新区的面积与美国洛杉矶市一样大，而且该市正在建设另一个比伦敦还大的新区。

尽管有庞大的人口基础，但这种城市的迅速扩张仍意味着中国很多城市人口密度远低于预期水平，也低于城市人口密度的标准水平。《意见》指出，政府要设置城市增长边界来遏制城市扩张。这是为了保持农业用地，并促进更可持续的，更低资源消耗的紧凑型发展。

3. 开展混合用途开发

倡导新型城市化的《意见》鼓励混合用途的开发，并提议：所有居民在居住范围内要更方便获取各种各样的公共和商业设施服务，包括学校、超市、退休中心、医院、公园和文化中心等。《意见》中还特别强调：要推动社区内公共设施向居民开放，包括广场、公园等。

in China. “For the discussion right now about the gated community, I really think that it should not be about how to take the walls down, which we have heard so much about recently,” said Wen Zhao, an associate partner at ZGF, a design firm that has been experimenting with open neighborhoods in China since 2006. “I rather see this as a new urban design movement focusing on how to create a new type of open neighborhood that work with the local lifestyle and culture.”

2. Enforcing urban growth boundaries

Over the past couple of decades China's cities have been swallowing up large tracts of countryside as they grow to many times their former sizes. At the height of the urbanization boom, over 2,000 km² of rural land was being requisitioned annually for new city building.

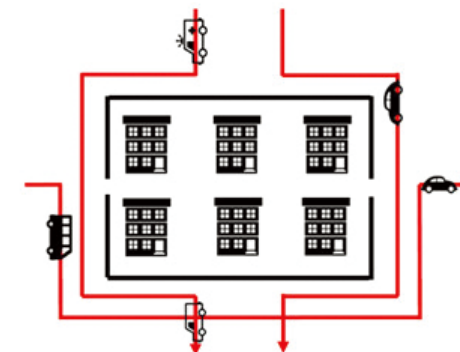
The sheer size and scale of many of these urban expansion projects is almost inconceivable: Shanghai increased its area sevenfold in 15 years; Dantu, a new area of Zhenjiang, is 748 km² (about half the size of Greater London). Chenggong in Kunming is 461 km²; Tianjin's Binhai New Area comes in at 2,270 km²; and Changzhou, in Jiangsu province, has one new district the size of Los Angeles and is working on absorbing another which is larger than London.

Despite having large populations, this rapid expansion means that many Chinese cities are less dense than they could – and, some say, should – be. Under the directives of these new guidelines, growth boundaries will be instituted to curb urban expansion. This is intended to preserve land for agriculture and to promote more sustainable, less resource-intensive, compact development.

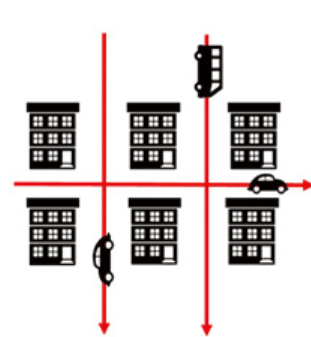
3. Expanding mixed-use development

The new urbanization guidelines encourage mixed-use development and recommend that all residents

封闭式小区周边交通路线



街区制住宅周边交通路线



该方针规定所有城市居民应很容易能够到达开放公园、花园和其它开放场所。

Wen Zhao 说：“为了建立一个健康的生活环境，我们必须积极制定一个新的分区指导方针”。“目前，许多城市的功能区规划，如运动区、医疗区等，并非城市或社区功能的最佳解决方案。我个人认为，混合用途才是更好的解决方案。”

在中国，微信是很受欢迎的社交工具，一篇出自微信用户的文章《假装在纽约》把北京市与美国纽约市进行了比较。“不通过亲身体验，很难想象曼哈顿所能提供的便利性服务。在我所住公寓的两分钟步行范围内，我可以到达地铁、星巴克、超市、电影院、办公用品店、健身房、家具店、书店、图书馆以及任何你能想到的地方。

“这个大城市有着和中国小城市一样的便利性。当你比较曼哈顿和北京时，你会发现在北京过马路要花费 10 分钟，因为你必须上下人行天桥或穿过地下通道。如此说来，曼哈顿的确恍如人间天堂，是真正意义上的为人们建造的城市”。

4. 增加公共交通的普及率

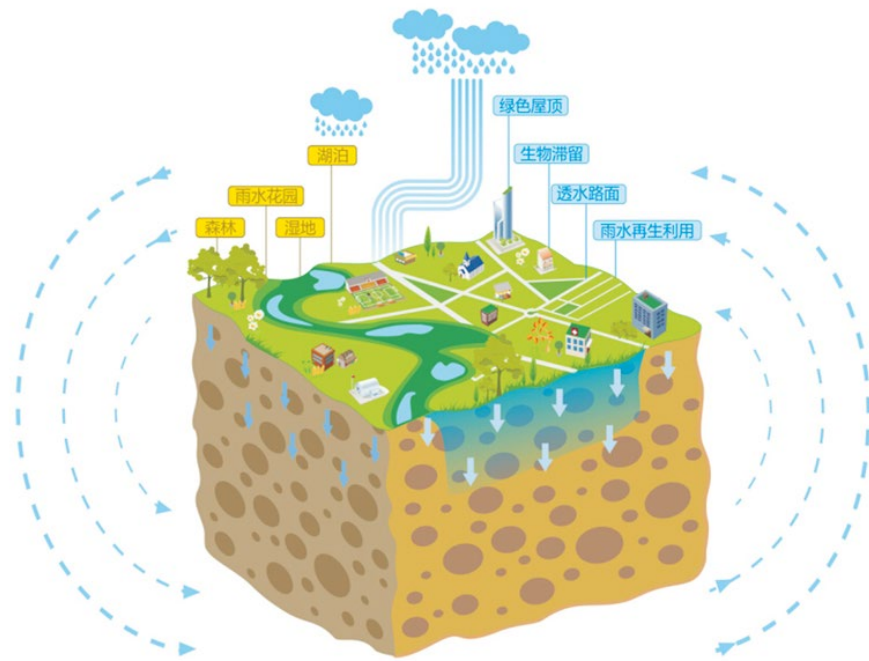
《意见》还强调要统筹公共汽车、轻轨、地铁等多种类型公共交通的协调发展。尽管中国已经拥有了相对高效的公交系统，并努力在全国各城市于 2020 年建成总长 7000 多公里的地铁新线。《意见》还提出要扩大公共交通专用道的覆盖范围，实现中心城区公交站点 500 米内全覆盖。

should have improved access to a diverse range of public and commercial amenities – schools, supermarkets, retirement centers, hospitals, parks, and cultural centers – within range of where they live. There is a special emphasis on green space: the guidelines decree that all city dwellers should have access to public parks, gardens, and other open areas.

“To build a healthy living environment, we have to actively create a new zoning guideline,” said Wen Zhao. “The current functional zone approach, like sports zone, medical zone, etc., in many cities is not the best solution for increasing the performance of the city or communities. I believe that the concept of mixed-use is the better solution.”

One article from a user with the handle “Pretending to be New York” on China’s popular WeChat compares New York City with Beijing. “The convenience of Manhattan is difficult to imagine without experiencing it first-hand. Within two minutes of my apartment, I can reach the metro, Starbucks, supermarkets, movie theaters, office supply store, gym, furniture store, bookstore, library – anything you can think of.

“This megacity has the same conveniences as a small city in China. When you compare Manhattan to Beijing, where it can take 10 minutes to cross a road because you have to take a pedestrian bridge or walk underground, Manhattan really seems like heaven, and is truly a city built for people.”



海绵城市示意图

5. 历史保护与城市特色

在中国，有如此之多的城市看起来几乎一模一样，这是中国城市的一大不幸。此外，对历史保护地区的大规模的破坏，人们也置若罔闻。为了拯救中国所剩无多的建筑遗产，并鼓励建造更多不同风格的建筑，《意见》中有一整节的篇幅用来阐述“城市特色”。这意味着通过保护文化遗产、改造旧建筑、恢复老城区功能和活力，更好地延续历史文脉，展示城市风貌。

6. 提升城市建筑水平和完善建造方式

人们常说，中国现代建筑的预期使用年限平均为 25—30 年——远远低于美国建筑的 74 年和英国建筑的 132 年。这里面涉及许多原因：设计不良、缺乏维护以及使用伪劣建筑材料等等。

因此，这也是新指导方针试图弥补的中国城市的另一个不幸之处。《意见》强制要求采用更加高效和环保的建筑技术，大幅减少建筑垃圾和污染，并缩短建筑时间，要求在 10 年内实现装配式建筑占新建建筑比例的 30%。

7. 提高城市的能源效率和环境质量

在过去的十年里，中国一直在试点采用减轻环境危害的城市化方法，但得到的结果不尽相同。

4. Increasing the prevalence of public transportation

The new guidelines also emphasize the need for a diverse mix of public transportation options, including light rail, buses, and subways.

Although China already has a relatively effective bus system, and is working to build over 7,000km of new subway lines in cities across the country by 2020, the new guidelines call for enhancing these networks even further to ensure everyone within an urban center is always within 500m of public transportation.

5. Historical preservation and city character

The calamity of China having so many cities that look virtually identical, and the wholesale destruction of historic areas, has not gone unnoticed. To salvage what is left of the country's architectural legacy – and to encourage more diverse styles of building – these guidelines include an entire section about the cultivation of what they dub “city character.”

In practice this means preserving historic architecture, retrofitting old buildings, revitalising older urban areas, and enhancing “cultural continuity” by reviving the long and unique histories of each city.

《意见》中规定政府大楼需要采用节能照明等低碳技术，从而把绿色建筑和城市规划提升到了一个新的高度；此外还规定：新建建筑必须全部实现供热分户计量；建设海绵城市，提升水源涵养能力；恢复城市自然生态，推进污水和大气治理。

根据《意见》的要求，到 2020 年，地级以上城市建成区力争实现污水全收集、全处理，缺水城市再生水利用率达到 20% 以上。并争取到 2020 年，全国范围的垃圾回收利用率达到 35% 以上。

结论

总而言之，《意见》旨在修复中国长期以来快速城市化带来的种种问题，并为未来的城市发展，创建一条环境、社会和经济上更为完善合理的发展之路。

中国将不再围绕以利润为中心进行快速建设。相反，中国将着眼于完善现有城市的功能并增强其活力，将城市从反面乌托邦的轨道中解救出来，朝着充满社会活力、以社区为中心、健康、便捷、具有可持续性的宜居宜业的方向发展。

6. Improve urban architecture quality and construction methods

It has often been stated that the average modern building in China has an expected lifespan of 25-30 years - far less than the 74 years of U.S. buildings and the 132 years of those in the UK. There are many reasons for this: poor design, lack of maintenance, and the use of shoddy building materials.

So this is another woe the new guidelines will attempt to remedy. The guidelines also mandate more efficient and environmentally beneficial building techniques; construction waste and pollution will be cut, building times will be shortened, and within 10 years 30 percent of all buildings constructed will be pre-fabricated.

7. Expand energy efficiency and environmental quality in cities

Over the past decade China has been experimenting with less environmentally pernicious forms of urbanization – with varying results.

These new guidelines have taken green building and urban planning to a new height by decreeing that



中国将不再围绕利润为中心进行快速建设。相反，中国将着眼于完善现有城市的功能并增强其活力，将城市从反乌托邦中解救出来，朝着充满社会活力、以社区为中心、健康、便捷、具有可持续性的宜居宜业的方向发展。

China's development will no longer revolve around the profit-centered mindset of building anew as fast as possible. Instead it will focus on improving and re-vitalising what's already there. It'll turn the country's cities away from their dystopian trajectory, and into socially dynamic, community oriented, healthy, convenient, and sustainable places to live and work.



government buildings have energy-efficient lighting and other low-carbon technologies; that new buildings must have meters for heating; that water-efficient “sponge city” development should be expanded; that natural environments in urban areas be revitalised, and that air and water quality be restored.

According to these new mandates, by 2020 all cities from the prefecture-level up should treat 100 percent of their wastewater, and water-scarce cities should reuse 20 percent of their water. The guidelines also outline that, by 2020, waste re-use should top 35 percent across the country.

Conclusion

In general, these guidelines are intended to repair the mistakes wrought during China's recent era of rampant urbanization – and to set a more environmentally, socially, and economically sound course for urban development in the future.

China's development will no longer revolve around the profit-centered mindset of building anew as fast as possible. Instead it will focus on improving and re-vitalising what's already there. It'll turn the country's cities away from their dystopian trajectory, and into socially dynamic, community oriented, healthy, convenient, and sustainable places to live and work. 



IGMC: The Action Paradigm for Building Ideal Cities

范例新城：建设理想城市的行动范本

近期，全球应对气候变化新协议《巴黎协定》高级别签署仪式在纽约联合国总部举行，共有 175 个国家签署了这一协定。中国政府先后在城市规划建设管理方面推出了一系列创新政策和措施，预示着中国城市发展迎来了新“拐点”。而这些创新政策和措施与“国际绿色范例新城倡议”既有不谋而合之处，亦有异曲同工之妙。通过实施范例新城倡议，我们致力于共同打造以人为本的理想城市，实现幸福生活的美好愿景。

1978 年 3 月，全国城市工作会议在北京召开，预示着我国城市发展进入了一个新的阶段。会上制定了关于加强城市建设工作的意见，奠定了此后 30 年我国城市建设的基本思路，描绘了未来中国城市的新蓝图。

2015 年 12 月，中央城市工作会议在北京召开，时隔 37 年，我国经历了世界历史上规模最大、速度最快的城市化进程，城市化率由 18% 上升至 54%；城市人口从 1.7 亿

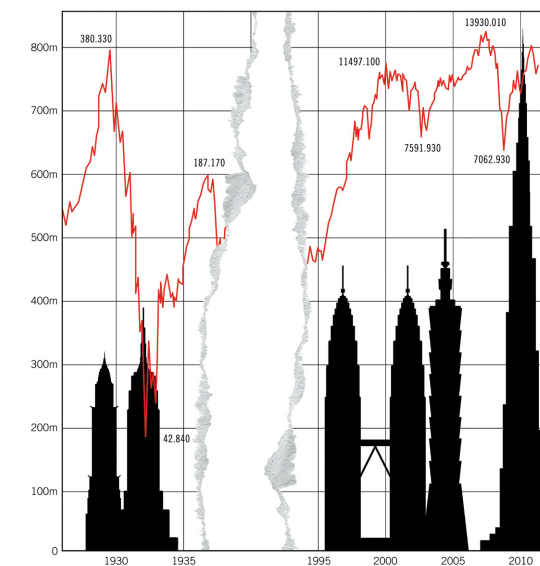
人增至 7.3 亿人；城市数量由 193 个扩张至 658 个……城市发展波澜壮阔，取得了举世瞩目的成就。但快速发展的同时也导致了城市安全事故频发、无序扩张、社会隔离、特色缺失、交通拥堵、环境恶化等一系列问题。针对这些问题，中央城市工作会议提出要集约发展，树立“精明增长”、“紧凑城市”的理念，科学划定城市开发边界，推动城市发展由外延扩张式向内涵提升式转变。



张高丽代表中国签署《巴黎协定》

2016 年 2 月，《中共中央国务院关于进一步加强城市规划建设管理工作的若干意见》发布。这是中央城市工作会议的首份配套文件。文件中提出城市规划建设管理的总体目标是：实现城市有序建设、适度开发、高效运行，努力打造和谐宜居、富有活力、各具特色的现代化城市，让人民生活更美好。《意见》提出严格执行城市规划，塑造城市风貌，提升城市建筑水平，推进城市节能建设，完善城市公共服务，营造城市宜居环境，创新城市治理方式等七项举措。还提出新建住宅要推广街区制，原则上不再建设封闭住宅小区，要树立“窄马路、密路网”的城市道路布局理念。

2016 年 4 月 22 日，全球应对气候变化新协议《巴黎协定》高级别签署仪式在纽约联合国总部举行，共有 175 个国家签署了这一协定。协定指出，各国把全球平均气温较工业化前水平升高控制在 2 摄氏度之内，并为把升温控



经济学家考伦斯认为，经济衰退或股市萧条往往都发生在新高楼落成的前后



城镇化带动了整个经济社会发展，是改革开放的重要引擎。与此同时，城市也是改革开放成果和中华民族伟大复兴的中国梦的容器。能否实现城市的可持续发展，是检验改革开放成功与否的关键。



制在 1.5 摄氏度之内而努力。国务院副总理张高丽代表中国签署《巴黎协定》，并在讲话中表示，中国将在今年 9 月二十国集团杭州峰会前完成参加协定的国内法律程序。张高丽强调，中国是负责任的发展中大国，将贯彻创新、协调、绿色、开放、共享的发展理念，此外，中国气候变化事务特别代表解振华还透露，未来 15 年中国将投入 30 万亿元人民币应对气候变化，并强调“一分纲领、九分落实”。

一系列的政策措施，体现了中央对城市工作的高度重视以及观念上的更新，预示着中国的城市发展将迎来历史性的转折。城镇化带动了整个经济社会发展，是改革开放的重要引擎。与此同时，城市也是改革开放成果和中华民族伟大复兴的中国梦的容器。能否实现城市的可持续发展，是检验改革开放成功与否的关键。过去，人们认为高楼大厦、大马路和大广场、表面光鲜就是城市的现代化，然而大楼的高度不能代表城市发展的高度，美好生活、社会和谐、幸福指数才是城市建设的归结点。“高楼建成之日即是市场衰退之时”——“劳伦斯魔咒”也为我们敲响了警钟。

城市是一门科学，城市的发展是一个不断探索的过程。20 世纪 70 年代，面对工业化导致的城市蔓延、环境恶化等问题，欧洲率先提出“紧凑城市”这一可持续发展策略，它使欧洲许多历史名城保持紧凑、高密度形态的同时又不失活力与个性；二战之后，美国成为“车轮上的国家”，城市郊区化导致了资源浪费、环境破坏等一系列问题，美国效法欧洲提出了“精明增长”，从此，街区与行人共存的“街道芭蕾”成为美国社区一道最美的风景。短短三十年，中国的城市建设规模已经后来居上。如何借鉴西方城市的发展经验，避免重蹈覆辙，中国依然任重道远。

2011 年 4 月，全球人居环境论坛（GFHS）在联合国总部发起了“国际绿色范例新城倡议”（IGMC）。这是空前、快速且不可逆转的城市化时代，我们针对城市的可持续发展提出的一个系统的创新探索模式。作为一个高



2011年4月8日，GFHS在纽约联合国总部正式发布了IGMC倡议



2011年，IGMC标准贵阳研讨会

起点、高标准的绿色低碳城镇发展计划，范例新城倡议得到联合国环境规划署等国际组织和有关国家政府的大力支持。由GFHS和联合国环境规划署组织50多位国际专家编著的IGMC标准包含十二项原则、80多项指标及相应的策略和措施，并设计了评分系统，以指导IGMC试点项目的规划建设。

IGMC倡议以十二项原则为主要特征，致力于贯彻联合国《2030可持续发展议程》中的目标11“建立包容、安全、有复原力和可持续的城市和人居环境”。这十二项原则包括：净零碳、零废弃物、可持续的环境、绿色规划与

设计、绿色交通和连接、绿色基础设施、绿色建筑、绿色经济、绿色生活、和谐社会、可持续的文化与遗产、智慧社区。这些理念原则体现了可持续城市和人居住环境的发展方向。其内涵和联合国《2030可持续发展议程》及“人居三”将要发布的《新城市议程》相一致，与《中国新型城镇化规划（2014-2020）》的主要原则标准以及中央城市工作会议中首次提出的“精明增长”、“内涵提升式转变”不谋而合，更与《意见》的主要内容有异曲同工之处。IGMC倡议前瞻性、系统性地界定了一个可持续城市的新范本。

城市里的每项政策与行动，都会影响人的生活质量，也



联合国环境规划署阿拉布·霍巴拉部长在2011年IGMC标准贵阳研讨会致辞



全球人居环境论坛秘书长吕海峰在里约+20上同与会者分享IGMC标准最新成果



2014年，国际人居环境范例新城（IGMC）试点项目战略合作签约仪式在中铁置业集团上海总部举行

必将以“人”作为标准来衡量其效果。国际绿色范例新城以可持续作为城市发展的出发点，以幸福生活作为城市发展的目的地。其试点项目早在规划之初便融入“紧凑城市”和“精明增长”的理念，将“绿色经济、文化、教育、居住、休闲和配套公共服务”等功能进行混合规划，创建绿色经济聚集区、低碳生态居住区、健康休闲商务区、和谐包容幸福区，旨在建成一个生态优良、生活健康、产业稳健、精神富足的幸福家园。

IGMC倡议推出以来，得到许多有远见的地方政府和大型企业的认可和响应。贵阳市、泰州市、德州市政府已经先后签署了支持IGMC试点项目落户当地的框架协议，相关工作正在积极推进中。范例新城专家也先后为滕州市和亳州市等地的领导干部进行了“新型城镇化和绿色城市”专题培训，支持当地发展绿色低碳城镇。

IGMC试点项目有三种类型：新建项目从选址开始导

入IGMC标准，新建项目中途导入IGMC标准，城市更新项目从开始导入IGMC标准。试点项目既可以导入全部十二项原则和标准，也可以导入部分原则和标准。总而言之，试点项目要在国家宏观政策和地方政府的政策指导下，在IGMC原则标准的基础上，因地制宜，制定具体的标准指数和行动方案。

IGMC倡议的十二项原则可概括为五个关键词：绿色、低碳、紧凑、品质、幸福。我们深信，对于一个城市来说，最重要的不是高楼，而是社区和生活；最重要的不是硬件，而是就业与文化。古今中外，无论是中国梦还是美国梦，城市梦都是人类的一个永恒追求；古往今来，对理想城市的探索，也从来没有停止。范例新城不仅仅是一个理想城市的形象，更是我们在漫长的探索过程中，把东西方的成功经验提炼为现代可持续城市发展基因，并用科学的指标体系指导不同地区开展行动。

以下是 IGMC 倡议 对于五个关键词的阐释

绿色

绿色是城市赖以生存发展的资源环境承载力，是城市的自然资本。无视资源环境极限将会受到自然的惩罚。范例新城倡导的绿色包含三层涵义：一是资源节约、环境友好；二是绿色经济；三是绿色生活。范例新城标准对于空气、水和土壤质量、绿化率等自然生态指标有着较高的要求，在人工构筑方面也明确提出要发展绿色基础设施、绿色建筑，包括地下综合管廊、绿道等。同时大力倡导产业升级转型，发展绿色经济，为地方经济和就业带来活力。要求项目启动后第七年，绿色经济领域的企业需大于等于 75%。此外，对于人均生活用水、人均垃圾排放量、人均碳排放都提出了约束性指标，以激发公众的广泛参与，共建共享共赢。

低碳

建筑耗能占全社会总能耗的 30-40%，所排放的温室气体也占到 1/3；汽车所带来的排放仅次于建筑，严重污染大气。因此，大幅度节能减排、发展低碳建筑、建设低碳城市是实现《巴黎协定》所约定的“把全球平均气温较工业化前水平升高控制在 2 摄氏度之内”目标的必由之路。范例新城倡导的低碳包含两层涵义：一是节约能源和资源，提高资源利用效率；二是不断提高清洁能源和可再生能源利用比例。在范例新城标准中，净零碳和零废弃物是两项非常重要的先导性原则。标准规定：到项目启动后第五年，可再生能源比例要达到 40%，第九年达到 70%；到项目启动后第三年，废弃物分类收集率需达到 100%，第五年送入垃圾填埋场的废弃物减至总量的 25%，第九年减至 5%。这些既是城市可持续发展的难点和要点，也是 IGMC 试点项目的示范意义所在，将为中国和世界实现应对气候变化目标做出贡献。

紧凑

紧凑是一种基于土地资源高效利用和城市精致发展的新思维，《清明上河图》中鸡犬相闻的邻里关系、人来人往的大街小巷正是“紧凑城市”的最好写照。在范例新城标准中，混合功能规划、多样化建筑形式共存、鼓励慢行和 TOD 开发模式是其主导发展策略。标准规定：项目的整体混合功用比例应大于 50%；建成 800 米生活圈；住宅区混合功用大于 90%。项目内部连通性要达到每平方公里不少于 60 个道路交叉点，为营造良好的可达性和慢行城市提供保障。

品质

范例新城倡导的品质包含两层涵义：一是城市的质量；二是城市的品位。生活的质量和市民生命财产的安全有赖于城市规划和建设及管理的质量，这是建设安全健康城市的前提。我们希望打破城市“千城一面，万街同貌”的怪圈。城

市也是一个有机生命体，是有历史、有个性、有灵魂的。传承历史文脉，保留城市记忆和特色是对本民族和我们自己的尊重。范例新城标准要求，试点项目的规划设计要能够体现当地的传统文化和生态特色。试点项目要求实施“三总师”制度，聘请国内外知名专家担任项目的总规划师、总工程师和总文化师，一以贯之，确保项目整体规划设计水平、工程质量和文化品位。

