THE 15TH ANNUAL SESSION OF GLOBAL FORUM ON HUMAN SETTLEMENTS

OUTCOME DOCUMENT

第十五届全球人居环境论坛年会
成果文件

2020年，世界迈入了“可持续发展目标行动十年”。联合国呼吁通过建立网络化和包容性的多边主义，全面贯彻《2030年可持续发展议程》，这不仅能促进全球团结抗击疫情，而且有助于我们克服当今巨大的挑战。2020年也是全球人居环境论坛（GFHS）创立15周年（2005年—2020年）。作为一个联合国认可与支持的国际非营利组织，GFHS致力于促进“人人共享的可持续城市与人居环境”，为促进全球可持续发展做出了积极的贡献。针对联合国于2020年7月28日发布的《政策简报：新冠病毒与城市》，GFHS特别发表了声明，表示对该项“政策简报”最热烈的欢迎和最坚定的支持。

The year 2020 has led the world into a decade of action on the Sustainable Development Goals (SDGs), and the UN calls for a networked and inclusive multilateralism which will not only allow the outpouring of global solidarity to combat COVID-19 crisis, but help overcome the challenges of our current era. 2020 also marks the 15th anniversary of Global Forum on Human Settlements (GFHS) which has been dedicating to make sustainable cities and human settlements for all. GFHS has also issued a statement to extend its strongest support to the latest report launched by the United Nations “Policy Brief: COVID-19 in an Urban World” (hereinafter “Policy Brief”).

由新冠疫情带来的前所未有的挑战和影响正在重塑人类社会，城市首当其冲。虽然世界城市仍然是实现经济增长和可持续发展的主战场， 但是在通往未来的道路上，首要的议程是确保城市更加安全和健康。必须保持生态平衡，促进城乡和谐，提升城市对大流行病、气候和各种生态危机的抵御能力。只有保持生态完整性和增强城市弹性，我们才能预见一个安全、包容、繁荣和可持续的未来。

作为贯彻《联合国政策简报：新冠病毒与城市》的切实行动，第十五届全球人居环境论坛年会（GFHS 2020）于10月15-16日在线成功举办，力推疫后复苏与蝶变，共促弹性城市与健康星球。本届年会规格和规模都创历届年会之最，共有24个权威机构共同鼎力参与，其中包括了10大联合国机构和亚洲开发银行。约100位来自全球的杰出演讲者和评论员对公共卫生、生态失衡及气候变化等非传统安全挑战常态化下的城市与人居环境可持续性变革展开了深入讨论和剖析，提出了及时的、科学的解决方案和政策建议。约十万专业观众通过在线与直播的形式参与和观看了此次盛会。与会者认识到通过采取果断行动，实施绿色复苏和可持续变革，制止对生态系统和全球气候的破坏和威胁的紧迫性和重要性。

作为第十五届全球人居环境论坛年会的参会者，我们经过为期两天的深入探讨，达成以下共识与建议，同时强烈呼吁加速行动，扩大可持续发展的实践与创新，从而打造更安全、包容、有弹性和可持续的城市和社区，实现我们建设健康星球的愿景，使所有生活在地球上的生命茁壮成长、欣欣向荣。

1. 我们生活在危机与变革并存的时刻。地球的三重危机，即气候变化、生物多样性丧失和环境污染，使威胁倍增，我们不可避免地要去改变人与自然的关系并学会从中获益。随着全球气候持续变暖，发生更多极端天气事件的可能性增加，并将危及到目前已知的高风险地区以外的更广区域。

2. 我们重申，城市是应对当今及未来大流行病、气候变化和新型危机的前沿。新冠肺炎疫情（COVID-19）加速暴露既有的不平等和脆弱性，促使我们反思和重塑作为“复苏引擎”的城市。当务之急在于加强城市在规划、治理、能力建设、融资、服务提供和业务持续性等方面的防灾和应急能力。

3. 我们可以向有利于自然和气候友好的未来发展道路转型。但是，这需要各国政府在关键政策领域中深思熟虑，坚定决心，信守承诺，充满斗志，同时还需要城市、企业和社区采取果断行动。

Due to the unprecedented challenges created by COVID-19, human society is being reshaped. Cities remain as the key battleground to strive for economic growth and sustainable development. But on the pathways towards a sustainable future, the first and foremost agenda is to ensure that cities are safer, securer and healthier, that cities become increasingly resilient to pandemic, climate, and various ecological crises, and that cities are closely linked to rural areas and nature to enable interactions in a positive and synergistic way. In the process, resilient cities need to be put in a better position to protect and enhance people's lives, secure development gains, foster an investible environment, and drive positive change. Only by maintaining ecological integrity and reinforcing urban resilience can we foresee a future that is safe, inclusive, prosperous, and sustainable.