幸福

亚里士多德有句名言“人们来到城市是为了生活，人们居住在城市是为了生活得更好”。我们希望范例新城中每家每户都能实现居者有其屋、居者乐其居。在范例新城试点项目中，社区并不是建筑和街道的简单叠加，更是一种和谐的邻里关系，最大程度体现社会包容性，追求诗意的栖居。范例新城标准要求：在每个范例新城中，要有一个管理实体参与社会疏导、公众安全和就业咨询等公益活动。其实施策略要求，在可持续的城市设计中能体现其居民的素质和个性特征，而不仅仅是用物质条件来衡量；以人为本，实施民主管理，体现公平包容，不断提高人们的生活质量，打造居民幸福感和成就感。

结语

2013 年中央城镇化工作会议提出，现代城镇发展要让居民“看得见山，看得见水，记得住乡愁”，IGMC 倡议的原则处处秉持着“看见人、尊重人”的思维。说到底，城市的可持续发展，就是人类的可持续发展。IGMC 十二项原则与五个关键词凝聚着全球人居环境论坛和有识之士对于城市的思考探索与自觉行动。IGMC 倡议作为一种创新的可持续城市的范例模式，源源不断地激发着前瞻性的政府、企业和社会力量一起努力，共同建设我们需要的城市和人居环境，实现幸福生活的美好愿景。



2013 年中央城镇化工作会议提出，现代城镇发展要让居民“看得见山，看得见水，记得住乡愁”，IGMC 倡议的原则处处秉持着“看见人、尊重人”的思维。说到底，城市的可持续发展，就是人类的可持续发展。



Shenzhen Better City Institute Formally Established

--Sustainable City Think-tank Committed to Better City Better Life

深圳美好城市研究院正式成立 ——可持续城市高端智库，致力于让城市生活更美好

2016 年 5 月 31 日，深圳市政府举办了深圳市社会组织“多证合一、一证一码”改革工作实施新闻发布会，对符合条件的 16 家深圳社会组织颁发了新版社会组织登记证。作为其中唯一的、定位为可持续城市和人居环境研究的高端智库，深圳美好城市研究院宣告正式成立。成为全国首批获颁“多证合一、一证一码”的社会组织，具有开创意义。美好城市研究院院长吕海峰出席颁证仪式。

出席本次新闻发布会的嘉宾有深圳市政府副秘书长朱廷峰、深圳市民政局局长廖远飞以及社保、税务、公安等部门负责人。廖远飞指出，深圳率先在全国实行社会组织“多证合一、一证一码”的改革。目前，深圳市社会组织总数已突破万家，并且连续三年平均增长 20% 以上，社会组织已成为新常态下经济建设和社会发展的生力军。他表示，“多证合一、一证一码”登记模式加强了社会组织信息的数字化管理，打破“信息孤岛”，对促进社会组织的发展具有里程碑式的意义。

作为中国改革开放的窗口和缩影，35 年间，深圳从一个仅有 3 万多人口、两三条小街的边陲小镇，发展成为一座拥有上千万人口，经济繁荣、社会和谐、功能完备、环境优美的现代化都市，创造了世界工业化、城市化、现代



美好城市研究院吕海峰院长获颁全国首批新版社会组织登记证

化史上的奇迹。和多数中国城市一样，深圳城市的快速发展和人口膨胀也带来了一系列问题，如资源环境约束压力加大，交通拥堵日趋严重，城市安全事故频发，包容性有待提升，市民幸福指数和经济发展不成比例等，亟待从理论和技术上进行破解，呼唤高水平民间智库的参与。

2015 年 9 月联合国可持续发展峰会上，193 个会员国一致通过了《2030 可持续发展议程》，其中专门为城市未



美好城市研究院筹备座谈会

来发展设立了目标，即目标 11：建设包容、安全、有复原力和可持续的城市和人居环境。2015 年 12 月，时隔 37 年召开的中央城市工作会议提出要集约发展，树立“精明增长”、“紧凑城市”的理念，科学划定城市开发边界，推动城市发展由外延扩张式向内涵提升式转变。2016 年 2 月，《中共中央国务院关于进一步加强城市规划建设管理工作的若干意见》发布，提出城市规划建设管理的总体目标是：实现城市有序建设、适度开发、高效运行，努力打造和谐宜居、富有活力、各具特色的现代化城市，让人民生活更美好。中国城市发展迎来拐点。与此同时，国家鼓励加强中国特色新型智库建设，在此背景下，美好城市研究院应运而生。

美好城市研究院肩负落实《2030 可持续发展议程》和中央城市工作会议精神，为中国可持续的城市和人居环境提供技术支持和咨询服务的使命。研究院业务范围包括：城市可持续发展研究、理念宣传；城市与人居环境规划设计；信息技术在城市规划管理中的应用研发、推广；城市资源管理与应对气候变化技术研发、推广；滨海城市和海洋治理研究，城市产业及相关经济研究；举办相关公益展览、学术研讨会及文化活动，开展国际交流合作。

城市是人类文明的容器。著名城市学家刘易斯·芒福德曾深刻地指出“城市应当是一个爱的器官，而城市最好的经济模式应是关怀人和陶冶人”。从亚里斯多德的“人们留居在城市是为了生活得更好”到上海世博会和世界城市日的口号“城市让生活更美好”，“让生活更美好”代表了城市发展的最终目的，也是城市规划建设、管理和一切技术措施的出发点和落脚点。美好城市研究院将秉承人类对城市美好生活的愿景，为可持续城市发展贡献力量。

早在今年 4 月 1 日召开的美好城市研究院筹备座谈会上，各与会人员已对研究院的工作思路进行了探讨。座谈会上，各位专家和管理层畅所欲言。吕海峰院长指出，研究院属于非盈利机构，白手起家，需要大家的奉献和支持，只要我们坚持正信正见，就能行正道，出正果。研究院将以“务实、求真、前瞻、创新”作为办院理念，在国家和省市有关部门指导下，发挥机制和创新优势，集才聚智，互联互通，共建共享共赢，运用大数据和互联网技术，开展研究工作。研究院的核心专家团队长期致力于国内外人居环境学术交流，具有较高的绿色低碳城市理论水平和丰富的实践经验，和国内外知名的专业机构建立了良好的合作关系，便于学习借鉴先进的理念技术和研究方法，迅速取得突破。研究院已经获得了全球人居环境论坛和联合国环境规划署等机构的认可和支持，将率先加入国际绿色范例新城倡议（IGMC）网络，为中国区的试点项目服务，助推新型城镇化战略。研究院还将提供具有中国视角和世界视野的城市和人居环境研究报告，并结合市场需求开展一系列课题研究。WBPA



BEST PRACTICES

最佳范例

The Generative Power of Manhattan Grid
Drawing Lines on Maps for Creating Value
曼哈顿网格的原动力
——图上画线创造价值

Dedication to Providing Clean and Efficient Energy for Human Settlements
-- The Road to Energy Conservation & Emission Reduction and High Back-Pressure Heating
Transformation of Huadian Power International Corporation Ltd, Shandong Branch
为人居环境奉献清洁高效的能源
——华电山东分公司的节能减排、高背压供热改造之路

Global Low-carbon Eco Scenic Spot:
Huangguoshu Waterfall Scenic Area
全球低碳生态景区
——中国黄果树风景名胜区



The Generative Power of Manhattan Grid Drawing Lines on Maps for Creating Value

曼哈顿网格的原动力 ——图上画线创造价值

Serge Salat, President, Urban Morphology and Complex Systems Institute
薛杰 法国城市形态和综合系统研究所主席

导读 Introduction

2016年4月,作者在与联合国人居署执行主任霍安·克洛斯博士进行的一次令人鼓舞的会谈中,他给出对城市价值创造的个人见解:在纸上绘制简洁的规划图,即通过良好的城市设计来创造城市价值。对这一观点最有说服力的例子是纽约市通过城市规划取得的辉煌成功:1811年政府要员们在图纸上绘制了城市设计图,然而这一看似举手之劳的做法在长达两个世纪里创造了最大程度的财富集聚,并形成让其它城市顶礼模仿的全球经济权力。但是,设计图纸上的这些线条有什么特别之处?促使这种规划取得难以置信的成功的经济和法律条件是什么?在曼哈顿崎岖、荒凉的岩石山丘和沼泽地之间,这种表面统一的网格在几十年来是如何促使城市形成自我改造的能力和方式的多样性?在这些线条中,蕴藏着什么力量促使一个在1811年时只有10万人口的城市一跃发展为世界上最伟大的城市之一,甚至在长达一个世纪的长河里能够比肩人口300多万的伦敦?如何解释纽约主宰世界经济的城市能力?纽约城市系统持久产生多样性、财富

并能够适应时代变化的能力,对城市规划者来说是一个关键性要素,他们需要了解是什么让一个城市取得如此辉煌的成就。

根据城市设计图纸来进行城市建设,好的规划塑造好的城市。本文介绍了ADN良好城市规划的六个关键要素:

1. 连通性问题,相互连接的密集街道网络确保曼哈顿的良好互通性:每平方公里有18公里长的街道以及每平方公里有高达80个道路交叉口;
2. 土地市场设定的微小地块单位(200平方米的地块)能够实现高度多元化的土地利用并更好满足市场需求;
3. 交通方便、经济集中为特点的地铁线路结构模式;
4. 高度的经济集聚提升了城市的竞争力;
5. 工作岗位和居住密度应该与交通可达性相匹配;
6. 对高密度的微小地块进行灵活的分区能够帮助创造价值。

In an inspiring conversation with Dr. Joan Clos, Executive Director of UN Habitat, in April 2016, he developed to me his insights on the creation of urban value by the simple act of drawing lines on paper, that is the act of good urban design. This is the best introduction to the fascinating story of New York, where the simple act of drawing lines on a map by the Commissioners in 1811 created the highest concentration of wealth and global economic power for the two centuries to follow. But what was so special in these lines on the map? And what have been the economic and legal conditions that made this plan so unbelievably successful? From this seemingly uniform grid of lines, drawn on the rugged and inhospitable rocky hills and marshlands of Manhattan, how such diversity, such capacity for the city to reinvent itself, decades after decades, did emerge? What was so efficient in these lines on a map for the city to become the greatest city on Earth, topping London in one century with more than 3 million inhabitants while starting in 1811 with a mere 100,000? What explains New York's enduring ability to dominate the world economic urban landscape? New York grid enduring capability to generate diversity, wealth and to adapt to change is a key lesson for planners who want to understand what makes a city achieve prominence.

Building on the genetic power of drawing lines on maps to create good plans and good cities, this article describes the ADN of good city planning with 7 key messages:

1. *Connectivity matters: a grid of densely connected streets connects Manhattan with 18 km of streets/km² and 80 intersections/km²*
2. *Fine granularity in land markets (land plots of 200 m²) enables high levels of diversification and market demand responsiveness*
3. *Subway lines structure patterns of accessibility and economic concentration*
4. *Intense economic agglomeration fosters competitiveness*
5. *Jobs and residential densities should be aligned with levels of transit accessibility*
6. *Flexible zoning for very high densities with fine granularity creates value*



1. 连通性问题：相互连接的密集街道网络确保曼哈顿的良好互通性：每平方公里有 18 公里长的街道以及每平方公里有高达 80 个道路交叉口

1811 年曼哈顿城市规划促使城市的土地面积增大了 7 倍。它主要是一种开放式棋盘结构的城市扩张，这种结构是由小到 200 平方米地块及宽 60 米 / 190 至 280 米长街区嵌套分层顺序进行组织。这种棋盘结构成了一种矩阵，是一种最具适应性和创造性的复杂城市系统。曼哈顿岛的长方形结构以非对称方式限制了城市扩张，但促使了强大力量的聚集，类似于在表面均匀网格上一个个聚焦点。早在 1900 年，该市已经完成了其原有面积 7 倍的城市扩张。此外，新的规划图延伸至布鲁克林和长岛，又再把城市面积扩大 7 倍。这样一来，自 1811 年城市规划以来，纽约城市面积扩大了 49 倍。

在网格化规划之前，纽约市已经进行有组织的开发。在曼哈顿岛的南端集中了一些又短又窄的街道，有些街道甚至可以追溯到荷兰新阿姆斯特丹人定居时期。这些街道根据当地条件建造又缺乏统一规划。岛上的大部分地方是错落有致的农场和牧场、池塘和沼泽地，中间点缀着蜿蜒的乡间道路，这为城市扩张提供了充足的土地。公共用地是 1658 年首先由荷兰省政府授予新阿姆斯特丹政府的空置土地。为了方便土地销售，Goerk 制定了带有三个平行长街的土地细分计划，这三条大街最终发展成为今天的第四、第五和第六大道，并且东西街区的长度仍然等于 Goerck 计划中的长度。该计划掀开了纽约房地产市场快速发展的序幕，并促进了土地价值的增值。1811 年，政府专员的规划图覆盖了该岛矩形结构的最后一格。

1.Connectivity matters: a grid of densely connected streets connects Manhattan with 18 km of streets/km² and 80 intersections/km²

Drawing lines on a plan in Manhattan in 1811, planned for a 7-fold increase in the city land area. It organized an open-ended checkerboard for urban expansion with a nested hierarchical order of tiny 200m² plots and 60m wide/190 to 280m long blocks. This checkerboard became the matrix of the most adaptive and creative complex urban system. The elongated shape of the island constrained in an asymmetrical way the urban expansion and created strong forces of concentration, and focalization in the seemingly homogeneous grid. As early as 1900, the 7-fold urban expansion was completed and new drawings on a map extending in Brooklyn and Long Island panned for another 7-fold extension, giving room for a 49-fold extension since the first 1811 plan.

Before the grid, New York City grew organically. Concentrated at the Southern tip of the island was a knot of short streets, some dating back to the Dutch settlement of New Amsterdam, shaped by local conditions and lacking a unifying order. Most of the island was a patchwork of farms and meadows, ponds and marshes, laced with meandering country roads and providing ample ground for expansion. The Common lands were vacant land first granted by Dutch provincial authority to the government of New Amsterdam in 1658. To facilitate their sale, Goerk prepared a subdivision plan with three long parallel streets, which would eventually become 4th, 5th and 6th avenues, with an east-west length

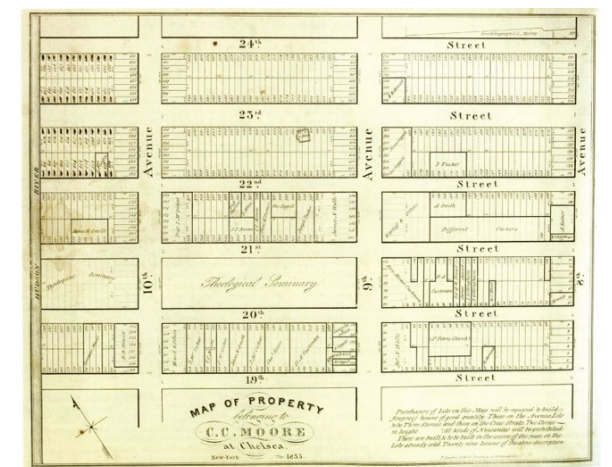


1811 年曼哈顿城市规划促使城市的土地面积增大了 7 倍。它主要是一种开放式棋盘结构的城市扩张，这种结构是由小到 200 平方米地块及宽 60 米 / 190 至 280 米长街区嵌套分层顺序进行组织。这种棋盘结构成了一种矩阵，是一种最具适应性和创造性的复杂城市系统。

Drawing lines on a plan in Manhattan in 1811, planned for a 7-fold increase in the city land area. It organized an open-ended checkerboard for urban expansion with a nested hierarchical order of tiny 200 m² plots and 60 m wide/ 190 to 280 m long blocks. This checkerboard became the matrix of the most adaptive and creative complex urban system.



曼哈顿专员 1811 年规划图的细节
Detail of Manhattan Commissioner's map of 1811



查尔斯·穆尔房地产公司在 1835 年规划图；
该地区最终发展成为切尔西
Map of Charles Moore real Estate in 1835,
which eventually became Chelsea

在这个看似均匀的网格上，这些高度分化并带有不同于索和区、特里贝克区或上东区的城市和社会结构的街区，是如何形成的呢？事实上，这种网格包含两种创造多样性的模式。第一种模式是基于街道宽度（大道 30 米宽，标准街道 20 米宽，30 米宽的大道在非规定间隔有 15 条横跨

of blocks identical to the one in Goerck's plan. This plan started the rise of New York real estate market and ascent of land values. In 1811, the Commissioners' map overlaid the final grid of rectangles over the island.

From this seemingly homogeneous grid, how did highly differentiated neighborhoods emerge, with urban and social fabrics as different as Soho, Tribeca or the Upper East Side? In fact, the grid contains two patterns that create variety. One pattern is formed by the street widths (30 meters for the avenues, 20 meters for standard cross streets, with 15 major cross streets 30 meters wide at irregular intervals. The second pattern derives from block dimensions. All blocks are 60 meters wide north to south, but their length east to west varies diminishing from the center to the shorelines. From Third to Sixth Avenue blocks are 280 meters long. Moving eastward they shrink 189, 198, 195 meters long. Moving westward, they shrink uniformly to 244 meters long. Manhattan avenues are at a higher level in the hierarchy



曼哈顿网格上的 1 平方英里 1 square mile of Manhattan grid
来源：薛杰、弗朗索瓦·拉韦和卡罗琳·诺瓦斯基：《城市形式》，2011 年。
Source: Serge Salat, Françoise Labbé, Caroline Nowacki, Cities and Forms, 2011.

主要街道)；第二种模式是基于街区的大小。所有街区都为南北宽 60 米，但他们的东西长度不同，从中心区域到海岸线长度在不断减少。第三至第六大道的街区都是 280 米长。向东延伸，街区长度缩小为 189 米、198 米和 195 米。向西延伸，街区长度均匀缩短到 244 米。曼哈顿大道在层次结构中地位高于其它曼哈顿街道：首先是其大小，其次是其连通性质。大道大约 12.5 公里长 30 米宽，而街道大约 2.7 公里长 20 米宽，但是有 15 条主要横跨街道为 30 米宽。在街道布局方面，这是第一次打破对称布局，但更重要的是打破大道和街道在连通性方面的均匀性。曼哈顿大道连接 155 条街道，包含大约 144 个街区，而曼哈顿街道连接大约 11 条大道，包含 10 个街区。这种在街道布局连通性方面“打破均匀性”的做法在市中心集聚了强大的力量来达到经济集聚。

对规划师的主要经验总结：

(1) 如果城市通勤有地铁支持并且也有足够的街道密度，那么 20 米宽的街道和 30 米宽的大道已经足够了。

(2) 街道的有效密度为每平方公里 18 公里长的街道和每平方公里 80 个路口，这是已经在曼哈顿实现的街道布局，也是现在联合国人居署推荐的布局。

2. 土地市场设定的微小地块单位 (200 平方米的地块) 能够实现高度多元化的土地利用并更好满足市场需求

网格化的土地细分和开发是一种简单的布局形式。网格系统剔除土地地形标记和特异性，并重新把其包装成标准化的建筑用地。

在房地产市场，网格重新界定了该岛的功能划分。这种结构的效果超出了所有人的预料。在 1807 年，纽约市房地产的评估价值是 2500 万美元，到 1887 年达到 20 亿美元，增长了 80 倍。街区细分为面积 205 平方米大小相同的地块进行土地出让，在市场力量的作用下，这种微型地块单位开始巩固下来，并结合早期的基本模块形成了一种有序的差异化层次结构规划图。



1884 年成为美国财富最集中的街道（也可能是世界第一）之前的公园大道。
Park Avenue in 1884 before becoming the highest peak of wealth concentration in the US (and possibly in the world).

than Manhattan streets: first by their sizes, second by their connective properties. Avenues are about 12.5 km long and 30 meters wide while streets are around 2.7 km long and 20 meters wide, except 15 major cross streets that are 30 meters wide. This is the first break of symmetry in the street pattern. But even more important is the break of symmetry in the connective properties of avenues and streets. Manhattan avenues connect 155 streets and are made of about 144 blocks, while Manhattan streets connect about 11 avenues and are made of 10 blocks. This “break of symmetry” in the connectivity of the street pattern has been enough to create strong forces of economic concentration in Midtown.

Key lessons for planners:

(1) Streets 20 meters wide and Avenues 30 meters wide are sufficient if the city commutes are supported by transit and if there is a sufficient density of streets.

(2) The efficient density of streets is 18 km of streets/km² and 80 street intersections/km², which is realized in Manhattan and recommended today by UN Habitat.

2. Fine granularity in land markets (land plots of 200m²) enables high levels of diversification and market demand responsiveness

The grid was above all an easy format for the subdivision and development of land. The grid system stripped the land of topographical markers and specificity, and repackaged it as standardized building lots. The grid re-conceptualized the island in a real estate market. And it worked beyond all expectations. In 1807, the assessed value of New York City real estate was \$ 25 million. In 1887 it was \$2 billion, a 80-fold increase. Blocks were subdivided for land sale into identical plots of 205m² area, which, under the influence of market forces, started to consolidate and create a differentiated platting ordered by combinations of the same basic module very early in the process.



1930 年建的帝国大厦
The Empire State Building under construction in 1930

纽约成功战略的一个例子是查尔斯·摩尔发展的地产，最终发展成为充满活力和具有特色的切尔西街区。早在 1835 年，他在地产规划图中就表明了他的策略。查尔斯·穆尔把其地产发展成为切尔西小区，他把该小区中心确定在切尔西广场附近，1819 年他把切尔西广场捐赠给圣公会教堂。广场打破了小区的对称性，而教堂和公共花园则在地块的大小和价值上创造一种级联差异，依次形成接近或远离切尔西教会的地块。1820 年，穆尔对其地产的估值为 1.70 万美元，在 1845 年估值达到 35 万美元，而 1855 年估值上升到 60 万美元，在这 35 年中增值了 35 倍。土地价格的差异化和非均匀性很快出现在看似均匀的曼哈顿网格。1860 年，第四大道的房地产价格为 3500 至 8000 美元不等，而沿着麦迪逊大道在麦迪逊广场附近的地块价格则在 1.8 万至 5.5 万美元之间。



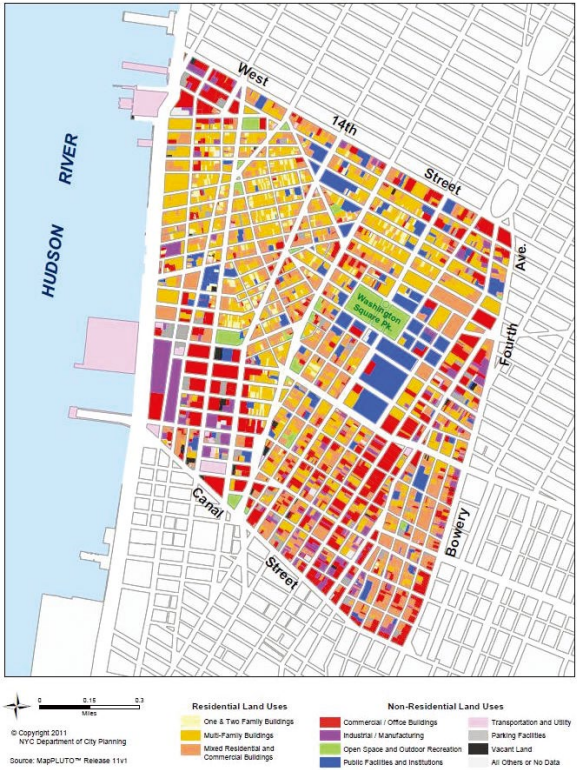
(左图) 麦迪逊广场附近的纽约能量密度地图 (建筑能量密度，每千瓦时/每平方米土地单位)。单位土地建筑能量密度是曼哈顿地段开发力度的一个非常有用的指标。甚至在高度发达地区，如麦迪逊广场，地图也能显示出在地块规模上发展的差异性。

(Left) New York energy density map (building energy density per unit of land in kWh/m²) around Madison Square. The building energy density per unit of land is a good proxy of the intensity of development of Manhattan lots. Even in a highly developed district such as Madison Square, the map reveals a high variety of development at lot scale.

(右图) 在纽约的小型街区，以及在很多情况下的地块层次上，都存在土地用途的多样性。图中的橙色建筑物是混合住宅和商业建筑。来自纽约市城市规划部的图表。

(Right) Diversity of land uses in New York happens at small block level and in many cases at lot level as well. The orange buildings of the map above are mixed residential and commercial buildings. Image from NYC Department of City Planning.

An example of the strategies that made New York success is the development by Charles Moore of his estate, which eventually became the vibrant and differentiated Chelsea neighborhood. Dating as early as 1835, the map of his estate illustrates his strategy. Charles Moore developed his estate into Chelsea village. He centered it around Chelsea Square, which he had donated in 1819 to the Episcopal Church. The break of symmetry created by the square, the church and the public garden created a cascade of differentiation in the size and value of the plots in relation to their location near or far from Chelsea Church. In 1820, Moore had evaluated his estate at \$ 17,000. His wealth was estimated at \$ 350,000 in 1845 and \$ 600,000 in 1855, that is a multiplication by 35 in 35 years. Differentiation and asymmetry in land prices occurred very quickly in the seemingly uniform Manhattan grid. In 1860, real estate along Fourth Avenue ranged from \$ 3,500 to \$ 8,000, while lots along Madison Avenue were valued between \$ 18,000 and \$ 55,000 at proximity of Madison Square.



The difference in the number of basic units in land markets between small blocks subdivided in lots and Chinese current developments superblocks becomes striking when we compare the number of initial land lots in Manhattan - about 300,000 - and the number of 500m side superblocks in the same 66km² area in a



曼哈顿地块整合原则

Manhattan plot consolidation principle

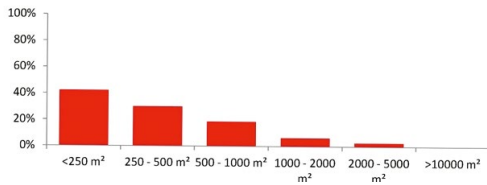
上图：1811 年曼哈顿原地块细分；地块的平均面积：205 平方米
中图：曼哈顿中间地带地块整合；地块的平均面积：255 平方米
下图：曼哈顿岛两端地块整合；地块的平均面积：6100 平方米

Above: Manhattan Original plot subdivision in 1811.
Average plot size: 205 m²

Middle: Manhattan Intermediary plot consolidation.
Average plot size: 255 m²

Down: Manhattan Extreme plot consolidation.
Average plot size: 6,100 m²

来源：城市形态与综合系统研究所
Source: Urban Morphology and Complex Systems Institute



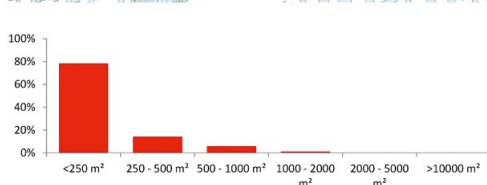
左图：随着时间推移，在麦迪逊广场周边的地块面积在市场力量作用下呈现丰富的多样性。也出现几个较大组合的地块，面积大小等同于一个街区或半个街区，还出现一些中等大小的地块，然而 40% 的地块仍然保持其原始面积大小。这种地块大小的分布并非随机性的。在市场力量作用下，它遵循城市大小和财富的帕累托分布规律，具有社会财富分配的特点，也符合许多空间经济分布的规律。

右图：布鲁克林地区的地块大小。在纽约的这片区域，80% 的地块还保留着原有的大小，但也出现许多或大或小调整后的地块；在本世纪，布鲁克林发展成为曼哈顿中城和曼哈顿下城区就业岗位高度密集的地区和交通最方便的地区，也经历了类似于麦迪逊广场在上个世纪发生的地块大小多样化过程。

Left: Lot sizes around Madison Square have diversified over time under market forces. There is a combination of a few large lots up to a quarter or half block, some medium scale lots, and 40 % of the lots have retained their original size. This distribution of sizes is not random. Under market forces, it follows a Pareto distribution, characteristic of wealth distribution in a society, of sizes and wealth of cities, and of many space economy distributions.

Right : Lot sizes in Brooklyn. This area of New York has retained 80% of its original lots and presents much less large lots ; in this century, development in Brooklyn most accessible areas from the high concentrations of jobs in Midtown and Lower Manhattan may experience a diversification of lot sizes analogous to the one in Madison Square in the last century.

在土地市场上，基本单元地块的数量差异很大。与曼哈顿的微小地块相比，中国当前的土地开发通常都是超级地块，二者形成强烈的对比。在同样面积为 66 平方公里的土地上，曼哈顿的初始土地块的数量是大约 30 万个，而中国只有仅仅 250 个。“积木”数量的巨大差异解释了为什么

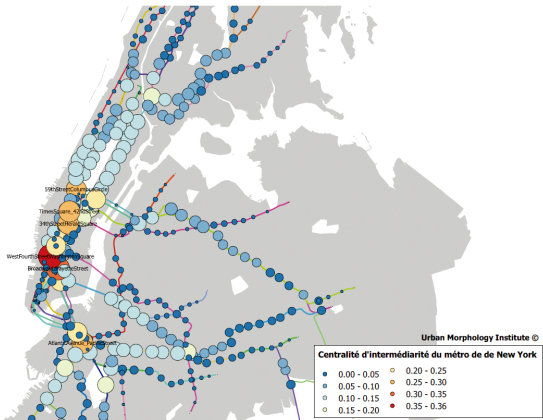


typical Chinese new development - only 250! That huge difference in the number of the "building bricks" of the land market explains why a diverse and resilient land market cannot emerge from a superblock pattern while it emerges from traditional small lots when the planning instruments are flexible and market-responsive enough.

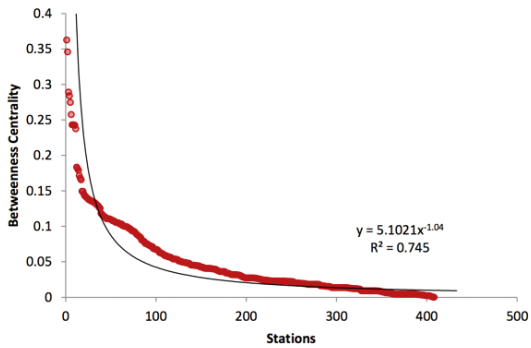
超级地块模式不能产生多样化和有弹性的土地市场，只有传统的小型地块模式才能创造这种市场，这种小型地块的规划方式具有灵活性及强大的市场适应性。

对规划师的主要经验总结：

一个充满活力的土地市场是由许多不同大小的小型地块构成的，这种模式可以在微观层面对土地进行多种多样的利用。许多开发商进入土地市场并竞争不同规模的地产项目，范围从大型写字楼到小型多户住宅。



纽约“中心程度”图（每个站点的连接线路的数量）。
Map of 'degree centrality' (number of links per station) in New York.

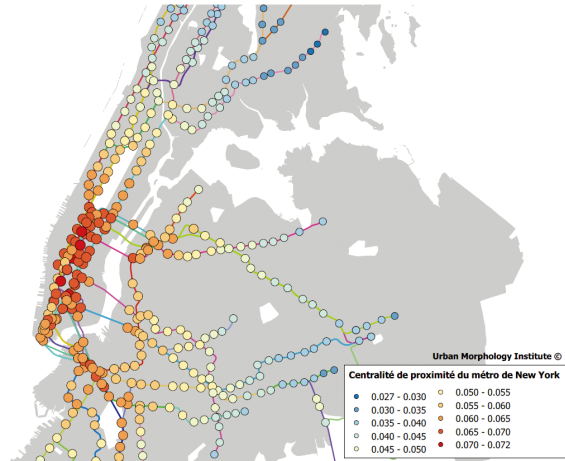


“中心中介性”是地铁的一种较强的层次结构。纽约地铁站按照“中心中介度”顺序来排名，其遵循逆幂律指数 - 1。这种特点是普遍的；我们发现在伦敦、纽约和东京都具有这一特点。

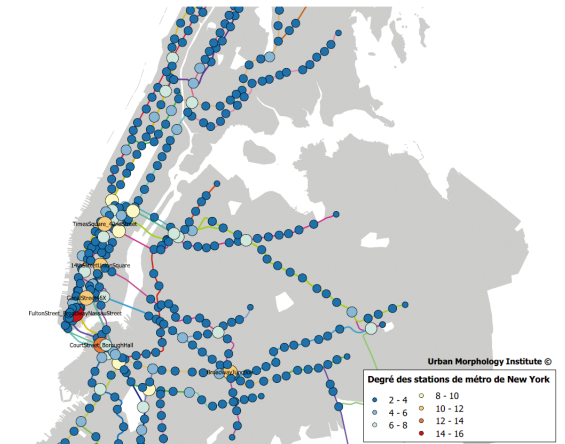
'Betweenness centrality' is a subway property with a strong hierarchical structure. Subway stations in New York ranked in the order of their 'betweenness centrality' follow an inverse power law with an exponent - 1. This property is universal and we found it also in London, New York and Tokyo.

Key lessons for planners:

A vibrant land market is made of many small blocks and small lots of diverse sizes that allow for a diversity of uses at micro-scale. Many developers can enter the market and compete for a variety of project sizes from large office buildings to small multifamily houses.



纽约“中心距离”图
（在交通网络中，一个站点到所有其它站点的距离）。
Map of 'closeness centrality' (distance in the network from a station to all the other ones) in NYC.



纽约“中心中介性”图（一个站点网络路口的道路连接数）。
Map of 'betweenness centrality' (number of routes within the network crossing in one station) in NYC.

3. Subway lines structure patterns of accessibility and economic concentration

Subway network systems, as the Web, are not egalitarian. Hubs are special. They dominate the structure of all networks in which they are present. With links to an unusually large number of nodes, hubs create short paths between any two nodes in the



“积木”数量的巨大差异解释了为什么超级地块模式不能产生多样化和有弹性的土地市场，只有传统的小型地块模式才能创造这种市场，这种小型地块的规划方式才具有灵活性及强大的市场适应性。

That huge difference in the number of the "building bricks" of the land market explains why a diverse and resilient land market cannot emerge from a superblock pattern while it emerges from traditional small lots when the planning instruments are flexible and market-responsive enough.



3. 交通方便、经济集中为特点的地铁线路结构模式

作为一种网络，地铁网络系统也不是结构均匀的。枢纽一般具有特殊的作用，它们主宰所在网络的结构，连接大量的节点之后，枢纽能够在系统中的任何二个节点之间实现更短距离的连通。

一些节点具有特殊的作用，因为有很多线路都要经过它们。这类节点就是所谓的“中介中心”，并且一个不容置疑的事实是：这些节点连接了网络的不同部分。例如，在东京，这些中介性中央站点已经成为沿着山手线的密集城市的发展起点。从插图可以看到，纽约的地铁系统有三类网络中心点，它们对交通可达性和岗位聚集密度有着不同的影响。在这里我们就不再更多论述，我们的看法都包含在下面的两条意见中：

(1) 枢纽（中心性）和站点都具有高度的“中介中心性”，即站点连接网络的不同部分，倾向于汇集高水平的经济活动。这就解释了为什么有必要在中央车站周围的73个街区重新分区，以帮助增加办公空间（提高容积率），这一点我们将在下面可以看到。在市场力量的作用下，企业将围绕地铁网络的主要关节来选择地点。这也解释了布鲁克林CBD为什么是沿着市中心和曼哈顿下城区发展的。

(2) “中心距离”图（更接近网络中的所有其他站点的站点）和我们将在下面看到的人口密度图是一样的。在市场力量的作用下，人们倾向于寻找站点附近的区域居住，以确保最大的中心接近性，并以此确保交通可达性。

对规划师的主要经验总结：

地铁网络的布局是城市经济增长和城市空间有效密度分布的一个关键要素。地铁网络的一个长期限制因素是紧凑的核心，集中了许多互联线路和半径5公里内的固定站点密度，这是受曼哈顿岛细长几何地理结构的限制。地铁网络化是问题重点所在，如果这个城市有一个高效的土地市场，他们将帮助建构一定的网络密度，在网络核心处汇集强大的经济集聚力量，以及沿交通可达性最高部分的站

system. Some nodes are also special because many routes through the network pass through them. This is called "betweenness centrality" and captures the fact that these nodes articulate different parts of the network. In Tokyo, for example, these between central stations have become the seeds of highly intense urban development along the Yamanote line. The three types of network centralities in subway networks that we have mapped above for New York have different impacts on accessibility and densities concentration. Lack of space prevents us to enter into too much detail so we will limit our comments to two remarks:

1. Hubs (degree centrality) and stations that have a high level of "betweenness centrality", that-is stations that articulate different parts of the network, will tend to concentrate high levels of economic activity. This explains why there is need to rezone 73 blocks around Grand Central at much higher FAR today to allow for the growth of their office space, as we will see below. Under market forces, firms will locate around the major articulations of subway networks. This explains also the growth of Brooklyn CBD alongside Midtown and Lower Manhattan.

2. The map of "closeness centrality" (stations that are closer to all the other ones in the network) is the same as the map of population density that we will see below. Under market forces people locate near stations that ensure the highest level of closeness, and thus of accessibility.

Key lessons for planners:

The layout of subway networks is a key element for urban economic growth and for efficient density distribution across urban space. A long term limit of subway networks is a compact core concentrating many interconnected lines and a constant density of stations in a radius about 5 km in concentric cities, that has been constrained here by the elongated geometry

点及其半径范围的居民密度，这些我们将在下节中看到。去中心化政策（新城镇、工业区）违背了人们和公司基于地铁网络结构图所做的区域选择，这样造成了空间扭曲，并可能限制城市的经济增长。

4. 高度的经济集聚提升了竞争力

纽约的城市规划已经取得令人瞩目的发展成果，拥有在金融、商业服务和企业管理领域一家独大的国际地位。纽约金融和商业服务的吸引力反映了该市在促进现实交流和信息传播方面所具有的优势。在20世纪，货物的运输成本下降了95%以上，但是其人口流动的成本并没有相应地降低¹。人口流动的主要成本是时间的机会成本，它会随着工资而上升。出于这个原因，城市代表人与人之间的物理距离的消除，并提供优质服务。另外，随着对实时信息的需求上升，所处地块的接近性有利于信息流动，这一点仍然至关重要。曼哈顿岛金融和商业服务成功的关键之处还是在于该岛具有汇聚人才和加速信息流动的巨大优势。

大量的人口聚集在一个狭窄的岛屿上，这使得曼哈顿成为一个信息枢纽。该市吸引的高素质人才和企业的倾向也促使知识和信息的流动加速。纽约在信息渠道方面实力雄厚，其最明显的一个表现是密集的信息产业，如金融或出版业，都对该城市情有独钟。

纽约市的就业岗位也具有高度集中性，在最密集的地点，每平方公里有15万个工作岗位。特别是办公场所只占纽约总办公面积的40%，面积只有6平方公里的中城区和面积只有3平方公里的曼哈顿下城区也占总办公面积的20%。这样一来，在这个占该市土地面积1%的区域，其办公空间却占纽约总办公空间60%以上。这种工作岗位超密度的模式是最有竞争力城市的一大特征²。

of Manhattan island. The network properties of the subway network matter and if the city has efficient land markets, they will structure densities, with both intense forces of economic agglomeration in the core of the network, and distribution of residential densities along the most accessible parts of the spokes radiating form the network as we will see in the next sections. Decentralization policies (new towns, industrial zones) that go against these locational choices of people and firms structured by subway network geometry introduce spatial distortions that may limit urban economic growth.

4. Intense economic agglomeration fosters competitiveness

New York's remarkable survival is a result of its dominance in the fields of finance, business services, and corporate management. The attraction of finance and business services to New York reflects the city's advantages in facilitating face-to-face contact and the spread of information. Transportation costs for goods have declined by 95 percent over the twentieth century¹, but there has been no comparable reduction in the cost of moving people. The primary cost involved in the movement of people is the opportunity cost of time, which rises with wages. For this reason, cities, which represent the elimination of physical distance between people, still excel in delivering services. In addition, as the demand for timely information rises, the proximity that facilitates the flow of that information continues to be critical. The success of finance and business services on the island of Manhattan hinges critically on the advantage that the island has in bringing people together and speeding the flow of knowledge.

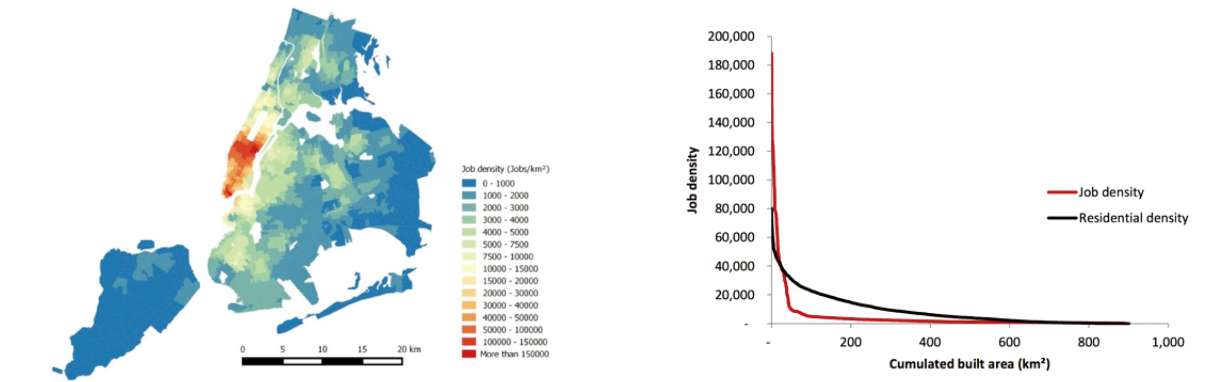
The vast number of people crammed together on a narrow island is what makes Manhattan an information

¹ 爱德华·格莱泽，珍妮特·克合海斯；“城市、地区和运输成本的下降”，论文；科学：83期；第197-228页（2004）DOI: 10.1007 / s10110-003-0183-X。

² 伦敦是第一个最有竞争力的全球经济城市和第一个全球金融中心，与纽约具有类似的城市规划模式。伦敦市三分之一（150万个）工作岗位集中在16平方公里的区域（占大伦敦面积的1%），其中，中转站的密度具城市最高水平。此外，有45万个就业岗位集中在伦敦金融城1平方英里（约2.9平方公里）的区域，该区域在过去十年的就业岗位数增加了30%，其工作岗位密度达到每平方公里15.5万个工作岗位。伦敦内三分之一（319平方公里）的办公空间都集中在城市10%的土地上。

¹ Edward L. Glaeser, Janet E. Kohlhase, "Cities, regions and the decline of transport costs", *Papers Reg. Sci.* 83, 197-228 (2004) DOI: 10.1007/s10110-003-0183-x.

² London, the first most competitive global economy and the first global financial center with New York, shows similar patterns. One third (1.5 million) of London jobs are concentrated in 16 km² (1% of Greater London area) where the density of transit stations is at its highest level. Within this third, 450,000 jobs are concentrated in The Square Mile (2.9 km²) of The City of London, which has increased its number of jobs by 30% during the last decade, to reach densities of jobs of more than 155,000 jobs/km². One third of Inner London (319km²) office space is concentrated in 1% of its land area in The City of London.

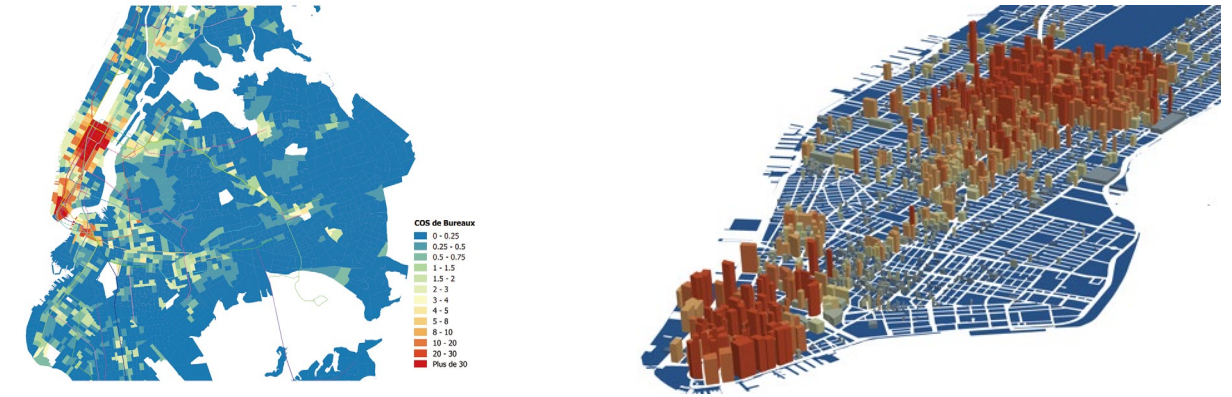


左图：在纽约市工作岗位密度最高的地方是曼哈顿经济集聚区，最高为每平方公里超过 15 万个工作岗位。
右图：纽约城市空间工作岗位密度遵循幂律指数 -1 的层次分别（在等级大小分析方面）。这种逆幂律在纽约、伦敦和巴黎有着相同的形式。对于这些城市，如果我们使用每个边长 200 米的正方形网格来衡量各个小区的工作岗位数量，然后对其进行排列，具体如下：工作岗位密度大的小区为 x 轴，工作岗位密度为 y 轴，这样我们可以发现各地的就业分布和工作岗位密度水平之间的关系，工作岗位数量位于曲线下方的区域。对每个城市，我们使用逆幂律指数 -1 都能得到一种近乎完美的经验数据调整。这表明，在这些城市，工作岗位数量最多地方都集中在高度集中的有限区域（占纽约和伦敦 150 万个就业岗位的三分之一），然后随着空间的扩张急剧下降。办公空间密度的逆幂律要比指数 -1.7 层次更加明显。住宅密度分布要比工作岗位密度更加均匀，其层次系数 - 0.74。

Left: Jobs densities in New York City peak over more than 150,000 jobs/km² in the highest economic concentrations of Manhattan.

Right: Jobs density distribution across New York urban space follows a power law of hierarchy exponent -1 (in a rank size analysis). This inverse power law has exactly the same form in New York, London, and Paris. If we grid each of these cities by a grid of squares 200-m side and measure the number of jobs in each cell and then rank the cells from the more dense in jobs on the x axis with the density of jobs on the y axis we find the law of distribution and level concentration of jobs across the urban space, with the number of jobs being the area under the curve. In each city, we have an almost perfect adjustment of the empirical data with an inverse power law of exponent - 1. This shows that jobs in each city peak in limited areas (one third of the jobs, 1.5 million jobs, in about in 15 km² in New York and London) of high concentration and then decrease sharply with spatial expansion. Office density inverse power law is even sharper with a hierarchy exponent -1.7. Residential densities are distributed more evenly than jobs with a hierarchy coefficient of - 0.74.

来源：城市形态和综合系统研究所
Source: Urban Morphology and Complex Systems Institute



左图：纽约办公大楼容积率大于 30 的地方主要集中在曼哈顿中城区、曼哈顿下城区和布鲁克林 CBD。
右图：曼哈顿办公大楼的 3D 图。纽约办公空间的 60% 集中在占纽约市土地面积的 1%、面积 9 平方公里的曼哈顿中城和曼哈顿下城区。

Left: Office FAR in New York is concentrated in Manhattan Midtown, Lower Manhattan, and Brooklyn CBD, with FARs above 30.
Right: 3D map of office FAR in Manhattan. 60% of NYC office space is concentrated in 1% of NYC land area, in 9 km² in Midtown and Lower Manhattan.

来源：城市形态与综合系统研究所
Source: Urban Morphology and Complex Systems Institute

在纽约市，曼哈顿中城区和曼哈顿下城区之间相距不到 20 分钟车程。在 20 分钟车程内的区域，是工作岗位产生和经济发展的主要所在地。工作地点可达性产生了这样一个反馈环路：要么促进已经有大量就业机会的地点创造更多的就业机会，要么抑制就业机会不足的地点增加就业机会。换言之，企业的区位选择受就业人数或其他公司数量的驱动，企业的地点应能让员工通过交通工具在很短时间内可抵达（20 分钟“等时线”通勤时间界定了曼哈顿集聚区的面积大小）。

对规划师的主要经验总结：

在城市交通最方便和最高连通性的区域，工作岗位的密度也最高，这也会促进经济集聚和提高生产力。规划人员应在这些区域设定比较高的容积率来鼓励集聚更多的经济单位。

5. 工作岗位和居住密度应与交通可达性相匹配

城市的福祉依赖于劳动力市场。劳动力市场越大，城市就具有越高的创新能力和生产力。

但条件是，随着城市的发展，劳动力市场没有分裂成更小的毗邻市场。因此，保持流动性对确保城市的经济活力至关重要。保持流动性有两个重要意义：第一，管理好交通系统，可提高大都市劳动力和货物流通的效率；第二，法规和土地供应的不足，不会阻止企业和家庭选择在能够最大限度提高其福利的区域驻扎或定居。在纽约市，在一个给定区域的人口密度与 30 分钟内交通可达性的就业机会数量相匹配。在可提供大量就业机会的区域，住宅开发速度很快，而在相反的区域则会降低。

对规划师的主要经验总结：

在市场力量的作用下，企业一般会选择接近高密度企业和人员的集聚区，通过选址在接近最高就业机会的地区来最大限度地发挥其区位优势。规划应鼓励企业的这类区位选择。这也意味着，当情况发生改变时，企业和家庭应该能够以较低的交通成本更换地点。把城市主要视为劳动力市场，会对城市的管理产生重要的运作影响，特别是交通系统的发展方式和允许的土地市场操作的方式。

6. 对高密度微小地块进行灵活的分区也能够帮助创造价值

纽约市分区方案被频繁修改，既为了使分区适应城市的快速变化，也是为了执行城市规划委员会章程规定的责任：规划的实施是为了促进有序发展、完善城市功能和加快城市未来发展。

根据纽约市规划局，“分区方案是城市发展的蓝图。它须有足够的灵活性，能解决科技进步、街区转变、土地利用方式改变和新兴设计理念方面带来的挑战，使纽约继

hub. The flow of ideas has been exacerbated by the tendency of highly skilled people and industries to locate in the city. The most visible result of New York's strength as a conduit for information is its penchant for information-intensive industries, such as finance or publishing, to locate in the city. Jobs densities in New York City show high levels of concentration, peaking at 150,000 jobs/km². In particular office space is highly concentrated with 40 % of total NYC office space in 6 km² in Midtown and an additional 20 % in 3 km² of Lower Manhattan, leading to 60% of NYC office space concentrated in 1% of its land area. This pattern of hyper density of jobs is characteristic of the most competitive cities².