Therefore, with the objective of undertaking a timely and effective opportunity to implement the Policy Brief, the 15th Annual Session of Global Forum on Human Settlements was successfully held in a virtual format on October 15-16, 2020 to address the theme “Post-Pandemic Recovery and Transformation: Resilient Cities, Healthy Planet”. This year’s forum was supported by a record lineup of 24 authoritative organizations, including 10 UN agencies and Asian Development Bank. Some 100 distinguished speakers and discussants contributed to the in-depth discussions and analysis on a range of challenges - public health crisis, ecological disruption and climate change that cities have had to wrestle with so as to embark on a path to sustainable development. The two-day forum has reached out to more than 100,000 professional audiences through live streaming and participation. The participants have realized the importance and urgency of taking decisive action to halt destruction of nature and tackle the imminent threats that undermine the health of ecosystems and disrupt the global climate, through a greener recovery and transformation towards sustainability.

Through the two-day deliberations, we, the participants of the 15th Annual Session of Global Forum on Human Settlements, acknowledge the issues and points recommended as follows, and deliver a strong call for accelerating actions in scaling up sustainable development practices and innovations, thereby making cities and communities safer, more inclusive, resilient, and sustainable, and achieving our vision of a healthy planet upon which all life depends to survive and thrive.

4. 我们强烈呼吁通过对政治、技术、经济和社会因素（包括模式、目标和价值）等方面进行根本性、系统性的重组以实现变革，从而保护、恢复和可持续管理生物多样性，并实现全球气候、社会和经济目标。

5. 健康是全球、国家以及地方各个层级的政治选择，需要纳入到所有政策中。健康的城市规划要求加强利益相关方与政府之间的联系，收集并分析来自各地、各部门的数据，并采用全球性的横向解决方式。

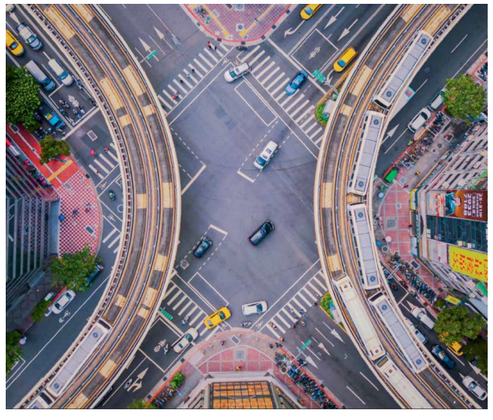
6. 人类的福祉取决于地球的福祉。食物将人类与其他物种，以及城市住区与农村地区紧密联系起来。可持续的粮食系统有助于应对多种危机，包括气候危机、公共卫生危机、生计问题、贫困问题和饥饿危机。

7. 构建一个更清洁、更绿色、更健康的未来需要三个关键要素：雄心勃勃的目标，建设有弹性的未来，以及从化石燃料到绿色能源的公平转型。除此之外，我们还需要强有力的《国家适应计划》来支持相关工作。

8. 我们应避免以牺牲地球未来的生存为代价，终止拖延的态度，结束贪婪的追求，这刻不容缓。这意味着我们要有坚定的政治决心、充足的财政资源和必要的倡议措施等。我们首先要从教育制度和人力资源储备着手，以触动子孙后代的心灵。

9. 至关重要的是，城市应采用生态系统和适应性管理方法，在城市规划和发展过程中将自然与高效益、可复制的基于自然的解决方案进行整合，并将地方气候行动计划和减灾风险战略进行整合，以保护生物多样性并实现城市弹性和可持续性。

10. 我们比以往任何时候都更需要自然。在不确定性日益增加的情况下，自然是人类赖以生存并维持生活



1. We live in a moment of crisis and a moment of change. The triple planetary crisis - climate change, biodiversity loss and pollution is putting us at risk of irreversibly changing our relationship with the natural world and how we benefit from it, and often act as a threat multiplier. As global warming increases the likelihood for more extreme weather events to occur, risks will expand beyond the high-risk areas known today.

2. We reiterate that cities are on the frontlines of the fight against this and future pandemics, climate change and emerging crises. COVID-19 as a great accelerator and exposure of existing inequalities and vulnerabilities urges us to rethink and reshape our cities which are the “engines of the recovery”. The urgent priority is to strengthen city preparedness and emergency response capacity, in terms of planning, governance, capacity building, financing, service delivery and business continuity.