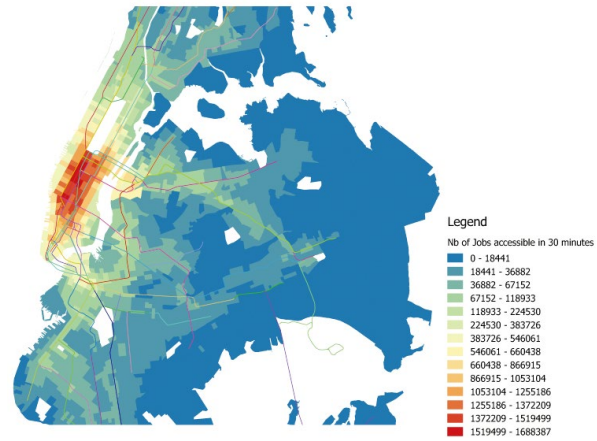
In New York City, Midtown and Lower Manhattan are located less than 20 minutes apart by transit. Job creation and economic growth occur in areas where there are already many jobs accessible in 20 minutes. Jobs accessibility creates a feedback loop that: either encourages job creation in places where many jobs are already accessible, either discourages job creation in places where few jobs are accessible. In other terms, locational choices of firms are driven by the number of jobs or of other firms to which they can access in short amounts of time by transit (the 20 minutes “isochrones” door to door by transit defining the area of agglomeration in Manhattan).

Key lessons for planners:

High densities of jobs concentrated in the most accessible and connected parts of cities foster economic agglomeration and increase productivity. Planners should encourage agglomeration economies by setting very high FARs in these locations.

5. Jobs and residential densities should be aligned with levels of transit accessibility

The welfare of cities is dependent on their labor markets. The larger the market, the more innovative and productive the city, as long as labor markets do not fragment into smaller adjacent markets as they grow. Maintaining mobility is therefore essential to the economic viability of cities. Maintaining mobility has two implications: first, managing a transport system that allows an efficient movement of labor and goods across metropolitan areas, and second, insuring that regulations or inadequate land supply does not prevent firms and households from settling in the area that will maximize their welfare. In NYC, population densities in a given location are aligned with the number of jobs accessible in 30 minutes by transit from this location. Residential development increases strongly in locations

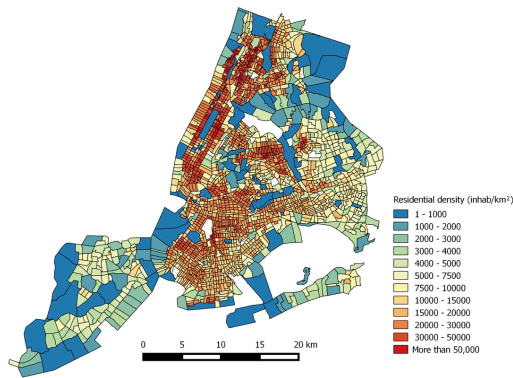


此图显示的是在纽约的任何位置到上班地点 30 分钟通勤时间内的就业机会数量。蓝色区域表明在 30 分钟通勤时间内该地区拥有不到 2 万个工作岗位，表明存在较高的失业率和贫困度，而最红的地区在 30 分钟通勤时间内拥有 150 万个就业机会，呈现较高的集聚经济，同时提供给居民更多的其它机会。不同层次的工作地点可达性与公交线路的数量和配置有很大的关系。

This map shows the number of jobs accessible by transit in 30 minutes door to door from any location in NYC. Blue areas have access to less than 20,000 jobs by transit and show high levels of unemployment and poverty while the reddest areas have access to more than 1.5 million jobs in 30 minutes by transit and present high levels of agglomeration economy while offering high opportunities for their residents. The different levels of jobs accessibility are aligned with transit lines.

来源：城市形态与综合系统研究所
Source: Urban Morphology and Complex Systems Institute

续保持世界上最伟大的城市之一的地位。” 在过去九年中，9400 个地块——相当于全市的大约五分之一——已经重新规划分区。在公共交通方便的区域和步行就可抵达的社区，人口密度明显增加。在这些地区配有各种零售、生活服务、社区设施和就业场所，并且无需使用交通工具就可方便地到达。在这样一个住房总是供不应求的城市，老工业区和已建成的交通设施良好的街区，也重新提供面向市场的可负担得起的房屋开发的新机会，促进人口密度的增加。分区也被用于城市关键区域执行全面发展计划、促进投资和经济机会。纽约市经济战略的目标是未来二十年在已经超密集的曼哈顿地区通过在市中心对 73 个街区的重新划分及在市中心以西的哈德森园区开发超密集的项目，创造 44 万个就业机会来进一步增加就业密度，实现纽约就业份额 20% 的增长。纽约市规划部门对曼哈顿市中心地带的容积率也重新设定为：住宅最高 18，混合用途房屋最高 21.6 和办公房屋 24，发展的边际倍数最高为地区发展红利的 12 和 15 倍之间。在纽约哈德逊园区，执行分区调整的



该图显示纽约的居住密度分布。人们对居住地点的选择基于从居住地交通可达的工作岗位的最大数量。

Map showing the residential density distribution in NYC. People locational choices maximize the number of jobs accessible from their location.

来源：城市形态研究所
Source: Urban Morphology Institute

where a high number of jobs is accessible and decreases in areas where jobs are less accessible.

Key lessons for planners:

Under market forces firms locate close to high concentrations of other firms and people maximize their utility by locating closer to the highest number of jobs opportunities. Planning should encourage these locational choices. This implies also that firms and households should be able to change location with low transaction costs when their circumstances are changing. Considering cities primarily as labor markets has important operational implications for the management of cities, in particular in the way transport systems are developed and the way land markets are allowed to operate.

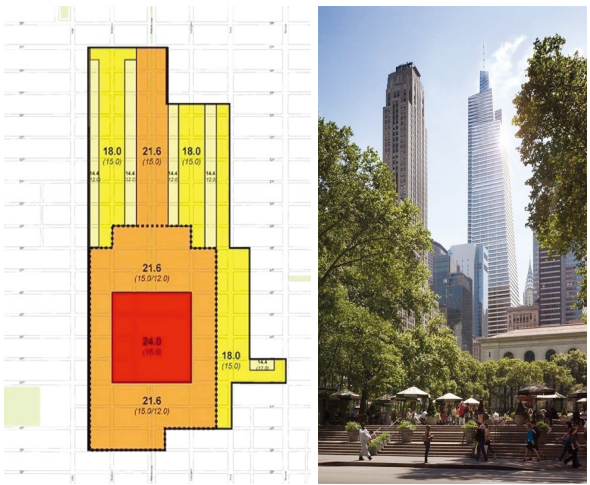
6. Flexible zoning for very high densities with fine granularity creates value

New York City Zoning Resolution is amended frequently, both to keep zoning up-to-date in a rapidly changing city and to fulfill the City Planning Commission's charter-mandated responsibility "for the conduct of planning relating to the orderly growth, improvement and future development of the city". According to New York City Department of City Planning, "the Zoning Resolution is a blueprint for the development of the city. It is flexible enough to address the advances in technology, neighborhood transformations, changing land use patterns and emerging design philosophies that combine to make New York one of the great cities



纽约市的就业岗位也具有高度集中性，在最密集的地点，每平方公里有 15 万个工作岗位。特别是办公场所只占纽约总办公面积的 40%，面积只有 6 平方公里的中城区和面积只有 3 平方公里的曼哈顿下城区也占总办公面积的 20%。

Jobs densities in New York City show high levels of concentration, peaking at 150,000 jobs/km². In particular office space is highly concentrated with 40 % of total NYC office space in 6 km² in Midtown and an additional 20 % in 3 km² of Lower Manhattan, leading to 60% of NYC office space concentrated in 1% of its land area.



左图：东部曼哈顿中城的重新分区。

右图：东城一范德比尔特新摩天大楼将直接连接到中央车站。

Left: East Midtown Manhattan rezoning.

Right: East Midtown One Vanderbilt new skyscraper will be directly connected to Grand Central.

资料来源：纽约市规划局
Source: NYC Department of Planning

街区高达 33 个，伴随着合理的发展和最大住宅红利及地区发展红利，将会带来巨大的边际发展倍增效应。

对规划师的主要经验总结：

灵活的分区可以更好地适应市场的需求，也是在公共领域提升和包容性住房方面获取更多价值的一个有效方

of the world". Over the past nine years, over 9,400 blocks - equal to roughly one-fifth of the city - have been rezoned. Increases in density are found in transit-oriented locations within walkable communities that offer a variety of retail, service, community facility and employment destinations that can be comfortably reached without having to use an automobile. In a city where housing is always in short supply, new opportunities for housing development, market-rate and affordable, have been created in former industrial areas and in established neighborhoods with good transit connections that can sustain increased density. Zoning has also been used to implement comprehensive plans to catalyze investment and economic opportunity in critical areas of the city. The economic strategy of New York City aims to further increase the density of jobs by capturing the 440,000 jobs increase in the next two decades in the already hyper-dense areas of Manhattan both by rezoning 73 blocks in Midtown, and by developing hyper-dense projects, West of Midtown, in Hudson Yards with the aim of capturing there in 20% of New York jobs growth. Midtown Manhattan FAR has been reset at a maximum 18 for residential, 21.6 for mix use and 24 for office in rezoning by NYC Planning Department with a margin of progression between 12 and 15 up to the maximum for district improvement bonus. Adapted zoning up to 33 is also implemented in NY Hudson Yards with huge margins of progression between as-of-right development and maximum with inclusionary housing bonus and district improvement bonus.

导语 Introduction

2015年10月29日，2015“全球人居环境奖”在联合国总部隆重揭晓。华电国际电力股份有限公司山东分公司的“大型再热机组循环水直接供热改造技术的研究与应用”项目喜获“全球人居环境绿色技术范例”殊荣。该技术提高了城镇化发展迅速的城镇居民采暖的可靠性和质量，推动了供热行业的科技创新和技术进步。本文介绍了其在节能减排和可持续人居环境方面所做的积极努力和成功经验，特此分享，以飨读者。

On October 29, 2015, the 2015 Global Human Settlements Award Ceremony was successfully held at UN Headquarters. Shandong Branch of Huadian Power International Corporation Limited won the honorary award of "Global Human Settlements Model of Green Technology" with its "research and application of the large reheat-type unit heating transformation technology directly using high-temperature circulating water" project. In the context of rapid urbanization, this technology improves the reliability and quality of the urban heating and promotes the technological innovation and technological progress of the heating industry. This article describes the positive efforts and successful experience in energy conservation and sustainable human settlements.



联合国环境规划署可持续消费与生产部部长阿拉布·霍巴拉先生为华电山东分公司颁奖
Mr. Arab Hoballah, Chief, Sustainable Consumption and Production, UNEP, presented the award to Huadian Shandong Branch



华电莱州发电有限公司外景图 Photo of Huadian Laizhou Power Corporation

Dedication to Providing Clean and Efficient Energy for Human Settlements

--The Road to Energy Conservation & Emission Reduction and High Back-Pressure Heating Transformation of Huadian Power International Corporation Ltd, Shandong Branch

为人居环境奉献清洁高效的能源 ——华电山东分公司的节能减排、高背压供热改造之路

厉吉文 华电国际电力股份有限公司山东分公司副总经理、总工程师

Li Jiwen, Deputy General Manager & Chief Engineer, Huadian Power International Corporation Ltd, Shandong Branch

华电国际电力股份有限公司山东分公司（下文简称“华电山东分公司”）是华电国际电力股份有限公司装机容量最大的区域公司，现管理10家火电企业及部分风电、热力和港务公司，总资产480亿元，员工13330人；运营41台火电机组，装机容量1548万千瓦，是中国山东省第二大发电公司。

2009年12月，在哥本哈根联合国气候变化大会上，中国对世界做出了郑重承诺：到2020年，中国

Shandong Branch of Huadian Power International Corporation Limited (hereinafter referred to as Huadian Shandong Branch) is a regional branch company with the largest installed capacity in Huadian Power International Co., Ltd. It currently manages 10 thermal power generation companies and some wind power, heating power and the port enterprises, with the total assets of 48 billion yuan. It also employs 13330 staff and operates 41 thermal power stations

单位国内生产总值二氧化碳排放量比 2005 年降低 40% – 45%。2015 年 11 月，中国国家主席习近平在巴黎气候变化大会上提出，中国将于 2030 年左右使二氧化碳排放达到峰值并争取尽早实现，2030 年单位国内生产总值二氧化碳排放比 2005 年下降 60% – 65%。中国是一个负责任的大国，为了履行自己的承诺，中国政府对燃煤机组的节能减排提出了越来越严格的要求。

华电山东分公司积极响应国家号召，秉承中国华电集团的企业理念和社会责任，牢固树立“超低排放”、“超低能耗”的“双超”理念，严格按照中国关于燃煤机组节能减排、升级改造行动的总体部署，坚定不移地走“节能减排”之路。截至 2015 年 9 月，公司累计安排资金近 70 亿元，共计完成 41 台脱硝、32 台脱硫增容、28 台除尘器、41 台脱硫旁路拆除和 1 台超低排放改造，走出了一条燃煤机组清洁高效的可持续发展之路，推进了生态文明建设。2014 年 12 月，随着章丘公司 3 号机组污染物超低排放改造工程顺利通过 168 小时试运行，华电山东分公司正式拉开燃煤机组“超低排放”序幕，计划在 2017 年底之前全部完成 30 万千瓦以上机组超低排放改造。

华电山东分公司的大型再热机组循环水直接供热改造技术，系统地研究了大功率、高参数凝汽式汽轮机循环水直接供热技术的特点，并通过高背压转子和纯凝转子的互换，实现了供热季高背压和非供热季纯凝双模式运行，保证了机组高背压供热工况和纯凝工况下的热效率。此项研究成果已在二台 135MW 等级机组、一台 300MW 机组上成功应用。2015 年供热季以前，又在华电滕州新源热电公司的 150MW 机组上成功实施，已经顺利完成一个供热季的运行。目前该项技术已经获得中国电力科技进步二等奖一项、中国华电集团科技进步一等奖两项，获得授权的发明专利和实用新型专利 10 余项，打造了一张创新发展的科技名片，成为中国华电集团节能减排工作的亮点和窗口。

with the installed capacity of 15.48 million kilowatts, thus becoming the second-largest power generation company in Shandong Province of China.

At the UN Climate Change Conference in Copenhagen in December 2009, the Chinese government made a solemn commitment to the world: by 2020, China's carbon dioxide emissions per unit of GDP will fall by 40% -45% compared to that of 2005. In November 2015, Chinese President Xi Jinping at the Paris Climate Change Conference proposed that the carbon dioxide emissions in China will peak in 2030 or so, which will be achieved with great efforts as soon as possible; by 2030 China's carbon dioxide emissions per unit of GDP will drop by 60% -65 % compared to that of 2005. In order to fulfill its commitments, Chinese government has proposed more stringent requirements on energy conservation and emission reduction of coal-fired units, which indicates that China is a responsible country.

Huadian Shandong Branch positively responds to the national call, upholds China Huadian Group's corporate philosophy and social responsibility, firmly establishes the "ultra-low emission", "ultra-low energy consumption" and "double super" concept, strictly complies with Chinese government's overall arrangements on energy conservation & emission reduction and updating and transformation of coal-fired units, and unswervingly abides by the principle of "energy conservation & emission reduction". As of September 2015, the branch company has spent a total of nearly 70 billion yuan in completing the demolition of 41 sets of denitrification equipment, 32 sets of desulfurization equipment, 28 sets of precipitators, 41 sets of desulfurization-related equipment and the renovation of 1 set of ultra-low emission equipment,



华电青岛发电有限公司
Huadian Qingdao Power Corporation

随着城市建设的发展以及居民生活水平的提高，供热负荷的需求越来越大，城镇居民的供热方式也由汽网变成水网。大型再热机组利用循环水直接供热，扩大了热源容量，能够满足城市较大面积的居民采暖需求。2015 年至 2016 年供热季，四台高背压循环水供热机组总供热量 1004 万吉焦，满足城市居民 2420 万平方米的供热需求，截止 2015 年至 2016 年供热季结束，华电山东分公司共有 10 家发电企业的 32 台机组参与供热，供热面积突破 8000 万平方米，总供热量 3222 万吉焦。

正是由于其突出的节能减排成效和对可持续人居环境的巨大贡献，大型再热机组循环水直接供热改造技术才在众多参评技术中脱颖而出，被全球人居环境论坛（GFHS）授予“全球人居环境绿色技术范例”荣誉。这对华电国际电力股份有限公司甚至对中国电力行业都是巨大的肯定和鼓舞。

多年来，华电山东分公司在节能减排方面做了大量卓有成效的工作。公司结合区域内发电企业实际情况，积极实施节能改造，自 2015 年 5 月起组织开展了邹县电厂、十里泉电厂 300MW 等级机组节能改造项目的前期研究工作，经过调研和论证，确定了机组进行高效亚临界改造的节能改造方案，实施后机组供电煤耗预计可下降 15g/(kW·h)，将以上节能改造技术推广应用到华电山东分公司全部 22 台 300MW 等级机组，实施节能改造后，预计每年可以节约标准煤 50 余万吨。与此同时，公司还在锅炉提效和煤洁净燃烧方面采取有利措施。开展了纯氧助燃、微油点火改造技术，以减少锅炉点火的燃油量；加大“深度降烟温”项目的技术与推广力度，采用安装于锅炉尾部烟道的多级低压省煤器以降低锅炉排烟温度和排烟损失，提高机组热效率。

正是通过坚持不懈的科技创新和节能减排工作，2015 年华电山东分公司全部 41 台燃煤发电机组的平均供电煤耗

thus achieving the sustainable development of clean and efficient energy of coal-fired units, and promoting the construction of ecological civilization. In December 2014, Zhangqiu Company's Unit 3 pollutant ultra-low emissions renovation project was successful in passing the 168-hour test run. Huadian Shandong Branch officially started the "ultra-low emission" campaign of coal-fired units and was scheduled to complete the ultra-low emissions transformation of all units of 300,000 kilowatts or more.

In the case of large reheat-type unit heating transformation technology directly using high-temperature water, Huadian Power International, Shandong Branch made the systematic study of the characteristics of high-power, high-parameter steam-condensing turbine circulating water direct heating technology, and achieved the dual-mode operations of high back-pressure in the heating season and the pure condensing in the non-heating season through the exchange of high back-pressure rotors and pure condensate rotors, to ensure the thermal efficiency of the dual-mode operations. The research result has been successfully applied in the two sets of 135MW units and one unit of 300MW. Before the start of the heating season in 2015, it was also successfully implemented on the 150MW units of Huadian Tengzhou Xinyuan Thermoelectric Company, which had successfully operated for one heating season. Currently, China Power Technology Progress Grade-2 Award and China Huadian Group Technology Progress Grade-one Award have been granted for the technology, with more than 10 invention patents and utility model patents. It has created a good science and technology card of innovation and development, and become the highlight and window of energy conservation and emission reduction for China Huadian Group.

With the development of urban construction, and improvement of living standards, there is a growing demand for heating and the heating mode of urban residents also shifts from the steam network to the water network. Large reheat-type units use recycled water for direct heating and expands heat source capacity, thus better meeting heating needs of urban residents in a larger area. For the heating season of 2015-2016, the four sets of high back-pressure circulating water heating units generated the total heating capacity of 10.04 million GJ to meet the heating demand of 24.2 million square meters of urban residents. As of the end of 2015-2016 heating season, Huadian Shandong Branch had a total of 32 units from the 10 power generation companies to get involved in heating, of which the



正常背压的低压缸转子
High Back-Pressure of Low-pressure Cylinder Rotor



高背压的低压缸转子
High Back-Pressure of Low-pressure Cylinder Rotor



随着城市建设的发展以及居民生活水平的提高，供热负荷的需求越来越大，城镇居民的供热方式也由汽网变成水网。大型再热机组利用循环水直接供热，扩大了热源容量，能够满足城市较大面积的居民采暖需求。

With the development of urban construction, and improvement of living standards, there is a growing demand for heating and the heating mode of urban residents also shifts from the steam network to the water network. Large reheat-type units use recycled water for direct heating and expands heat source capacity, thus better meeting heating needs of urban residents in a larger area.



为 303.89g/(kW·h)，比 2010 年降低了 20.38g/(kW·h)，2015 年全年发电量为 827.81 亿千瓦时，以此计算的节煤量为 168.7 万吨，相当于 2 个中型煤矿的年采煤量。公司节能减排成效得到同行业和国内外社会各界的肯定。

华电山东分公司将不负众望，再接再厉，大力推广先进绿色技术，加强煤炭清洁高效利用，强化环保设施运维监管，推进超低排放改造升级，进一步提升绿色科技支撑力，展现公司安全美、环境美、科技美、人文美，树立“绿色华电”良好形象。公司计划 2016-2018 年扩大现有机组的供热量，提高发电企业的供热能力，继续对现有的机组进行高背压循环水供热改造和抽汽供热改造（抽汽至厂内供热首站加热热网循环水），将两台 145MW 机组和两台 300MW 等级机组改成高背压循环水供热机组，将一台 300MW 等级机组和一台超临界 670MW 机组改成抽汽供热机组，届时，供热量达到四千万吉焦，能够满足一亿多平方米供热面积的采暖需求，让更多城镇居民能享受高品质的供热服务，共创美好的人居环境。

随着当代社会与经济的飞速发展，节能减排和环境保护问题越来越受到人们的关注，成为了当今社会的焦点。奉献清洁能源，留住碧水蓝天，是我们不懈的追求。华电愿做中国节能减排先锋，在通往可持续人居环境的路上，为和谐美丽的中国未来做出新的更大的贡献。



华电十里泉电厂
Huadian Shiliquan Power Plant

heating area exceeded 80 million square meters, with the total heating of 32.22 million GJ.

It is because of its outstanding energy saving and emission reduction performance and great contribution to sustainable human settlements, large reheat-type unit heating transformation technology directly using high-temperature water stands out of many participating technologies, and is granted by Global Forum on Human Settlements (GFHS) the honorary title of "Global Human Settlements Model of Green Technology". This is a huge affirmation and encouragement to both Huadian Power International Corporation Limited and even China's power industry.

Over the years, Huadian Shandong Branch has done a lot of fruitful work in terms of energy conservation and emission reductions. Based on the actual situations of power generation enterprises within the region, it actively implements energy-saving transformation. Since May 2015 it has organized a preliminary study on the energy-saving transformation of 300MW units at Zou County Power Plant and Shiliquan Power Plant, and through research and demonstration determines the program on the efficient subcritical energy-saving transformation of the units. As a result of the implementation of such program, the coal consumption of the units is expected to decline by 15 g / (kW · h). And after the energy-saving technology is promoted and used for all 22 units of 300MW steam turbine of Huadian Shandong Branch, through the implementation of energy-saving transformation, it's estimated that the annual saving of standard coal may reach more than 500,000 tons. At the same time, the branch company has adopted the favorable measures for boiler efficiency improvement and clean coal combustion. In addition, it has also carried out the pure oxygen combustion and trace oil ignition transformation technique to reduce the amount of fuel for boiler ignition, increased the efforts on the technology research and promotion of "In-depth flue

temperature drop", and used the multi-stage low-pressure coal economizers installed at the rear of the boilers to reduce the boiler exhaust temperature and exhaust loss, thus enhancing the thermal efficiency of the units.



华电莱州发电有限公司
Huadian Laizhou Power Corporation



十里泉 #5 机背压转子
Shiliquan #5 Back-pressure Rotor



十里泉 #5 机纯凝转子
Shiliquan #5 Pure Condensing Rotor

Through the persistent technological innovation and energy conservation & emission reduction, all the 41 coal-fired units of Huadian Shandong Branch in 2015 had the average coal consumption of 303.89g / (kW · h), dropping by 20.38 g/ (kW · h) compared to that of 2010. The annual power capacity generated in 2015 reached 82.781 billion kwh, saving 1.687 million tons of standard coal, equivalent to the annual coal mining output of two medium-sized coal mines. The energy-saving and emission-reducing results of the company have been affirmed by its industry counterparts and the community at home and abroad.

Huadian Shandong Branch will make persistent efforts to live up the expectations by promoting advanced green technology, enhancing the clean and efficient use of coal, strengthening the operation & maintenance and regulation of environmental protection facilities, promoting the transformation and upgrading of ultra-low emissions and further improving the support of green technology to show the merits of its security, ecology, environment, technology and humanity and establish a "green Huadian" good image. According to the plan of the branch company, in 2016-2018 it will expand the heat supply of the existing units, improve the heating capacity of power generation companies and continue to make high back-pressure circulating water heating renovation and extraction heating reconstruction for the existing units (extractions to the first heating station's heating network circulating water) by transforming the two 145MW units and two 300MW units into high back-pressure circulating water heating units and changing one 300MW unit and one 670MW supercritical unit into extraction heating units. After this, its heating capacity will reach up to 40 million GJ, which is sufficient to meet the heating demand of more than one hundred million square meters of heating area so that more urban residents can enjoy high-quality heating service, thus jointing hands to strive for better living surroundings.

With the rapid development of modern society and economy, the energy saving and environmental protection has received increasing attention and has also become the focus of today's community. Dedication to clean energy and the prevention from air and river pollution is our unswerving pursuit. Huadian is willing to act as a pioneer in energy conservation and emission reduction, making greater contributions to the harmonious society and beautiful future of China on the way to sustainable human settlements.

Global Low-carbon Eco Scenic Spot: Huangguoshu Waterfall Scenic Area

全球低碳生态景区 ——中国黄果树风景名胜区

景区概况

黄果树风景名胜区位于中国贵州省西南部，距省会贵阳市 128 公里，距西线旅游中心城市安顺 45 公里，距黄果树机场 42 公里，沪昆高速公路直达景区，沪昆高铁穿境而过。

黄果树风景名胜区自 1977 年筹建以来，始终坚持“科学保护、合理开发”的原则，先后投入近 40 亿元实施了一批景区保护和旅游开发工程，高标准完善了景区的供水、排污、道路、电力、照明、消防、生态绿化、水环境综合治理等系统工程，实现了景区污水集中处理和达标排放，通过了国家 ISO9001 质量管理体系、ISO14001 环境管理体系认证。

景区除闻名中外的黄果树大瀑布景区外，还拥有天星桥景区、滴水滩瀑布景区、坝陵河访古景区、石头寨景区和郎宫景区。整个游览线路 40 余公里，推出了以瀑布家族、典型喀斯特地貌自然山水风光的生态观光游，以地方布依民族民俗文化、抗战文化、西游文化为内涵的历史文化游，以滑石哨为代表的乡村民族民俗体验游，以坝陵河国际低空跳



陡坡塘瀑布

伞、镇宁·黄果树国际半程马拉松赛等国际赛事为代表的体育健身旅游，以国际啤酒节、生态论坛等国际活动及 6D 生态科普馆为代表的科技文化体验游，以红崖天书为代表的科考教育旅游，极大地丰富了景区游览内涵。

黄果树风景名胜区秉持“天人合一”的发展理念，坚持在开发中保护、在保护中开发，每年投入大量资金实施景区生态绿化建设和环境保护工作。

一是大力加强景区生态文明建设，大力实施景区山体绿化、退耕还林、天然林保护、石漠化综合治理等生态建设，全区森林覆盖率从 1999 年的 30.35% 提高到 2015 年的 53%，核心景区森林覆盖率达到 70% 以上，平均每年递增 1 个多百分点。2011 年以来投入近 10 亿元实施了黄果树大瀑布上游村寨 923 户群众移民搬迁及生态绿化建设恢复工程，为景区申报世界自然遗产打下坚实基础。2014 年，启动黄果树生态文明建设暨绿色黄果树行动计划，计划从 2014 年至 2020 年，用 7 年的时间完成造林绿化 2.7 万亩，使全区森林覆盖率达到 65% 以上，核心景区森林覆盖率达到 90% 以上。二是在移民搬迁区内，按照《黄果树风景名胜区总体规划》的指引，成功实施“三线地理”和污水处理工程。景区的建设和古建筑的保护，采用本地传统环保建材，尽量减少垃圾产生；景区绿化美化和环境整治因地制宜，道法自然。

黄果树风景名胜区以黄果树大瀑布为核心资源，以千姿百态、风格各异的瀑布群为主体，兼有水旱溶洞、石林峰丛、河谷山峡等喀斯特地貌景观类型，同时具有独特的民族文化风情、丰富的历史人文胜迹、优美的村寨田园风光和宜人的气候环境条件，为开展短期避暑度假、近程自驾游憩、户外越野探险、民俗风情体验、科学考察交流等活动提供了优越的资源基础。今后，黄果树将以“统筹景



区定位，实现差异发展”的规划思路，构建“一轴一带六景区、两心两园两特色”的空间和特色结构，在定位和规划上突出体现保护生态的特点，规划建设国家城市（湿地）公园和轨道交通系统，打造新型城镇、休闲农业与乡村旅游相结合的特色低碳旅游产业。同时，注重资源保护，加强污染防治，未来黄果树一定能成为倡导绿色旅游、坚持低碳发展、宜居宜游的全球优秀低碳生态景区。

景区发展优势

1. 资源优势：黄果树风景名胜区融亚热带山水植被风光、壮美瀑布群、神奇喀斯特、布依族风情、历史古迹、神秘古文化为一体，年平均气温 15.6 摄氏度，冬无严寒，夏无酷暑，气候温和；负氧离子含量多达每立方厘米 2.8 万个，素有“天然大氧吧”之称；温泉资源富集，偏硅酸、锶、氟等矿物质含量达到国家饮用泉水标准，是旅游、休闲、运动、疗养的理想胜地。

2. 交通优势：景区内交通非常便捷。公路方面，沪昆高速公路直达景区，从贵阳龙洞堡机场至景区全程高速，用时仅 80 分钟；铁路方面，正在建设的沪（上海）昆（昆明）高铁经过景区，预计 2016 年开通；航空方面，黄果树机场（位于安顺市）目前已开通至北京、重庆、广州、上海、昆明、三亚等地的航线。

3. 政策优势：《国务院关于促进贵州经济社会又好又快发展的若干意见》（国发〔2012〕2 号）提出：“探索特色民族文化与旅游融合发展新路子，努力把贵州建设成为世界知名、国内一流的旅游目的地、休闲度假胜地和文化交流的重要平台。”《中共贵州省委贵州省人民政府关于进一步支持安顺加快经济社会发展的意见》（黔党发〔2012〕15 号）提出：建设黄果树等一批旅游休闲度假胜地，优化组合旅游线路，构建形成由黄果树、龙宫、屯堡、格凸河等景区组成的旅游要素全、产品多元化、服务功能强、旅游时间长的精品旅游圈。《贵州省生态文化旅游发展创新区产业发展规划》和《贵州省 100 个旅游景区建设 2013 年推进工作方案》都将黄果树作为贵州省旅游业发展的重中之重。

荣誉奖项

首批国家重点风景名胜区；全国 40 佳景区之一；全国科普教育基地；获上海大世界吉尼斯总部颁发的“世界最大的瀑布群”证书；全国首批国家 AAAA 级旅游区；全国文明风景旅游区示范点；国内最受欢迎的十大旅游目的地；欧洲游客最喜爱的十大中国景区（点）；被《中国国家地理》杂志社评选为中国最美丽的地方；全国首批 AAAAA 级旅游区等等。

I. Brief Introduction to Huangguoshu Scenic Area

Located in the southwest of Guizhou province of China, Huangguoshu Scenic Area is 128 km from the capital city Guiyang, 45 km from the center city Anshun on the west tourism line, 42 km from Huangguoshu airport, having Hukun (from Shanghai to Kunming) highway directly to the core scenic area and Hukun high-speed rail through it. Covering 115 square km (the core scenic area takes 33 square km), it has a high percentage of forest coverage of 53% (the core scenic area accounts for 70%). In its population of 43000, 9000 people work in the tourism industry.

Since 1977, adhering to the principle of “scientific protection and reasonable exploitation”, the government has invested successively almost 4 billion yuan for the environment protection and tourism exploitation. Through improving the water supply, drainage, roads, power, lighting, fire protection, ecological afforestation, water environment comprehensive treatment projects, etc., it reached the sewage centralized treatment and emission standard, and has been certified by national ISO9001 quality management system and ISO14001 environmental management system.

After constant exploration and practice in the past, the government-led protection and tourism management system with more than 1000 staff was set up, in which Huangguoshu Tourism Group Co., LTD is the main body of the market, made up of more than 20

departments such as construction and planning, tourism supervision, urban management, market supervision, health and epidemic prevention, afforestation, fire safety, environmental protection and so on.

Besides Huangguoshu Waterfall, Huangguoshu abounds in many attractions such as Tian Xingqiao Stone Forest, Water Drop Waterfall, Historical Baling River Site, Stone Village and Lang Gong. Along the whole tour line of over about 40 kilometers, tourists can enjoy a natural scenery of the waterfalls cluster and typical karst natural landscape, a visit with local ethnic folk culture, the Anti-Japanese War culture, and Journey to the West culture, a experiential visit to the local ethnic village such as Huashishao village, a special experience of health-building by taking part in the international competitions like Zhenning County-Huangguoshu International Half Marathon, activities like International Beer Festival, Eco-global Forum and visiting 6-D museum of ecological popular science, a research trip about the red cliff letter, which has greatly enriched the connotation of the scenic tour.

Since 2010, our scenic area was visited by 5 million guests at home and abroad a year, with an increase year by year. In 2014, the number of visitors reached 14.90 million, bringing tourism revenue of 10.7 billion yuan and good economic and social benefits. From January to September this year, there is a total of 14.9322 million tourists, up by 36.08%, achieving 10.317 billion yuan of tourism income, up by 35.36% and 385.2371 million yuan of tickets income, up by 48.74%.



Yin Lianzhui Waterfall



Tian Xingqiao Stone Forest



One-side Ecological Culture Tour Zone



Huashishao Bouyei Folk Performance



Huangguoshu Waterfall Festival Ceremony



Huangguoshu International Beer Festival

II. Ecosystem Conservation

Ideas of “nature and humanity in harmony” upheld by the government of Huangguoshu Scenic Area refer to protecting in the development and developing in the protection. Large amount of money was spent every year in implementing the ecological afforestation and environmental protection.

On one hand, the government concentrates on strengthening eco-civilization construction, implementing eco-construction such as the mountain afforestation,

returning farmland to forests, natural forest protection and stone desertification control, which resulted in the forest coverage rate's increasing from 30.35% in 1999 to 53% in 2015 and forest coverage rate of the core scenic area reaching over 70%, at an average annual increase of 1%. In the past four years, the government spent nearly 1 billion yuan in relocating 923 households on the Huangguoshu waterfall upstream and restoring ecological afforestation, laying a solid foundation for applying for the world natural heritage. In 2014, the construction of ecological civilization and green Huangguoshu action plan was initiated, aiming to afforest 27,000 mu (1800 hectares) from 2014 to 2020, which means the whole forest coverage rate will arrive at 65% above, the forest coverage rate of core scenic area more than 90%. On the other hand, the “three wires being buried” and waste water treatment projects were successively completed according to The Master Plan of Huangguoshu Scenic Area during relocating villagers. In order to control the amount of construction waste, the local traditional environmental protection materials were used during the infrastructural construction of scenic spots and historic relics protection. In nearly 30 years of development, the government has always considered



Huangugoshu Waterfall



Doupotang Waterfall

the karst geographical landscape and the ecological system as the last tourism resources to protect and explore reasonably. In the mean time, its objectives are to combine the clean production of scenic spots, comprehensive use of tourism resources, ecological low carbon design of tourism products with civilized consumption of tourists. Instead of keeping the high energy consumption and high pollution projects out of the scenic area, the handicraft processing, characteristic cuisine and fine folk custom are the main body of tourism services. Strong efforts were made to advance the combination and development of tourism, culture, sports and science, through undertaking projects like Huangguoshu Travel Products Industrial Zone, Huangguoshu National City (Wetland) Park, Baling River Aviation Sports Base, the Chinese Buddhist Culture Art Exhibition Museum and Huangguoshu Ecological Cultural Tourism Integrated Development Platform, promoting low carbon ecological economy.

III. Development Advantages of the Scenic Area

(1) Resources

Huangguoshu is a resort involving subtropical vegetation landscape scenery, waterfalls cluster, magic karst, local Bouyei custom, historical sites, and mysterious ancient culture as a whole. It has a mild climate with cool summers and mild winters, at an average temperature of 15.6 °C. Owing to large amount of negative ion of oxygen in the air (about 28,000 per cubic centimeter), it is known as "natural oxygen bar". Huangguoshu, surrounded by hot spring resources enriching in minerals like meta-silicate, strontium, fluorine

which meet the national drinking water standards, is an ideal resort for travel, leisure, sports and spa.

It is rich in natural resources and cultural landscape of 39 sights such as magnificent waterfalls cluster, natural landscape, aquatic stone forest, caves, hot springs, stone village, Catholic church, batik, Bouyei folk, including 26 natural scenic spots, 13 cultural sites, one AAAAA-class scenic spot, 10 AAAA-class scenic spots, 14 AAA-class scenic spots, 14 AA-class scenic spots.

(2) Transportation

Huangguoshu has convenient communication and can be directly accessed by Hukun highway. It takes only 80 minutes from Guiyang Longdongbao airport to the scenic area. Besides that, Huangguoshu airport (in Anshun city) offered flights to major cities as Beijing, Chongqing, Guangzhou, Shanghai, Kunming, Sanya, etc. The high-speed railway connecting Shanghai and Kunming through the scenic area is now under construction, and will be put into use in 2016.

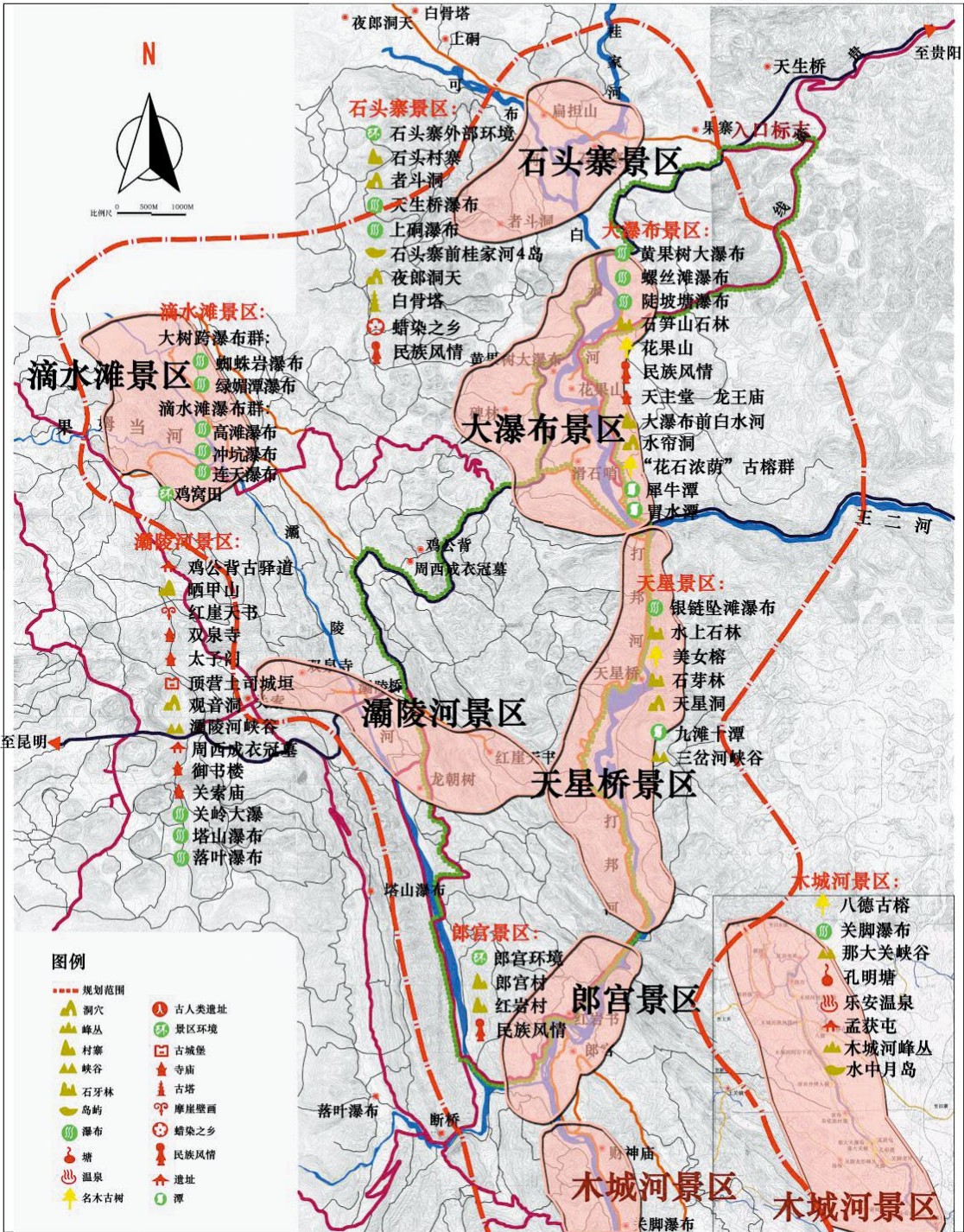
(3) Policies

The No.2 State Council document in 2012 about boosting the economy and society mapped out plans to find a way to develop characterized ethnic culture and tourism in harmony, as part of the government's efforts to establish a well-known leisure resort in the world and a first-class tourist destination in China, as well as a cultural exchanges platform. According to the document, the culture and tourism industry will become a pillar industry, a series of excellent tourist routes are to be formed, and Huangguoshu as a high-end scenic area will be built. Following that, Guizhou Province People's government also issued the No.15

中国·贵州
GUIZHOU · CHINA

黄果树国家风景名胜区旅游总体规划

——旅游资源分析图



中科院建设部山地城镇与区域研究中心云南省分中心
云南山地城镇区域规划设计研究院



Tianxingqiao Stone Forest



Stone Village



Huangguoshu Terrace Scenery—Huashishao Village



Catholic Church



Bouyei Batik



Ethnic Group Custom and Activities



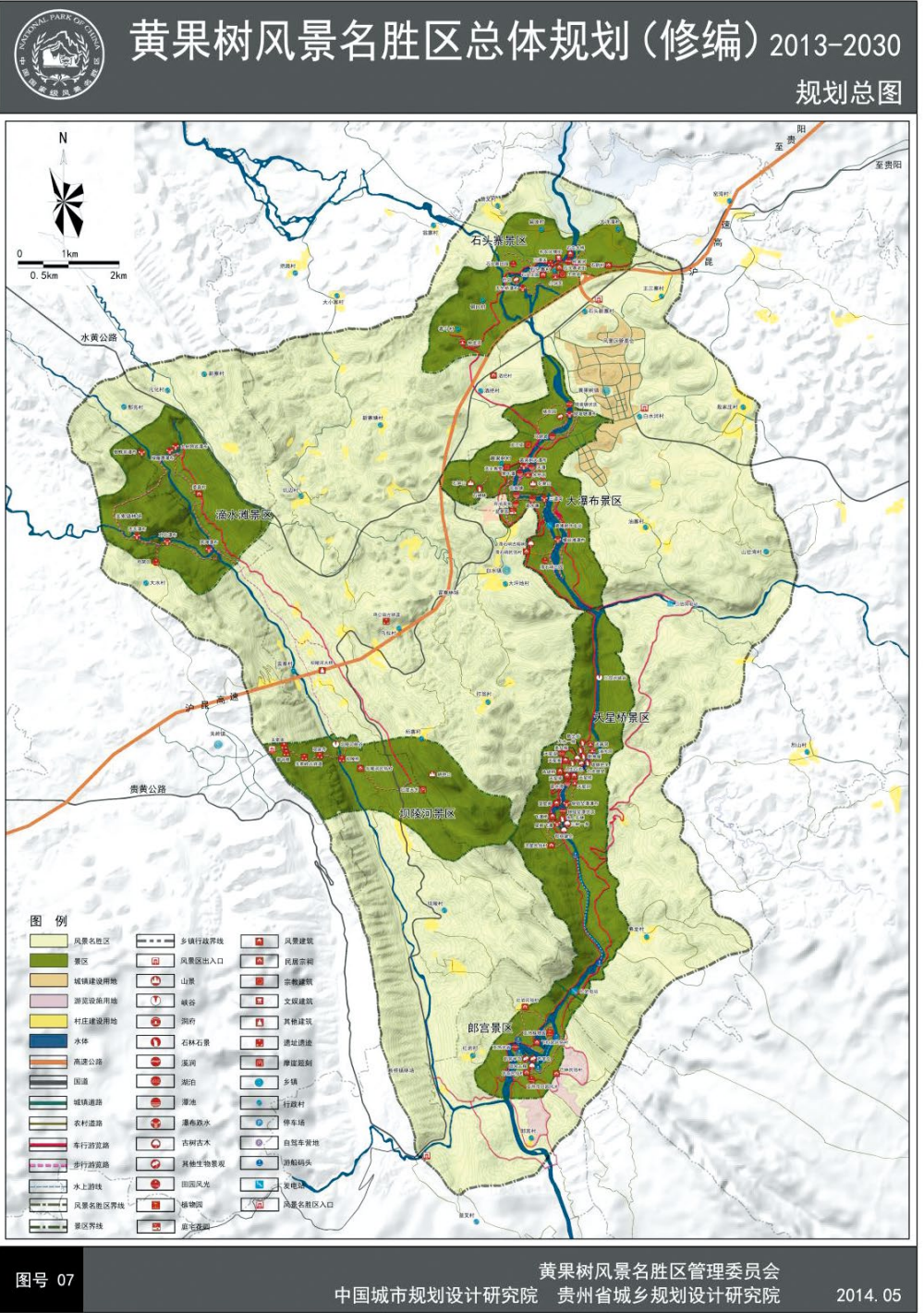
Bouyei Woman Weaver

document in 2012, referring to setting up a number of tourist resorts like Huangguoshu, which connects tourist routes of scenic spots as Huangguoshu, Dragon Palace, Tunpu, Getu River, forming a high-end tourist circle with complete tourist elements, diversified tourist products, sophisticated tourism infrastructure, and time killing attractions. The Ecological Culture Tourism Development Innovation Zone of Guizhou Province and 100 Tourist Scenic Spots Development Plan of Guizhou Province in 2013 put Huangguoshu's development top on the list of priorities on the tourism development in Guizhou Province.

IV. Planning and Construction Profile of Huangguoshu in recent years

(1) Master Plan

The Huangguoshu Scenic Area Overall Master Plan (1996-2010) was completed in 1996, and approved by the state ministry of construction to implement in 1997. Launched in 2009, the Huangguoshu Scenic Area Overall Master Plan (2012-2030) revision work was fulfilled at the end of May 2015 and got approval. In 2007, The Huangguoshu Scenic Area Overall Tourism Master Plan (2007-2025) was drafted.



General Planning of Huangugoshu Scenic Area

(2) Natural Resources and Traditional Culture Protection

The intelligent tourism platform monitoring system is used to monitor the dynamic bearing capacity to control it within the maximum bearing capacity. Attractions in turn are closed during the winter, so as to help the local ecological restoration. The drinking water quality, hotel lampblack, air quality and noise are monitored regularly and treated when under par. Besides, the tourist, staff, local people have usually access to the environmental protection and low carbon tourism development concepts. The above measures have helped our scenic area pass the ISO14001 environmental management system certification, the annual air fine rate going to 100%. Huangguoshu Scenic Area is a region where



several minorities such as Bouyei and Miao live together. They account for 74% of the total population. The amazing landscape and unique village has bred the unique folk custom culture. In the exploration and protection of culture, the regional traditional ethnic folk culture was carried forward and inherited. The folk cultural activities currently like exhibitions, folk festivals, folk art competitions, and folk crafts competitions in the meanwhile expose the glamorous intangible cultural heritage projects to the tourists. With the help of mass media on the protection of the intangible cultural heritage and the construction of Stone Village wax museum, folk association and other mass organizations, the ethnic folk characteristic culture was effectively protected and inherited.

(3) Environmental Quality

Due to constant measures to improve environment quality through mainly pollution prevention, drinking water sources protection, pollution prevention, which integrates the environmental protection with economic development and living condition improvement, the government has dedicated to solve the key environmental problems people care most. After thorough rural environment comprehensive improvement, effective prevention and control of environmental pollution, ecological protection and construction work, on the basis of controlling the pollutant total amount, the ecological environment and the regional environmental quality keeps in good condition, with the air, water and noise environmental quality ranging top in China.

According to the air monitoring data of over 335 days in 2014, the environment air quality meets the air quality standard (GB3095-2012) in the surrounding area-first level of standard is 146 days, and the second standard is 189 days. Its annual air fineness rate is up to 100%, the environment air quality even better in the core area. Acoustic environment quality in different functional areas hit respectively the original urban noise standard 0, Grade 1 area standard limit, 1-class of the emission of environmental noise in the social life (GB22337-2008), 50 to 55 decibels during the day, 40-45 decibels at night. The surface water environment monitored reaches also the national surface water environment quality Surface Environment Quality Standard (GB3095-2002) II -class standard.

(4) Environment Inspection

The government strictly abides by the Scenic Area Rules released by the State Council and other national environmental protection laws and regulations, under which, the supervision of construction projects and



environmental complaint cases were processed. The Poultry Breeding Area Division Method of Huangguoshu Scenic Area and The Drinking Water Pollution Prevention and Control Measures of Huangguoshu were published for the inspection of the urban administration, illegal use of land, and illegal construction. Besides, the government took measures such as public announcements related to environmental protection, joint law enforcement including public security, land, forestry and environmental protection departments to crack down the environmental violations and illegal behavior.

(5) Pollution Prevention

A series of conservation and management measures were taken to prevent environmental pollution and eco-systems from damage, resulting of the proper operation of the pollution prevention and ecological infrastructure. Besides the use of sewage treatment plant, the government formulated three regulations to prevent pollution and protect environment-The Scheme for Dividing the Huangguoshu Environment Conservation Districts of Centralized Drinking Water Sources, which aims to protect water source, the drinking water upstream village comprehensive environmental control, to ensure the safety of the people's production and living water, and to realize the sustainable utilization of water resources; The Scheme for Dividing the Huangguoshu Banned (limited) Districts of Livestock and Poultry Breeding, in order to strengthen the control of livestock and poultry breeding pollution to promote the sustained and healthy development of animal husbandry; The Institution of Huangguoshu Pollution Control and Ecological Protection of Travel Products Processing and Exposition Industrial Zone, so as to reinforce the environmental protection of tourism products processing.

(6) Tourism Reception Facilities

Huangguoshu is a tourist resort with considerate, characterized and fine infrastructure which is based on the national AAAAA-class standard.

As for the local cuisine, there are currently five three-star hotels and more than 300 restaurants, guesthouses and inns. The delicious food comes from local green eco-food, served like at home. The visitors can also have a taste of special local flavor from the specialty snacks.

Referring to the accommodation, a batch of modern new putting-in-service star hotel, business hotel, private hotel with inns and folk guesthouses, etc., offer for the visitors high, medium and low-grade rooms such as Huangguoshu Tunpu Hotel, Jingu Villa, etc. For the sake of the protection and utilization of ancient architecture, some residential buildings are changed into folk culture guesthouses, and as a model, bringing the development of other ethnic minority villages' folk culture guesthouses, which contributes to the overall quality of accommodation-Huashishao Bouyei guesthouse-the high-quality culture folk Guesthouse. At present, a number of high-level hotels are under construction, which will further improve the quality of the accommodation in this scenic area. It is very convenient for the visitors who come a long way to Huangguoshu. Firstly, Huang Tian Road (Huangguoshu-Tianxingqiao), Tian Lang Road (Tianxingqiao-Langgong) connects such main scenic areas as Huangguoshu Waterfall, Tianxingqiao, and Langgong. The reconstruction and expansion of many roads like Huangguoshu Poll Gate, Huangguoshu Yingbin Ave, Tianlang Road, Stiwell Road Huangguoshu "one side street" section, and roads on the Stone Village tour circle improve access to scenic areas. The walking street with flagstone, the wooden road, cable way, west journey road and



tourism signs are constructed and revised to cater to visitors and make themselves well. The Huangguoshu tourism circle of six main scenic spots is now planning and under construction, and with the Ning Long Huang (Ninggu Town-Dragon Palace Scenic Spot-Huangguoshu) high grade roads being constructed form the big Huangguoshu Tourism Circle, improving the development of Huang Long Tun (Huangguoshu-Dragon Palace-Tunpu Site). Besides the local folk guesthouses such as Huashishao Bouyei Folk Guesthouse and Stone Village Folk Guesthouse, the tourists are able to feel the local culture by watching the folk music and dance and visit the new-built ecological public science museum (6-Dimension experience cinema). Such tourism and leisure entertainment will not only offer them a good experience and also enhance the connotation of tourism science and technology.

Because of the importance of eco-environment of the scenic area, Huangguoshu Fire Brigade equipped with 2 fire engines and Forest Police Department are organized, by daily patrol, to ensure the forest and public safety.

A full-time sanitation team of more than 100 people, who has fixed position and arrangement, is responsible for the cleaning work of roads, gate of houses, river, and trash. At the same time, the local residents, shops and restaurants have signed the "Three Responsibility" with the government, to jointly to protect the environment and create a clean and neat living surrounding.

(7) Wild Animals Protection

It is abundant in wild animals and plants. According to a file of 1992, there are 169 families, 454 genus and 614 species of plant species, including the moss of 27 families, 39 genus and 52 species, ferns of 24 families, 47 genres and 104 species and the seed plants of 118 families, 368 genres, and 158 species. One of them is protected as the first class protected national plant, two, the second class. Growing up with the plants, the 35 kinds of wild animals which involves 14 kinds



of second class protected wild animal are sorted as beasts, birds, reptiles, amphibians. They are pangolin, macaque, otter, zibet, rasse, forest musk deer, black kite, ordinary kite, lady amherst pheasant, golden pheasant, the grass fish hawk, and Otus bakkamoena, etc.

The government, cooperating with other environmental protection departments, takes a number of measures to effectively protect them. Firstly, they have publicized the laws and regulations of The Wildlife Protection Act and the Wildlife and Plants Protection Articles to prevent them from the damage of spreading of urban areas. Secondly, they initiated forest protection called "Six Prohibition" specific activity, which aims to crack down the illegal behavior and criminals like mining, hunting, purchase, transportation and sale of wildlife and plants in the scenic area. Last, they have been carrying out regularly spot checks in the market, restaurants, hotels and other places, adhering to the principle of "prevent, crack, control, and build" to effectively protect our wildlife resources.

(8) Green Architecture

Since 2009, new construction projects with 100% energy-saving wall materials have been carried out in strictly accordance with the energy-saving operations and acceptance specification. The responsibility of main body construction parties was clear at various levels to implement the further green building standardization construction and improve the long-term management mechanism of energy conservation and environmental protection. The buildings built in recent years were totally in accordance with the requirements of related energy-saving, green building codes and the Huangguoshu Construction and Green Construction Implementation Work Plan, which ensure above 90% of construction material is energy-saving, the comprehensive index of energy conservation is more than 50%, conforming to the requirements of the high standardization, standardization of green low-carbon energy saving and meeting the requirements of green building certification

standards. The regular check and treatment measure help create civilized, energy-saving, environmental, high-standard and neat construction environment and buildings, so as to create a low carbon and healthy tourism environment.

(9) Low Carbon Environment

To create a low carbon scenic area, the government has been striving to guide the public to use energy-saving product and clean fuels, whose use rate goes to over 50%, instead of using coal burning boiler.

The popular use of the water-saving faucet, water saving shower head and energy-saving lamps improve the utilization rate of new products and technologies. Through the publicity of activities like "energy saving week" and "the national low-carbon day" to the tourists to reduce consumption of the disposable hotel travel supplies such as bedding washing, disposable slippers, and dental kits, the tourists and residents are well informed of the energy conservation and environmental protection policy, laws, regulations and standards from the publicity pamphlets.

(10) Environmental Protection

People can be informed of the environmental protection knowledge, laws and regulations via the large outdoor advertising, electronic banner, paste posters, publicity materials, and also conscious of the importance of environmental protection, saving and ecology to choose willingly low carbon green lifestyles and consumption patterns. That means everything and everyone in every time advocate ecological civilization in the society. In the same manner, the protection of wildlife has been strictly carried out. People are well aware of the laws and related knowledge about wildlife protection through the wide advertisement. For instance,

the menu or advertisement billboards containing "wild animals", "wildlife" and other similar words have been confiscated and eliminated from restaurants. If found, the restaurants where wildlife and its products are on sale will be investigated and punished.

(11) Emergency Response Mechanism

The Emergency on-duty center is set up, where there are staff 24 hours on duty, focusing on strengthening the development of emergency management system. With the arrangement of government, an organization system and the response mechanism are formed-the emergency on-duty center is responsible for the planning and coordination, the other departments for implementation. And after accident, officials of the government could immediately carry out emergency settlement and investigation, submit the accurate information to superior departments and grasp the key dynamic information.

(12) GDP, Per Capita Income and the Increase

Owing to the long-term effort of green low carbon ecological scenic spot construction, this scenic area has obtained good economic, social and ecological benefits in the following three aspects.

Firstly, the annual regional GDP keeps double-digit economic growth. The gross domestic product in 2013 was 934 million yuan, up 13.8%. The number in 2014 increased to 1.147 billion yuan, up 15.1%. It arrived at 646 million yuan in the first half of 2015, up 15.6%.

Secondly, the urban per capita disposable income increased year by year, but it was 18, 614 yuan in 2013, with no growth (according to the data of 2013); in 2014, it was 20, 113 yuan, up 9.1%; In the first half of 2015 it was 10, 892 yuan, up 10%.





One-side Street from Aerial Photo of 2005



View of One-side Street



Ecological Afforestation of One-side Street after Removal

At last, the annual disposable income per capita of rural residents maintains double-digit growth, with 6,759 yuan in 2013, up 13.8%, 7031 yuan in 2014, up 13.1%, and 3,770 yuan in the first half of 2015, up 14%.

(13) Funds Used for the New Low Carbon Eco-Scenic Area

From 2011 to 2014, nearly 1 billion yuan was poured into the ecological migration of 923 households, environmental protection and afforestation projects in the core scenic area. 25 million yuan was spent on the ecological greening decoration of the door in 2015. Since the establishment of the Huangguoshu administration, nearly 4 billion yuan has been invested

in the protection and tourism development projects, of which 300 million yuan was put into forestry construction, completing the afforestation of more than 80,000 mu (5333 hectares), to raise 20% of the forest coverage.

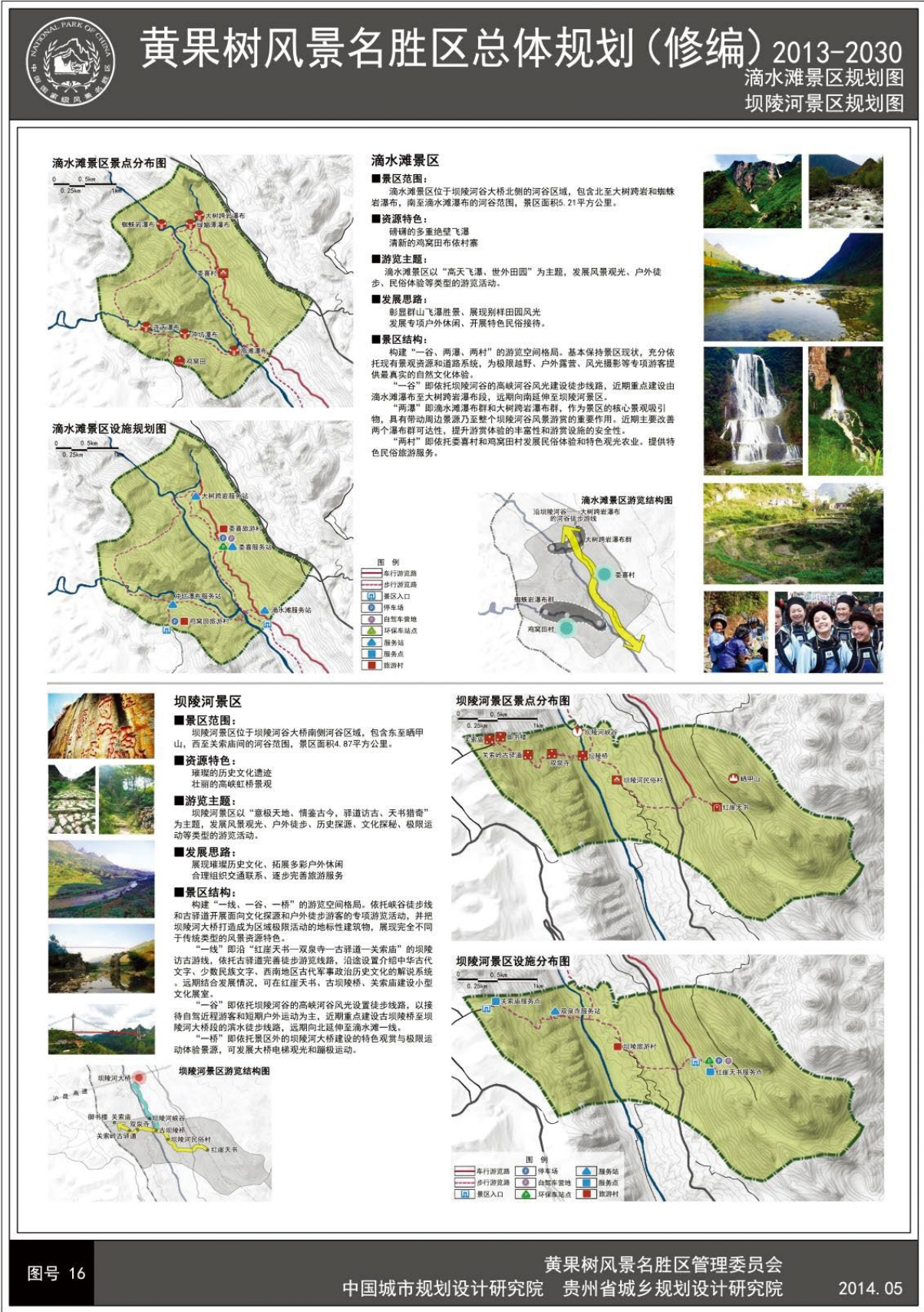
(14) Achievements and Rewards

- ① One of the First List of National Scenic Spots
- ② One of the National Best Scenic Spots
- ③ National Public Science Education Base
- ④ Certification of the Largest Waterfall Cluster by Shanghai Big World Guinness Headquarter
- ⑤ One of First National AAAA class Scenic Areas
- ⑥ Model Demonstration Site of National Civilized Scenic Area
- ⑦ One of Domestic Popular Tourist Destinations
- ⑧ One of the Favorite Chinese Scenic Spots for European Tourists
- ⑨ Most Beautiful Place of China by Chinese National Geography
- ⑩ One of the First List of National AAAAA Class Tourist Scenery

(15) Environmental Facilities and Clean Energy Application

Located at the lower reaches of the Waterfall, the annual output of Three Crosses Bay power station achieves 160 million kilowatt, which meets the local needs for electricity, even for other areas. With a total population of 43,000 people, the annual total power consumption of 37 million kilowatt needs 8612.2 tons of coal. Therefore, it is necessary to promote the use of natural gas, solar and other clean energy instead of coal consumption through the hydro-power station, which can directly reduce the emissions about 555.18 tons of sulfur dioxide, 38.44 tons of oxynitride, 1068.3 tons of dust, and 20324.8 tons of carbon dioxide, to purify the air environmental quality.

In 2007, designed by Guizhou Architectural Design Institute, a sewage treatment plant which costs 14.25 million yuan was set up. Through the new type of integrated oxidation ditch waste water treatment craft, its sewerage pipeline is as long as 11 km, processing 6000 tons of waste water per day. The trash disposal process is also improved in accordance with the principle of recycled collection of modern environmental protection. The dustbins are spread at residents' and tourists' location of tourist areas,



Master Plan of Huangguoshu Scenic Area (revised)

which helps enhance the awareness of garbage classification. The waste unified then is carried to the recycling waste transfer station, processed in the Xixiu Power Plant. Biodegradable plastic foam box and raincoat are encouraged in Huangguoshu Scenic Area, including the control of excessive package of tourist souvenirs or crafts and the use of disposable supplies. The environmental clean energy material is used instead, turning the disposable supplies into reusable ones or alternatives. Part of lighting control system with shut-off time-lag step switch is able to automatically control numbers and location of lighting switch by use of infrared automatic monitoring control device. The compact fluorescent lamp is chosen after transforming their lighting control system to save energy as far as possible. Clean energy is also a good choice to protect environment such as walking, bikes and electronic mobiles. In order to control the traffic flow, there is becoming large parking lots outside the scenic area. The tourist could take tourist buses, cars and taxis parking there before getting in the scenic area as they like, and take environmental sight-seeing carts too, to reduce the traffic emissions to the most and enhance air quality. Once in the scenic area, the tour guides are not allowed to use the high horn to speak. The noise and vibration in the construction site are also prevented from noise pollution in the scenic area.

(16) Other Information

The core scenery of Huangguoshu Scenic Area is well-known waterfall consisting of 18 waterfalls of diversified styles, which is magnificent with fantastic karst landscape like caves, countless stone forest, cliffs and gorges. Its unique folk culture, rich historical cultural sights, amazing village pastoral scenery and pleasant

climate attract more and more tourists to spend short-term summer vacation, short-range drive trip, outdoor cross-country adventure, folk custom experience and scientific research there.

In the near future, according to the overall plan of Huangguoshu- "choose the goal orientation, realize respective development", Huangguoshu will try to form an industrial structure in which "there are one axis, one region and six main scenic spots; two centers, gardens and features", aiming to protect eco-environment on industrial orientation and planning. The National Urban Wetland Park and the rail system are on the way, contributing to boosting new featured low carbon tourism involving new type urbanization construction, leisure agriculture and rural tourism. At the same time, resources protection and pollution prevention are always attached with much importance. In the coming years, Huangguoshu must be a global livable low carbon ecological tourism destination which initiates green travel and low carbon development.

"One axis" namely a tourist sight-seeing line along Baishui River and Three Crosses River, is consisted of the Waterfall Scenic Spot, Tianxingqiao Stone Forest, Stone Village, and Langgong Scenic Spot. "One region" means the typical scenery along Baling River, being made up of two attractions-Baling river and Water Drop Beach Waterfall. "Two centers" refers to two main center scenery-Waterfall and Tianxingqiao Stone Forest, with typical amazing karst topography. "Two gardens" indicates two unique resorts-Stone Village and Lang Gong, showing folk culture and ecological entertainment. "Two features" implicates two special culture and sports sites-Baling River and Water Beach, in which tourists have access to culture exploration and outdoors sports. 



FIGURE

人物视界

Exclusive Interview with Joan Rose, the Stockholm Water Prize Winner
专访斯德哥尔摩水奖获得者 Joan Rose

Seberang Perai: Guiding By the Sustainable Development Goals, No One
Will Be Left Behind
--Exclusive Interview with Dato' Maimunah, Mayor of Seberang Perai, Malaysia

威省：贯彻可持续发展目标，不让一个人掉队
——专访马来西亚威省市长拿督麦慕娜



Exclusive Interview with Joan Rose, the Stockholm Water Prize Winner

专访斯德哥尔摩水奖获得者 Joan Rose

I have always been motivated by the principles of public health, how to prevent disease. A key barrier, our water infrastructure, is crumbling or non-existing in many parts of the world. The global population unserved by sewage treatment is counted in the billions.

——Professor Joan Rose

“如何预防疾病这一公共健康原则一直激励着我。在世界很多地方，我们的水资源基础设施正在遭受毁坏或根本不存在，而这也成为推动公共健康事业的主要障碍。数十亿人现在生活在没有污水处理设施的地方。”

——Joan Rose 教授

导语 Introduction

Joan Rose 教授是密歇根州立大学水资源研究专业讲座教授。她专注于水质和公共健康工作，是水微生物学领域世界领先的权威专家。她也是2004年世界卫生组织饮用水标准制定的关键人物。2016年3月22日，Joan Rose 教授因对全球公共健康事业做出不懈贡献而荣获2016年斯德哥尔摩水奖，她通过评估水资源之于人类健康的风险，以及为决策者和社区创建相关指南和工具，从而改善全人类的健康。（斯德哥尔摩水奖由斯德哥尔摩国际水研究院负责管理，设立于1991年，是世界水资源保护领域的一项大奖，也被誉为水领域的“诺贝尔”奖。）

Professor Joan Rose, Homer Nowlin Chair in Water Research of Michigan State University. She has dedicated her professional life to water quality and public health safety, and is a leading world authority on water microbiology. She was key in establishing the 2004 WHO Drinking Water Standard. On March 22, 2016, Professor Joan Rose is named the 2016 Stockholm Water Prize Laureate for her tireless contributions to global public health: in assessing risks to human health in water and creating guidelines and tools for decision-makers and communities to improve global health. (The Stockholm Water Prize is a global award founded in 1991 and presented annually by the Stockholm International Water Institute (SIWI), also be regarded as the “Nobel Prize” in the field of water.)



WBPM: Joan Rose 教授，首先祝贺您获得2016年斯德哥尔摩水奖！也感谢您接受我们的采访！3月22日是“世界水日”，联合国确定今年的宣传主题是“水与就业”，主要聚焦于水是如何改变工人的生活、生计，甚至转变社会和经济。请问您如何解读今年世界水日的主题？水能够从何种途径破解就业难题？

Joan Rose: 要想获得安全的水资源，需要成百上千的人接受在工程、科学、技术、管理、政策和金融领域的培训。尤其，在培训和教育测量和获得达标水体领域等工艺的科学家和技术人员时，要特别重视其应用技术和所需技能。我们需要包含经济和资源管理方面的水项目，“蓝色经济”将会在航运、水管理、工业、农业和旅游方面带来数百万美元的收益。但是我们更多的投入在于各专业发展相关的教育——无论是在原籍国还是区域培训中心。

WBPM: 水质和公共健康存在着紧密的相互关联，根据世界卫生组织的调查，每年有200万人死于不安全的水、环境卫生和个人卫生。您认为水质问题在公共健康

WBPM: Thank you, Professor Joan, for being with us for this interview. And congratulations on winning the 2016 Stockholm Water Prize! The theme of this year's “World Water Day” is “Water and Jobs”, focusing on how water can change workers' lives and livelihoods and even transform societies and economies. How do you interpret its theme? In what way do you think water can solve the problem of employment?

Joan Rose: To achieve safe water will require 100s if not 1000s of individuals trained in engineering, science, technology, management, policy and finance. In particular, the training and education of scientists and technicians in the art of measuring and achieving a desirable water quality requires attention to the technology to be applied and technical skills required. We need water programs that add economic and resource management aspects. The “Blue Economy” will contribute to millions of dollars of revenue from shipping, water treatment, industry, agriculture, and



水质是如此复杂，我们不能仅是依靠指标系统获得的信息来做出最佳方案。世界水域已经被分割成不同区间，单凭研究机构是无法解决问题的。因此一个能够有能力发展并履行契约的网络是非常必要的。

Water Quality is so complex, we can no longer rely on the indicator system to provide information for the best decision making. Fragmentation of the waters of the world into compartments has created the inability of institutions to address the problem. Thus networks with the ability to develop and implement compacts are needed.



领域扮演什么样的角色？从水质问题入手解决公共健康状况时，有什么难点和挑战？

Joan Rose: 污水和动物排泄物仍是影响水质的最大病原体。随着人口增加，排泄物问题更严重。我们最大的挑战总是这些废弃物引起的病原体和不断恶化的水质问题。我们最近发现引起儿童神经系统疾病的 Cyclovirus 病毒就是源于猪和每年增加的新水生病原体污水。我们需要提高水质诊断能力来确认大流域的水体污染，比如使用微生物源追踪标记来确认最重要的污染源。人类在土地上的活动，就是污染物的来源，而气候是驱动因素。降雨强度的增加、暴风雪和洪水将不断给基础设施施压并威胁公共健康。因此，新的诊断方式可以使我们解决空间和时间的污染问题并优化我们的财政支出。然后我们需要一个网络来进行信息整合。

WBPM: 您和您领导的科研团队在世界各地的清洁水资源领域开展了不少前沿性的研究工作，在水质和公共健康方面，有没有什么具有创新性和特别优秀的实践范例可以和我们分享？

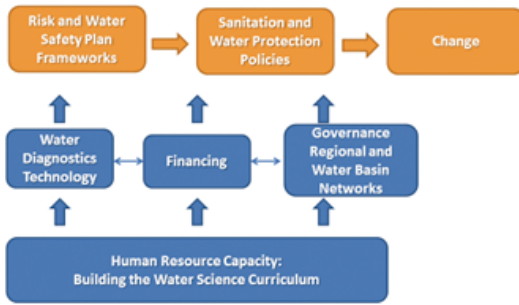
Joan Rose: 微生物定量风险评估框架把问题、科学和管理 / 政策集合在一起。这个框架应该遵循“一种水”的概念。污水、雨水、周围水域和饮用水都互相联系，在此框架内，水文、地貌、土地使用、气候与水质的连接为人们提供了解决对策，我们能够有效地利用解决方案，并为系统生态的健康而改善水质。但是这些主要依赖于全球的努力来获得水质数据，从而进行模拟工作。水质是如此复杂，我们不能仅是依靠指标系统获得的信息来做出最佳方案。世界水域已经被分割成不同区间，单凭研究机构是

tourism. But we much invest in education associated with the various professional developments— either in the country of origin or in regional centres of excellence.

WBPM: Public health is closely connected with water quality. According to WHO's report, 2 million people die of unsafe water, sanitation and hygiene every year. In your opinion, how does water quality impact on public health and safety? What difficulties and challenges are we facing in this particular regard?

Joan Rose: Sewage and animal wastes still contribute the largest numbers of pathogens to waterways. As populations grow, so does the excreta problem. Our challenge will always be the emerging pathogens coming from these wastes with a continuous degradation of our water quality. We have just recently found that the Cyclovirus which has caused neurological disease in children is in our sewage coming originally from pigs and new waterborne pathogens are discovered every year. We need improved water quality diagnostics to assess the pollution at the large watershed scale. Microbial Source Tracking markers need to be used so that the most significant sources of pollution can be identified. While what we do on land is the source of the contaminants, climate is the driver. The increase in rain fall intensity and storms and flooding will continue to stress the infrastructure and will put the public health at risk. Thus with new diagnostic tools we can tackle the challenge of spatial and temporal pollution problems and prioritize the spending of our precious dollars. We have all the new tools we need a network to implement information gathering.

Knowledge path for interfacing science, technology and policy to meet water quality goals



无法解决问题的。因此一个能够有能力发展并履行契约的网络是非常必要的。

WBPM: 过去数十年的粗放发展使中国的水污染现状令人担忧，去年 4 月中国国务院发布“水十条”，铁腕治水。对于中国水污染问题的现状您是否有所了解，您认为治理对策的重点在哪里？

Joan Rose: 据我所知，水污染是中国面临的最严重问题之一。如果没有强有力的干预措施，水中的病原体 and 营养成分都难以控制。很多时候，问题来自于中等城市、近郊区和非点源污染。旧观念中认为饮用水只要煮开了就达标了，这是对水质的错误理解。在地方层面实施最佳的管理实践需要整合教育、技术和政策，公共健康中与水相关的项目也需要加强。

WBPM: 除了自来水，现在很多大众选择去超市购买各种各样的饮用水，比如像纯净水、矿泉水、山泉水等等。您是否认为超市出售的饮用水比自来水更健康？从公众参与和社会监督的角度，我们普通民众在日常生活中有哪些保护、改善水资源的力所能及的事情？

Joan Rose: 我并不反对瓶装水，但是所有涉及到用水的产业都需要创建学术—政府（尤其是公共健康）—产业的合作模式以保护全球水质。提供财政支持、诊断和技术，以及所需的教育培训。

我建议如下：

1. 建立区域培训中心；
2. 在合作机构间建立合作网络，以确保在这些地区的公共健康机构、大学和水企之间稳固的合作；
3. 采用风险分析框架来整合科学和技术，并推动将科学技术应用到污染源的治理行动中；
4. 采用先进技术对水进行诊断，以改善决策方案，包括采用 MST 技术来鉴定污染源；

WBPM: You and your team are at the forefront of clean water resource research. Could you please share some successful paradigms and specific examples in water quality and public health-related area?

Joan Rose: Quantitative microbial risk assessment frameworks bring the problem, science and management/policy together. This framework should be used to address the ONE WATER concept. Wastewater, storm water, ambient waters and drinking waters, which are all interconnected and within this framework the linking of hydrology, geomorphology, land use, climate to water quality allows for one to address the problems that can economize the solutions and provide an improvement in water quality for the biohealth of the system. But this can't be accomplished without a major global effort in obtaining water quality data which can be used in modeling efforts. Water Quality is so complex, we can no longer rely on the indicator system to provide information for the best decision making. Fragmentation of the waters of the world into compartments has created the inability of institutions to address the problem. Thus networks with the ability to develop and implement compacts are needed.

WBPM: After decades of extensive development, the state of water pollution in China is alarming. In April last year, The China's State Council released a nationwide “Ten-Measure Action Plan” to treat water pollution. What is your take on the water pollution in China? What is the core in solving this problem?

Joan Rose: So from what I know the water pollution is one of the most serious issues facing the country. Pathogens and nutrients are very difficult to control without major interventions. These are coming from medium sized cities, peri-urban areas and non-point sources in many cases. In the past reliance on drinking only “boiled” water provided a false sense of security regarding the quality of the water. How to implement best management practices on the ground at the local level will require a pathway that integrates education with technology and policy. Public health water-related programs need to be strengthened.

WBPM: Nowadays, rather than drinking tap water, many people prefer to buy purified water, mineral water and mountain spring water. Do you think the bottle water from supermarket is healthier than tap water? In terms of public engagement and social supervision, what measures can we take within our capacity to protect water resource?

Joan Rose: I am not against bottled water, but



5. 使用微生物定量风险分析框架对全球水质和卫生进行评估来处理污水。发展这个分析框架来应对高雨量 / 洪水，处理高流量事件；
6. 提升 21 世纪水课程，培训未来的水专家、技术人员和工程师；
7. 改善污水管理和循环 / 再利用，应对未来干旱和安全水的供应；
8. 创建污水管理的全球目标，例如清除 2-3 个病毒体等。



据我说知，水污染是中国面临的最严重问题之一。如果没有强有力的干预措施，水中的病原体和营养成分都难以控制。很多时候，问题来自于中等城市、近郊区和非点源污染。

So from what I know the water pollution is one of the most serious issues facing the country. Pathogens and nutrients are very difficult to control without major interventions. These are coming from medium sized cities, peri-urban areas and non-point sources in many cases.

all industries that use water should be specifically at the table creating academic-government (particularly public health)-industry partnerships to protect the water quality of the world's water. Providing the finances, the diagnostics and technology, and the education needed.

- I am recommending that we
1. Establish regional Centres of Excellence
 2. Create networks between cooperative organizations, to get stable cooperation between public health institutions in these areas, universities and also water companies.
 3. Use the risk analysis framework to integrate science and policy and promote the translation of science into action around sewage sources.
 4. Use advanced technology for water diagnostics to improve resolution of the evidence for decision making, including MST tools for the identification of the source of contamination.
 5. Assess global water quality and health using QMRA framework for wastewater treatment. Develop QMRA frameworks for high rain/flood events, addressing high flow events.
 6. Develop the 21st century water curriculum for future water scientists, technicians and engineers.
 7. Improve wastewater management and the recycle/reuse to address future drought and safe water availability.
 8. Develop a global goal for wastewater treatment such as obtaining a 2 to 3 log removal of viruses.



马来西亚威省市长拿督麦慕娜
Dato' Maimunah, Mayor of
Seberang Perai, Malaysia

Seberang Perai: Guiding By the Sustainable Development Goals, No One Will Be Left Behind

威省：贯彻可持续发展目标 不让一个人掉队

--Exclusive Interview with Dato' Maimunah, Mayor of Seberang Perai, Malaysia
——专访马来西亚威省市长拿督麦慕娜

WBPM: 市长女士，感谢您接受本刊独家专访。在马来西亚充满活力的经济体系下，和槟岛一样，威省已经成为快速发展的城市中心之一。与此同时，在您的领导下，威省市议会特别重视联合国 2030 可持续发展议程中关于可持续发展的原则。您能概述一下其中主要的挑战以及地区发展中的优先事项吗？

市长：感谢您对威省的关心！占地面积 738 平方公里、拥有 90 万人口的威省，在过去 10 年里经历了快速的城市化发展。可持续发展目标（SDGs）中包含了 17 个目标、169 个子目标以及两百多项指标，威省很乐意将这些可持续发展目标贯彻到我们自有的一套政策和战略中。在短期内，威省市议会的目标是在可持续发展目标的指引下，努力为我们的纳税人提供良好的生活品质，实现地区发展优先事项并满足我们的需求。过去 10 年，威省的快速城市化发展也带来了相应的挑战。目前，威省已经通过了一个 2014—2018 年的全面五年计划，并设定了每个年度的计划，这些计划可以通过其影响和进展来进行衡量。

WBPM: Thank you, Madame Mayor, for setting time aside for this exclusive interview. Together with the island of Penang, Seberang Perai is one of the rapidly growing urban centers of Malaysia's dynamic economy. At the same time, and under your guidance and leadership, the Majlis Perbandaran Seberang Perai (MPSP), also known as the Municipal Council of Seberang Perai, has emphasized the principles of sustainable development in line with the 2030 Sustainable Development Agenda of the United Nations. Can you please outline the main challenges and local development priorities?

Mayor: Thank you for having an interest in Seberang Perai. With an area of 738 sqkm and a population of 900,000 inhabitants Seberang Perai has undergone rapid urban growth for the past ten years. The Sustainable Development Goals (SDGs) comprise a total of 17 goals, 169 targets, and some 200+ indicators. Seberang Perai would like to translate the SDGs into our own set of policies and strategies.



Photo by Seah Sin Ghee and Chan Chean Yeon

威省市议会的首要挑战和任务是将国家政策贯彻在地区的发展行动中；第二项挑战是，我们只有有限的资源，但却有看似无尽的需求。在这种情况下，为所有利益相关者提供高质量的生活并确保“不让一个人掉队”成为了一个难题。我们的地方发展政策，是让威省成为追求可持续发展生活的居民居住、投资者以及旅游者的首选目的地。每个人都希望获得更干净、更绿色、更安全以及更健康的城市环境，这也是我们在孜孜不倦追求的目标。

WBPM：威省发展过程中的中期和长期目标又是什么？这个目标又是怎样确定下来的？

市长：威省的发展目标是为大家提供一个美丽、舒适、干净的生活和工作环境，并吸引投资者和旅客。我们的市议会既有目标也有任务，任务就是提供良好的城市基础建设与管理服务，来满足民众需求。我们的目标与任务的规划都充分参考了利益相关者的意见，并把我们的四项原则落实其中，这四项原则是，努力建成一个更干净、更绿色、更安全以及更健康的城市。

更干净的发展不仅仅是着眼于废物管理或创建一个更干净的自然环境，我们更强调以竞争力（Competency）、责任感（Accountability）与透明度（Transparency）为原则的清廉与良好的管治（简称“CAT 原则”）。对于我们来说，更绿色的发展不仅仅意味着在市区里种植更多的树，更意味着建设与可持续城市发展相吻合的低碳城市与生态城市，并实现绿色采购、绿色办公与可再生能源的推广，由此减少我们的生态足迹。一个更安全的城市意味着对市民来说更安全的环境，这种安全涵盖经济、政治稳定，远离疾病和灾害等各方面。环境设计预防犯罪（CPTED, Crime Prevention through Environmental Design），是威省正在执行的一项措施。更健康的城市的原则不仅旨在保障每个

In short, MPSP aims to provide a good quality of life to our rate payers by using SDGs as guiding principle to achieve our local priorities and meet our needs. The rapid urbanization in Seberang Perai over the last ten years has also led to certain challenges. Seberang Perai has adopted a comprehensive Five-year Strategic Plan for the period 2014-2018, which is also translated into annual plans. These can be measured more easily in term of impact and progress.

The first main challenge and task of the Municipal Council of Seberang Perai is to translate the national and state policies into local development action. A second related challenge is that we have only limited resources, but seemingly unlimited needs. Given this situation it is a challenge for us to provide good quality of life for all our stakeholders, also ensuring that “no one will be left behind.” Our local development policies aim to make Seberang Perai a habitat of choice for residents who want sustainable living, a location of choice for investors, and a destination of choice for tourists. Everybody needs and wants a cleaner, greener, safer and healthier urban environment which we are seeking to provide.

WBPM: What is the intermediate and long term vision for development in Seberang Perai, and how was this vision determined?

Mayor: The vision for development of Seberang Perai is to provide a beautiful, comfortable and cleaner place for all to live and work, and to attract both investors and tourists. The Municipal Council has a vision and a mission. The mission of Seberang Perai is to provide good urban infrastructure and management services that are responsive towards the needs of the



我们的地方发展政策，是让威省成为追求可持续发展生活的居民居住、投资者以及旅游者目的地的首选。每个人都希望获得更干净、更绿色、更安全以及更健康的城市环境，这也是我们在孜孜不倦追求的目标。

Our local development policies aim to make Seberang Perai a habitat of choice for residents who want sustainable living, a location of choice for investors, and a destination of choice for tourists. Everybody needs and wants a cleaner, greener, safer and healthier urban environment which we are seeking to provide.



人的身体健康，还包括了更健康与更具竞争力的经济，以及精神健康、财务健康和心理健康等。我们会让民众充分地参与政策决策过程。

WBPM：针对国内和国际的旅游业发展，有哪些重点？威省是如何提升可持续旅游发展的？

市长：旅游业，和电子行业、工业与制造业一样，都是威省的重要经济组成部分。通过明确的政策和指导，我们鼓励旅游业发展以及旅游基础设施建设，特别是酒店以及旅游产品。目前我们已经有 81 家不同类型的酒店，同时也鼓励旅行者到民宿体验我们的当地文化。我们鼓励生态旅游和文化遗产旅游。通过提高容积率，我们鼓励投资者更多地投入到旅游开发而不是简单的商业开发中。在 2013 年，我们为威省制作了第一份旅游地图，2014 年，遗产地图也正式出版。我们正在积极推广我们的旅游景点，并和其他团体和旅游相关机构进行密切合作。

WBPM：威省市议会强调良好的地区管治，您能阐释下在这方面我们的优先事项吗？

市长：在实现良好管治的过程中，我们采取了 CAT（Competency 竞争力、Accountability 责任感、Transparency 透明度）原则。我们对项目实行公开招标以实现最好的结果及物有所值。对于那些提交发展方案的潜在投资者，我们会提供一个在线的“一站式中心”，他们可以在线上浏览他们的申请进度。通过 CAT 原则，我们赋予了所有利



Photo by Mohd Faiz Abdul Halim

community. Our vision and our mission are formulated in close consultation with all concerned stakeholders, and implemented with four principles in mind; namely to achieve a cleaner, greener, safer and healthier city.

The principle of cleaner development emphasizes not only waste management or a cleaner physical environment, but we also emphasize clean and good governance with the principles of competency, accountability and transparency in administration (“CAT Principles”). For us, greener development not only means planting more trees in the city. It also means achieving progress in term of sustainable urban development in line with the concepts of low-carbon city, eco-city, and by implementing green procurement, green office, and renewable energy promotion. In this way we can reduce our ecological footprint. A safer city means a safer environment for the citizens, safer in terms of economy, political stability, and prevention of diseases and disasters. In Seberang Perai, we are implementing Crime Prevention through Environmental Design (CPTED). The principle of healthier city aims not only to ensure physical health for everyone, but also a healthier and competitive economy, spiritual health, financial health and psychological health. We engage with our communities in most of our decision making.



Photo by Kim Chang Keat

市民活动 Civic Activity



我们认为，“一个没有活动的城市是失去灵魂的”。我们也确认，“城市因人而存在，同时人也离不开城市”。

We believe that a “City without Activities Is a City without Souls”. We also believe that “A City is for People and People are for a City.”



益相关者作为合作伙伴参与城市管理的机会。我们有一个叫“更好的槟城”的智能监督系统 App，利益相关者可以在上面交流并参与城市管理。更多的资讯，可以登录 cat.betterpg.com 查看。

WBPM: 许多亚洲国家和城市提倡并实行“3R”策略，即对稀缺资源进行减量化 (Reduce)、再利用 (Reuse) 和再循环 (recycle)。在近期举办的亚太区可持续发展论坛上，您提出了一个“4R”策略，您给解释一下其内涵吗？

市长: 固体废弃物管理是我们城市目前面临的主要挑战之一。在 2012 年，我们把“3R”（减量化 Reduce、再利用 Reuse、再循环 Recycle）策略发展为“4R”（反思 Rethink、减量化 Reduce、再利用 Reuse、再循环 Recycle）。在我看来，“3R”的实施已经不足以满足可持续消费与生产模式的需要，作为消费者，我们必须也愿意去“反思”。我们的目标是将城市固废总量降低 50%。截至目前，威省每日产生固体废弃物约 1100 吨。我们希望通过一个全面的“反思”过程——包括在源头进行更好的垃圾分类以及提高垃圾回收利用和处理服务的收费，将固废总量下降到每天 550 吨。

WBPM: 能否和大家多分享一些威省在提高生态可持续性方面的项目内容？

市长: 在“地区行动 21”运动中，我们实施了 20 多个提高城市生态可持续性的项目。这些项目包括绿色学校奖、循环利用奖（主要针对幼儿园、小学和中学）、可持续社区奖以及零废弃物竞赛（主要针对小学、中学和社区）等。我们通过举办公益活动来提升堆肥水平和发展社区农业，美化城市并鼓励循环利用。我们十分关注青年人群公共意识水平的提升，因此公益活动中还涉及一些“爱惜粮食”、“光盘行动”、“拒绝食物浪费”的广告。我们会为幼儿园提供回收箱并为学校发放花盆。大人和儿童会一起学习制作泥球，用使用过的椰子油制作肥皂，以及学习有益菌的培养等。其他机构或地方政府举办的研讨会、对话和参观活动也有助于宣传这些优秀和最佳范例。

自从 2013 年，威省市议会授予槟城市政委员会办公室

WBPM: What is the importance of domestic and international tourism in the region and how will Seberang Perai enhance sustainable tourism development?

Mayor: Tourism is one of the important economic sectors in Seberang Perai, besides the electronic, industrial and manufacturing sectors. We encourage tourism development and tourist infrastructure in Seberang Perai by providing clear policy and guidelines for tourism development, especially for hotels and tourism products. There are currently 81 hotels in various categories. We also encourage homestay tourism to enable tourists to experience the local culture. We provide opportunities for eco-tourism as well as heritage tourism. Tourism investors are given incentives by allowing a higher plot-ratio in tourism development compared to the normal commercial development. In the year 2013, we produced our first tourist map for Seberang Perai, and our Heritage Map was published in 2014. We are ready to promote our tourist attractions, working hand-in-hand with other groups and tourism related agencies.

WBPM: The Municipal Council of Seberang Perai emphasizes the principles of good local governance. Can you please explain these priorities?

Mayor: We are adopting CAT (Competency, Accountability & Transparency) in our administration to attain good governance. We are practicing open tenders for all our projects so that we can achieve best outcomes with value for money. We offer an on-line “one stop center” for those who want to submit development plans, and potential investors can view the status of their applications online, too. Through CAT principles, we engage and empower our stakeholders and make them our partners in managing the city. Our Better Penang App is a smart monitoring system (SMS) which enable stakeholders to communicate and participate in our city. The more detailed information, please see cat.betterpg.com.

WBPM: Many Asian countries and cities advocate and implement a “3-R” Strategy to reduce, reuse and recycle scarce resources. At the recent Asia-

“绿色办公室”的称号。目前我们正在推行网络会议以及网络采购，我们形成了一套针对绿色采购的标准制度。此外，市里还在着手开展一项“生态城市发展计划”，共有 6000 公顷的土地会根据《生态城市指导原则》来进行规划发展。同时，威省通过推广绿色建筑与更多地使用可再生能源，努力推进可持续发展目标中目标 11 的实现。

在威省的北海市，一个综合的城市更新与复兴项目正在进行中。这个新项目旨在提高当地的经济水平，让城区重新焕发活力。我们将推出许多的重建项目与文化遗产活动，比如北海艺穗节。我们认为，“一个没有活动的城市是失去灵魂的”。我们也确认，“城市因人而存在，同时人也离不开城市”。

威省市议会还和日本横滨市议会合作进行大山脚市的复兴工作。来自横滨市议会与横滨市立大学的城市规划专家与威省市议会团队一起，共同推进大山脚市的可持续发展。

WBPM: 为促进社区融合和提高城市安全，威省正在实行一系列“促增长、促就业和扶贫”的发展战略。您能举例说明一下这个战略吗？就您的切身体会，您如何评价？

市长: 威省市议会有一个清晰的发展规划。我们的规划决定了政策方向与发展策略。总规为地区层面的规划提供了框架与指引。政府希望促进增长，我们为了给投资者提供经商的信心，目前已经简化并加强商业与土地发展的审查和批准程序。

通过这个促增长的发展策略，我们鼓励各个核心领域增加就业机会，包括农业、商业、住房、旅游及其他服务业。我们建立了一些当地市场和小贩聚集区，并以很低的租金租给低收入人群以满足他们的需要，通过这样的方式我们保障了贫困人群的就业机会。

我们通过实施扶贫发展政策来鼓励社会融合。比如，开发商每开发 150 套住房，其中 30% 必须属于低成本住



当地市场 Local market

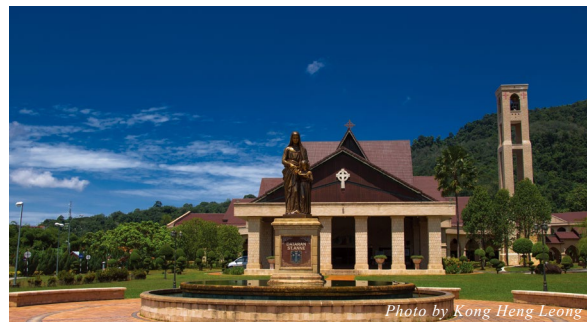
Pacific Forum on Sustainable Development (APFSD) you have called for a “4-R” Strategy. Can you please explain your vision?

Mayor: Solid waste management is one of the main challenges for my city. In the year 2012, we changed “3R” (Reduce, Reuse, Recycle) to “4R” (Rethink, Reduce, Reuse, Recycle). In my opinion, implementing “3R” may not be sufficient to achieve more sustainable consumption and production patterns. As consumers, we must also be willing to “Rethink”. As a city, our objective is to reduce the generation of solid waste by 50 per cent. Until recently, Seberang Perai produced some 1100 tons of waste per day. We hope to reduce this to about 550 tons/day through a comprehensive “rethink” process which includes the implementation of better waste segregation at source, and higher fees for waste recycling and waste disposal services.

WBPM: Kindly share with us some further information on local programs aimed at enhancing ecological sustainability in Seberang Perai?

Mayor: Under our “Local Action 21” campaign, we have implemented some 20 programs aimed to enhance ecological sustainability in our city. These programs include Green School Awards, Recycling Awards (Category: Kindergartens, Primary & Secondary School), Sustainability Community Awards, and a Zero Waste Competition (Category: Primary & Secondary Schools, Communities). We implement public benefit campaigns to enhance composting and community farming, to promote city beautification, and to encourage re-cycling. Our public awareness creation and public benefit campaigns targeting the youth also include advertorials such as “Appreciate food”, “Eat till finish” or “Don’t waste food”. We distribute recycling bins to kindergartens and flower pots to the schools. Adults and children learn mud ball making, soap making from used cooking oil, and beneficial indigenous microorganism (BIM) making. Seminars, talks and visits to other agencies or local governments help to disseminate information on such good and best practices.

The office of the Municipal Council of Seberang Perai (MPSP) is certified as green office by the state Penang Green Council since 2013. We are practicing e-meeting and e-procurement. We have institutionalized green procurement criteria for all of our procurement. Furthermore, the Municipality has also embarked on an “Eco-City Development Project”. A total area of 6000 acres of land is to be developed in line with “Eco-City Guidelines”. In addition, Seberang Perai seeks to



圣安纳教堂 St Anne's Church

房。州政府通过推进一项保障性住房方案来鼓励私人开发商开发价格控制在 150,000.00 马币、200,000.00 马币和 250,000.00 马币（约 35,000–60,000 美金）一套的经济适用房。这个发展策略是为了保障贫困与弱势群体的利益。

WBPM: 在您的领导下，威省已经成为参与式性别预算 (GRPB, gender responsive participatory budgeting) 的示范城市。您能讲述一下它是如何付诸行动以及从当地社区获得的参与和反馈情况吗？

市长: 我们从 2012 年就开始实施参与式性别预算。对于我们来说，它能够帮助分析不同社区不同人群的需求，并拉近政府和民众的关系。它的目标是保证地区在制定预算分配的过程中尽可能地体现包容性，明确社区内的首要需求并采取适当的干预措施。参与式性别预算为公共服务的用户提供了多元效益和适应性预算。威省市议会是马来西亚第一个将社会性别主流化纳入议会工作中的地方政府。

参与式性别预算呼吁政府和民众之间建立对话，它需要系统的数据收集来衡量性别预算并监督其影响和成果。参与式性别预算在准备议会预算时，需要倾听来自男人和女人、老人和青年、移动的和非移动的、工作者和非工作者等不同群体的各种声音。这正是可持续发展目标中所提到的“不让一个人掉队”。

从 2012 年开始，威省市议会每年都举办预算对话会，从社区获得各种意见并不断改进。参与式预算需要民众的广泛参与，这些参与者包括议员、男士、妇女、非政府组织代表、政府机构、村长、投资者、青年、社区组织等。

针对如何将有限的资源分配给各个群体需求的问题上，我们会收集反馈和建议。参与式性别预算使我们的财政来源能够根据不同群体的首要需求来进行分配。在过去的 5 年里，参与式性别预算的市政厅大会不断强调纳税人关注的首要问题是廉洁，其次是安全和交通、法律的实施、防洪、景观与公共设施、社区服务、能力建设、强化财政、有效和高效的工作以及标准化操作流程等。

advance implementation of SDG Goal 11 by promoting green buildings and greater use of renewable energy.

A comprehensive urban renewal and rejuvenation project is also in the pipeline for the town of Butterworth. This new project aims to enhance the local economy and bring back the vibrancy of Butterworth town. Many restoration projects and cultural heritage activities will be carried out, including the Butterworth Fringe Festival (BFF). We believe that a “City without Activities Is a City without Souls”. We also believe that “A City is for People and People are for a City.”

The Municipal Council of Seberang Perai also collaborates with the Yokohama City Council in the rejuvenation of Bukit Mertajam town. The experts on urban design from Yokohama City Council and Yokohama City University (YCU) are working with and supporting the local MPSP team to improve the sustainability of Bukit Mertajam, one of the towns in Seberang Perai.

WBPM: Seberang Perai pursues a "pro-growth, pro-employment, pro-jobs, and pro-poor" development strategy for social integration and enhance local safety. Please give some examples and a self-assessment of your experiences.

Mayor: MPSP has a clear development plan. Our plan provides policy direction and a strategy of development. Overall planning for the region provides a framework and guidance for planning at the local level. We seek to give investors the confidence they need for doing business, and we have streamlined and strengthened the review and approval procedures for all business and land development. In this way, we are a "pro-growth" municipality.

By having a pro-growth development strategy, we are also encouraging the creation of employment opportunities in all key sectors, including agriculture, commerce, housing, tourism and other services. We are also building local markets and hawkers complexes to cater to the low income group at very low rentals. This is to ensure jobs opportunities for the poor.

We encourage social integration by implementing a pro-poor development strategy. For example, any developer who develops 150 units of housing needs to provide about 30 per cent in the low cost housing category. The state government has also introduced an Affordable Housing Program to encourage private developers to develop affordable housing at controlled prices of RM 150,000.00, RM 200,000.00 and RM 250,000.00 per unit (approx. 35,000 – 60,000 US\$). This

政府会经常收集并分析公众提出的反馈，我们很高兴地看到，民众对于我们工作的满意率从 2014 年的 68% 已上涨到 2015 年的 89%。对于我们来说，参与式性别预算 是城市透明化管理的一个重要组成部分。

通过参与式性别预算，威省政府成功地实践了真正的公—私—人合作伙伴关系 (4Ps: public-private-people-partnership)，一般人们熟悉的更多是公私合作伙伴关系 (3Ps: public-private-partnership)，然而，威省市议会 在里面增加了一个 P，也就是“人” (people)。我们相信，如果没有公众的参与和支持，即使是一个好的公私合作伙伴关系项目也很难成功地执行。

威省目前已经和不同的公司、组织以及发展商完成了 总共 23 个公—私—人合作伙伴关系的项目。许多私人公司 和个人作为我们的合作伙伴，参与了公园、开放空间与公 共区域的升级维护等项目。通过这种方式，我们为市民创 造了一种归属感与自豪感，并有助于直接减少公共设施的 破坏。

“4R”策略、“4P”关系以及参与式性别预算在我们的 城市里得到了很好的实践。

WBPM: 根据您的经验，对于提高城市可持续性发展的国际合作，您有什么建议呢？

市长: 在规划、实施和监督可持续发展目标实现的过程中，国际组织需要加强和城市市长以及地方政府的合作。国际参与往往都发生在区域或国家层面。然而，可持续发展目标的实际成果需要体现在地方层面。为达到可持续发展目标而制定的政策和项目都是通过市长来实施的。因此，市长能否根据当地实际需要，理解并将可持续发展目标贯彻到当地的行动、活动和项目中，这一点是非常重要的。在决策的过程中，我们必须通过公众参与以及地区合作伙伴将可持续发展目标贯彻到地方行动中。可持续发展目标的最终目的是保证“不让一个人掉队”，而城市市长可以帮助更好地实现这个目标。

注：代表《全球最佳范例》进行采访的是全球人居环境论坛高级顾问拉尔夫·万查福特



development strategy is to cater to the poor and other under privileged groups.

WBPM: Under your leadership Seberang Perai has become a model city for gender responsive participatory budgeting (GRPB). Please explain how this works in practice and what participation and feedback you have received from the local communities?

Mayor: We have implemented gender responsive participatory budgeting (GRPB) since 2012. For us, GRPB is a process to help identify different needs of different people in different communities, and to help forge a closer relationship between the Municipality and the people. Its purpose is to ensure that the process of decision making on local budget allocations is as inclusive as possible, so that priority needs within communities and the necessary interventions are identified and carried out. Gender responsive participatory budgeting provides multiple benefits and adapts budgets to the needs of users of public services. The Municipal Council of Seberang Perai was also the first local authority in Malaysia to provide allocations for gender mainstreaming within the work of the council.

A gender responsive participatory budgeting calls for regular dialogue between residents and authorities. It requires systematic data collection to enable an evaluation of budget spending by gender and to monitor achievement of other impacts and results. GRPB involves women and men, old and young, mobile and not mobile, working and not working, and all the different voices of a community in preparing the municipal budget. This is in line with the SDG principle that “no one will be left behind.”

Since 2012, the Municipal Council of Seberang Perai organizes annual budget dialogues with the community to get input, opinions and suggestions for improvement. Participatory budgeting enables broad community participation. The participants include Members of Parliament, State Assembly men and women, NGO representatives, government agencies, village leaders, investors, the youth and Community Based Organizations (CBOs).

We gather feedback and proposals on how to distribute our limited resources to cater for the needs of the communities. GRPB allows us to allocate our financial resources according to the priorities suggested by the communities. Throughout the past five years GRPB Town Hall Sessions have repeatedly emphasized the issue of cleanliness as a top priority of rate payers. Other priorities include safety and traffic, law enforcement, flood mitigation, landscape & public amenities, community engagement, capacity building, fiscal strengthening and effectiveness



城市一景 Urban Life

and efficiency in the work process and standard operating procedures (SOP).

The Municipality regularly collects and analyzes feedback provided by the public. We are pleased to note that satisfaction with our service delivery has increased from some 68 per cent in 2014 to some 89 per cent in 2015. For us, gender responsive participatory budgeting is an integral part of transparent city management.

With GRPB, the Municipality of Seberang Perai practices true public-private-people-partnership (4Ps). Normally, people will mention 3Ps (public-private-partnerships). However, MPSP added another “P” to represent “People”. We believe that if without public participation and support, even a good program of public-private-partnerships (3Ps) can’t be implemented successfully.

Seberang Perai has completed twenty-three (23) 4Ps partnership projects with companies, associations and developers. Many private companies and people collaborate as our partners in upgrading and maintaining our parks, open spaces and public spaces. In this manner, we have managed to create a sense of belonging and pride on the part of the citizens. This has also helps indirectly to reduce the rate of vandalism of our public amenities.

“4Rs” (Rethink, Reduce, Reuse, Recycle), “4Ps” (Public-People-Private-Partnership) and GRPB (gender responsive participatory budgeting) works well with our city.

WBPM: Based on your lessons learned, what are your suggestions for international cooperation on enhancing sustainability in urban development?

Mayor: International organizations should collaborate and engage more with Mayors and Local Government in the process of formulation, implementation and monitoring of the SDGs. More often than not, international engagement is limited and takes place only at the regional and national levels. However, the actual achievement of SDGs needs to occur at the local level. Policies and projects to achieve the SDGs are to be implemented by Mayors. Thus, it is very important that Mayors are able to understand and to translate the SDGs into their local actions, activities and programs in accordance with assessed local needs. We have to translate SDGs into local actions through smart public engagement and local partnership in decision making process. The ultimate goal of SDGs is to ensure that “no one will be left behind” and Mayors can help to achieve these goals. 

Note: Interview conducted for WBPM by Ralph Wahnschafft, Senior Advisor, GFHS

SUSTAINABLE CONSUMPTION AND PRODUCTION

可持续消费与生产

The Green Consumption Guidelines Unveils a New Mode of Sustainable Consumption
国家绿色消费意见出台开，启可持续消费新模式



The Green Consumption Guidelines Unveils a New Mode of Sustainable Consumption

国家绿色消费意见出台 开启可持续消费新模式

2016年2月17日，发改委、中宣部、科技部等十部门联合出台了《关于促进绿色消费的指导意见》（以下简称《意见》），这是一部为落实绿色发展理念，促进绿色消费，加快生态文明建设，推动经济社会绿色发展而制定的法规。《意见》中明确了居民、公共机构和企业三大绿色消费主体，从引导居民践行绿色生活方式和消费模式，推进公共机构带头绿色消费，推进企业增加绿色产品和服务供给等方面对各个主体的绿色消费提供了行动指南。

去年的中共五中全会强调，必须牢固树立并切实贯彻“创新、协调、绿色、开放、共享”的发展理念，中央经济工作会议也强调“要更加注重促进形成绿色生产方式和消费方式”，中央城市工作会议要求“统筹生产、生活、生态三大布局”，以及今年3月份两会上提到的“持之以恒，建设天蓝、地绿、水清的美丽中国”，绿色发展已经成为了中国未来发展的方向和共识。这份以“绿色消费”为主题的文件，是贯彻“绿色发展”理念的具体措施。正如总理在两会上回答环境问题时所说的，“如果说人一时难以改变自己所处的自然环境，但是可以改变自己的行为方式。”要实现绿色发展，不仅要制定政策制度、完善保障措施，更需要人们把绿色消费的理念融入日常生活，在衣、食、住、行等方面自觉做出绿色选择。举手之劳人人可为，力所能及一念之间——为了我们的绿水青山，为了我们赖以生存的美好家园。

下面，我们就《意见》中部分与人们日常息息相关的条文进行解读，希望能给大家一些启发。



深入开展全民教育

环保教育从孩子抓起，在环境问题日益严重的今天，环保教育的意义显得更加深远。在儿童身上开展环保教育，从小启蒙幼儿的环保意识，对他们长大成人后能否自觉地履行保护环境的责任和义务具有重大影响。

儿童天生具有和自然亲近、对话的本能，因此在儿童的环保教育中，我们主张立足儿童的生活经验，激发儿童真正发自内心地去喜欢这个世界，保护这个世界。我们可以带孩子投入大自然的怀抱，从而建立起儿童与自然亲和的关系；也可以开展和植树节、森林日、水日有关的活动，寓教于乐。从理解到行动，培养儿童对所生活的地方负责任的态度，建立人与环境和谐的观念，让环保意识从小就植根于孩子们心中。



倡导绿色生活方式

《意见》在绿色生活方式方面提出了完善居民社区再生资源回收体系，在中小学校试点校服、课本循环利用等建议。更创新性地提出要发展共享经济，鼓励个人闲置资源有效利用，有序发展网络预约拼车、自有车辆租赁、民宿出租、旧物交换利用等。随着移动互联网等新技术的兴起和发展，共享经济作为一种新型经济形态逐渐走进人们的视野。共享经济的特点是“不求拥有，但求所用”。作

为一种新的消费理念，分享经济不仅是一种绿色、开放、共享的生活方式，更可以解决长期困扰人类发展的资源、环境、公平、信任等诸多难题。在今年全国两会上，分享经济被第一次写入政府工作报告，预示着未来的消费经济运行轨迹将发生重大转变。

国外具有代表性的分享经济模式是 Uber 和 Airbnb，国内的分享经济虽然刚刚起步，但已经涌现出了一批发展势头迅猛的代表：滴滴打车、蚂蚁短租、美团网、知乎网、人人贷等等。滴滴发布的《中国智能出行 2015 大数据报告》报告显示，仅快车拼车和顺风车两个产品一年能节省 5.1 亿升汽油燃烧，减少 1355 万吨碳排放，相当于多种 11.3 亿棵树的生态补偿量。Uber 提供的资料显示，其在杭州的拼车出行减少的碳排放相当于每三天增加一个西湖面积大小的森林。“分享经济”分享的不只是经济，更是一种消费层面的可持续发展理念，推动人类走向更加开放、包容、和谐的信息社会。



鼓励绿色产品消费

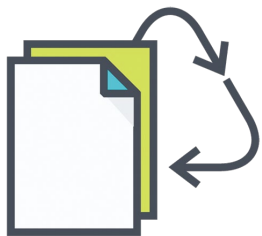
《意见》中提出推广高效节能电机、节能环保汽车、高效照明产品等节能产品；鼓励选购节水龙头、节水马桶、节水洗衣机等节水产品；到 2020 年，实现能效标识 2 级以上的节能家电市场占有率达到 50% 以上。

马克思认为，消费不仅是生产的终点，也是生产的起点；消费不但实现生产，而且反过来促进生产。因此，人类要摆脱可持续发展的危机，必须从改变导致对自身生存环境破坏的消费模式开始。过去，“省电不省钱”成为影响消费者选择节能产品的一大障碍，节能产品高昂的价格令消费者望而却步，后来，国家在 2012 年推出 265 亿家电节能补贴新政，用于推广符合节能标准的空调、平板电视、冰箱、洗衣机和热水器等产品，取得了非常好的社会效果。虽然环保问题看似专业而复杂，但我们也可以把它看得简单而又平常，环保从每个家庭做起，从家里每件小事做起，正如古人所说的，“一屋不扫，何以扫天下？”

“

滴滴发布的《中国智能出行 2015 大数据报告》报告显示，仅快车拼车和顺风车两个产品一年能节省 5.1 亿升汽油燃烧，减少 1355 万吨碳排放，相当于多种 11.3 亿棵树的生态补偿量。Uber 提供的资料显示，其在杭州的拼车出行减少的碳排放相当于每三天增加一个西湖面积大小的森林。“分享经济”分享的不只是经济，更是一种消费层面的可持续发展理念，推动人类走向更加开放、包容、和谐的信息社会。

”



全面推行绿色办公

在全面推进公共机构带头绿色消费方面，《意见》提出要提高办公设备和资产使用效率，鼓励纸张双面打印；推进信息系统建设和数据共享共用，积极推行无纸化办公；凡具备条件的办公区要安装雨水回收系统和节水利用设施等。

据惠普的一项调查发现，如果有 10 万用户在每天工作结束时关闭电脑，就能节省高达 2680 千瓦时的电，减少 3500 磅的二氧化碳排放量，这相当于每月减少 2100 多辆汽车上路。因此，在日常的办公生活中，我们有很多行动可以节约能源，减少污物产生、排放。比如，天气晴朗的时候采用自然采光，减少用电量；控制室内的空调温度，适宜的温度一般是 26 度；提倡无纸化办公，尽量使用双面打印；办公室、洗手间的照明，应使用节能灯，做到随走随关，杜绝长明灯等等。这些虽然都是很小的改变，但水滴石穿，对环境所产生的力量是很大的。



完善绿色采购制度

在公共机构的绿色消费方面，《意见》提出要严格执行政府对节能环保产品的优先采购和强制采购制度，扩大政府绿色采购范围，健全标准体系和执行机制，绿色采购是本次《意见》的一大亮点。完善绿色采购制度，能够以制度和政策引导社会对绿色产品的生产和消费，让政府牵头起到一种示范的作用。

从国际上看，美国、丹麦、加拿大等都制定相关法律，要求优先采购经过环境认证的产品，日本政府甚至实行了强制采购政策。可见，通过立法强制推行或鼓励政府绿色采购是国际上的通行做法，可为实施绿色采购提供强有力的法律支持和制度保障。与西方发达国家相比，我国的政府绿色采购制度起步较晚，但进展较快，我国《政府采购法》已实施 4 年多，政府采购实施细则和制度也在逐步完善中。完善绿色采购制度对于树立政府机构环保形象、提高全社会的环境意识、推动企业技术进步、引导公众绿色消费、实现可持续发展有十分重要的意义。

“

马克思认为，消费不仅是生产的终点，也是生产的起点；消费不但实现生产，而且反过来促进生产。因此，人类要摆脱不可持续发展的危机，必须从改变导致对自身生存环境破坏的消费模式开始。

”



开展反对浪费行动

《意见》中提出的反对浪费行动包含三个方面。第一是开展反过度包装行动，第二是开展反食品浪费行动，第三是开展反过度消费行动。《意见》提倡杜绝公务活动用餐浪费，餐饮企业应提示顾客适当点餐，鼓励餐后打包，争做“光盘族”，倡导婚丧嫁娶等红白喜事从简操办等等。

我国在绿色消费方面有一项一直饱受诟病的缺点：以奢华包装为代表的奢靡之风。在端午、中秋、春节等重要节日期间，以粽子、月饼、红酒、茶叶、杂粮、化妆品等商品为主的虚假包装、过度包装和豪华包装竞相上演“面子工程”。包装的美观大方，诚然有利于商品销售，因此适当的包装是必要的。但过度包装走向另一个极端，就成了累赘。中国自古便有“买椟还珠”的教训，商品最重要的是内在质量，外部包装不应喧宾夺主。对我们消费者来说，货真价实、物有所值，才是选购商品的最重要标准。



健全标识认证体系

4 月 14 日，国家认监委启动了中国绿色产品合格评定体系建设项目，研究部署“中国绿色产品”认证和标识制度整合建设工作。这标志着中国政府“整合绿色产品标准、认证、标识体系”进入实质性推进阶段。

在促进绿色消费过程中存在一个重要难点，就是人们无法判别何为真正的“绿色”产品。建立统一的绿色产品体系，可以用认证的手段起到引领消费者的作用。过去，由于国内对“绿色产品”的界定没有规范体系，导致了标准不统一、认证和标识种类名目繁多等诸多问题，人们在五花八门的所谓“绿色标识”前无从下手。未来，随着标识认证体系的建立，绿色产品有了“身份证”以后，可以加强公众对于环境标识的认知和信任度，帮助消费者辨别真正的绿色产品。WBPI



INITIATIVE OF INTERNATIONAL GREEN MODEL CITY: IMPLEMENTING 2030 SUSTAINABLE DEVELOPMENT AGENDA AT LOCAL LEVEL

国际绿色范例新城倡议： 在地区层面贯彻 2030 可持续发展议程

Greener • Low Carbon • Compact • Quality • Happiness
绿色 · 低碳 · 紧凑 · 品质 · 幸福



2011 年 4 月 8 日，GFHS 在纽约联合国总部正式发布了 IGMC 倡议。
On 8th April 2011, IGMC initiative was officially launched by GFHS at the UN headquarters.

国际绿色范例新城（IGMC）倡议是由全球人居环境论坛（GFHS）于 2011 年 4 月在联合国总部发起的、高起点的绿色低碳城镇发展计划。IGMC 倡议以十二项原则为主要特征，致力于贯彻联合国《2030 可持续发展议程》中目标 11 “建设包容、安全、有复原力和可持续的城市和人居环境。”，因此，得到联合国环境规划署等国际组织和有关国家政府的大力支持。

作为一种创新的模式，IGMC 倡议激发前瞻性的政府、企业和社会力量共同努力，探索可持续的城市建设和城镇化模式，应对气候变化。IGMC 试点项目将率先在发展中国家启动。

由 GFHS 和联合国环境规划署组织 50 多位国际专家编著的 IGMC 标准包含十二项原则、84 项指标及相应的策略和措施，并设计了评分系统，以指导 IGMC 试点项目的规划建设。

IGMC 十二项原则包括：净零碳、零废弃物、可持续的环境、绿色规划与设计、绿色交通和连接、绿色基础设施、绿色建筑、绿色经济、绿色生活、和谐社会、可持续的文化与遗产、智慧社区。这些原则体现了可持续城市和人居住环境的发展方向，和联合国《2030 可持续发展议程》和《新城市议程》相一致。IGMC 倡议在联合国秘书处注册，既是里约

+20 的成果之一，也成为在地区层面贯彻《2030 可持续发展议程》和《新城市议程》的自觉行动。

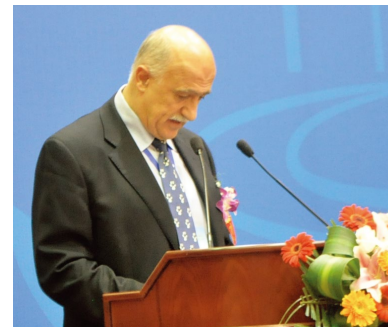
国际绿色范例新城试点项目融入精明增长和紧凑型城市理念，支持地方可持续发展，将“绿色经济、文化、教育、居住、休闲和配套公共服务”等功能进行混合规划，要创建绿色经济聚集区、低碳生态居住区、健康商务休闲区、和谐包容幸福区，旨在建成一个生态优良、生活健康、产业稳健、精神富足的幸福家园。

范例新城倡议和《中国新型城镇化规划（2014 – 2020 年）》及《中共中央、国务院关于加强城市规划建设管理工作的若干意见》的目标原则十分吻合，也将为中国新型城镇化做出贡献。GFHS 已经先后与中国贵州省贵阳市、江苏省泰州市和山东省德州市签署了 IGMC 试点项目落户当地的框架协议。

IGMC 试点项目有三种类型：新建项目从选址开始导入 IGMC 标准、新建项目中途导入 IGMC 标准、城市更新项目从开始导入 IGMC 标准。



在第七屆全球人居环境论坛上，沙祖康大使号召世界应为建设可持续城市而努力
Ambassador Sha Zukang delivering a keynote speech to call for strengthening global efforts to build sustainable human settlements at GFHS VII



联合国环境规划署阿拉伯·霍巴拉部长在 2011 年 IGMC 标准贵阳研讨会致辞
Arab Hoballah, Chief of Sustainable Consumption and Production UNEP/DTIE addressing at Guiyang Workshop on IGMC Standards in 2011



全球人居环境论坛秘书长吕海峰在里约 +20 上同与会者分享 IGMC 标准最新成果
Lu Haifeng, Secretary General of GFHS sharing IGMC standards at GFHS VII during Rio+20



出席 2011 IGMC 标准贵阳研讨会部分专家
Group photo of some experts present at the Guiyang Workshop on IGMC Standards in 2011



2013 年 4 月泰州 IGMC 领导小组筹备会议上，吕海峰一行与泰州市杨杰副市长等商议项目推进
Lu Haifeng, Secretary General of GFHS discussing the IGMC project process with Yang Jie, Deputy Mayor of Taizhou at the IGMC preliminary meeting in April, 2013



2014 年 3 月 1 日，IGMC 倡议与试点项目落户研讨会在深圳观澜湖度假区举办
The Symposium on IGMC Initiative & Pilot Locating, Missions Hills, 01 March 2014, Shenzhen, China

The International Green Model City (IGMC), a greener and low-carbon city (town) development initiative with high jumping-off point, was launched by GFHS at the headquarters of the United Nations in April 2011. IGMC, characterized by its twelve principles, is committed to implementing the urban-focused goal 11 of the UN's 2030 Agenda for Sustainable Development, to build inclusive, safe, resilient and sustainable cities and human settlements, and has therefore been strongly supported by international organizations including UNEP and relevant national governments. It will duly serve as a innovative model to motivate forward-looking governments, enterprises and social forces to work together to explore new-type urbanization, build sustainable cities to deal with climate change. IGMC pilots will firstly be launched in developing counties.

IGMC standards, compiled by over 50 international experts who were convened by GFHS and UNEP, includes 12 principles, 84 indicators and corresponding strategies and measures with an authentication rating system to guide IGMC planning and construction.

12 principles of IGMC include Net Zero Carbon, Zero Waste, Sustainable Environment, Green Planning + Design, Green Transportation and Linkages, Green Infrastructure, Green Building, Green Economy, Green Living, Harmonious Society, Culture and Heritage, Smart Community. These principles are consistent with the 2030 Agenda for Sustainable Development and the New Urban Agenda, and embody a commitment to sustainable cities and human settlements. IGMC initiative has already been registered at the United Nations secretariat as an important commitment to Rio + 20, and has become a substantial action to implement 2030 Agenda for Sustainable Development and the New Urban Agenda at local level.

IGMC pilots incorporate the concept of smart growth and compact city in support of the sustainable development at local level, and integrate the functions of “green economy, culture,



2014 年，国际人居环境范例新城（IGMC）试点项目战略合作签约仪式在中铁置业集团上海总部举行
The Signing Ceremony of Strategic Cooperation Agreement with China Railway Real Estate Group on IGMC Pilot Project, Shanghai, 2014

education, residence and matched public services" in one system. IGMC pilots are committed to building cities with green economy cluster, low-carbon residential area, recreational place for health and business, as well as inclusive and harmonious community. It is also aimed at creating homes for the people who have access to excellent ecology, better life, stable and prosperous industry, and enjoy healthy spiritual life.

IGMC is in line with the "National New-Type Urbanization Plan (2014-2020)" and the "Guidelines to Strengthen Urban Planning, Development and Management, issued by the Communist Party of China (CPC) central committee and the State Council". IGMC pilots will contribute to the new-type urbanization in China. GFHS has successively signed the framework agreement on the IGMC pilots with the governments of Guiyang, Guizhou Province, Taizhou, Jiangsu Province and Dezhou, Shandong Province, China.

There are three types of IGMC pilots: New projects import IGMC standards from site selection, Existing projects import IGMC standards halfway, Urban renewal projects import IGMC standards from the beginning.

WORLD BEST PRACTICES 全球最佳范例

ASIA-PACIFIC EDITION 亚太版

部分理事单位 PART OF COUNCIL UNITS



无锡市人民政府



丽江市人民政府



伊春市人民政府



三亚市人民政府



大理市人民政府



章丘市人民政府



美国圣塔莫尼卡市



遂宁市人民政府



贵州省都匀市人民政府



江山市人民政府



鞍山汤岗子新城



黄果树风景名胜



观澜湖集团



雷诺-日产联盟



峨眉山风景区管委会



普陀山风景区管委会



新疆喀什天门
神秘大峡谷



万科企业股份有限公司



深圳东部华侨城
有限公司



深圳市振业(集团)
股份有限公司



中海兴(西安)有限公司



深圳市天健(集团)
股份有限公司



深圳市中幼国际教育
科技有限公司



华电山东分公司电力
股份有限公司



法国苏伊士环境集团



北京建工



江苏阳光置业
发展有限公司



香港华宸投资集团



WEST HOPE GROUP
华西希望集团



深圳市地业
房地产有限公司



深圳海岸
房地产有限公司



江苏金洋投资有限公司



加拿大宝佳
国际建筑师有限公司



深圳市循环经济协会



深圳市阿尔开地
景观设计有限公司



常州凯悦
房地产有限公司



深圳市逐根园林
设计有限公司



四川省大卫建筑
设计有限公司



四川省城市建设
工程监理有限公司



青岛黄岛发展(集团)有限公司
Qingdao Huangdao Development Group Co., Ltd.



滕州德意君瑞置业
有限公司

定价 PRICE
HKD90元 CNY80元 USD20元

ISSN 2072-392X



9 772072 392000



12 >