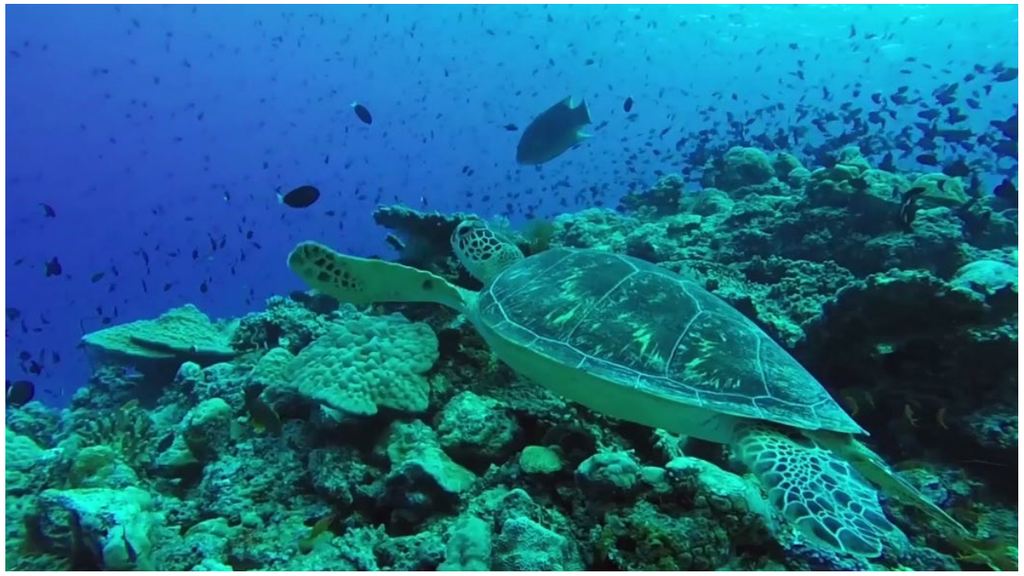
3. We can shift our development trajectory to a nature-positive and climate-friendly future, but this requires clear thinking, great determination, and strong commitment and ambition from national governments in key policy fora, as well as decisive actions in our cities, businesses and communities.

4. We strongly call for transformative changes through a fundamental, system-wide reorganization across political, technological, economic and social factors, including paradigms, goals and values, for the purpose of conserving, restoring and sustainably managing biodiversity, and meeting global climate, societal and economic goals.

5. Health is a political choice at global, national and local level. Health needs to be integrated into all policies. Healthy urban planning requires strengthening the connection among stakeholders and government, collecting and analyzing the data from local and various departments, and adopting global and transversal approach.

6. The well being of people is dependent on the well being of the Earth. Food is the connector which links humans to other species, urban settlements to the countryside. Sustainable food systems can address the multiple crises - the climate emergency, the health emergency, the livelihood, poverty and hunger emergency.

7. The three key elements -- boosting ambition, building a more resilient future, and providing a just transition from fossil to green, are what we need to build a cleaner, greener and healthier future. But that’s not



质量的保障。如果不采取变革性行动，全球物种数量将以物种灭绝等方式进一步加速下降，自然对人类的贡献也将减少。

11. 当国家维持和保护其生物多样性时，能够释放出新的经济机遇，带来更多的就业机会和应对当代挑战的基于自然的创新性解决方案。由于多样化的投资和收入能够帮助企业抵御外部和不确定性的冲击，因此，地球的生物多样性决定了我们在面对不确定的未来时可以选择替代解决方案的能力。

12. 我们再次强调，受公共卫生危机和气候变化影响最大的群体为贫困人口和弱势群体。因此，构建弹性城市的核心是优先制定应对空间、社会、经济和文化隔离的政策，目标是不让任何一个人掉队。

13. 应鼓励立即采取行动，为最弱势群体提供更好的社会保护，并提供经济适用的可持续性住房、城市服务和基础设施。战略行动包括实施综合性城市规划和设计政策，加强城市的财务可持续性，以及提高各利益相关方的治理能力。

14. 从中长期来看，政府必须采取措施，力求实现产业多元化，同时确保具有弹性、包容性、性别平等的绿色经济复苏。

15. 生态可持续引领城市繁荣，反之，生态破坏导致城市衰败。建设生态城市是创建全球卓越城市的良方。

all we need—we also need strong National Adaptation Plans to back up this work.

8. It is high time that we end the culture of procrastination and the pursuit of greed at the expense of the future of our planet’s survival. This implies political will, adequate financial resources, and necessary initiatives, among others, beginning with the education system and the preparation of human resources to reach out to the hearts and mind of future generations.

9. It is critical that cities adopt an ecosystem and adaptive management approach and integrate nature and nature-based solutions that is cost-effective and replicable, in urban planning and development processes, as well as local climate action plans and disaster risk reduction strategies, with a view to protecting biodiversity and achieve long-term urban resilience.

10. We need nature more than ever. Nature is a form of insurance for human existence and our quality of life amid growing uncertainty. Without transformative action, there will be further acceleration in the global rate of decline including species extinction and a loss of nature’s contributions to people.

11. When countries conserve and protect their biodiversity, they are able to unlock new economic opportunities, jobs and innovative nature-based

16. 如果城市能够利用“城市水文气象、气候与环境综合服务”带来的多重效益，则有助于为快速城市化，以及应对气候变化和其他危机做好更充分的准备。譬如，通过《多灾种预警系统》以提高城市弹性，通过城市长期规划以提升城市可持续性，通过基础设施跨领域服务以提升基础设施效率，通过整合和发展高效服务以实现服务连贯性，通过合作伙伴关系和风险沟通以增强应对风险的能力。

17. 为制定坚实可靠的城市弹性计划，应高度重视预判能力、面向未来的研究和长远战略，同时应实施早期预防。越早为提高城市适应性进行投资，将来用于风险处理和危机管理的成本就越低。

18. 应建立切实可靠的数据和创造易于实施的工具，以提升预测能力和改善决策过程，借此制定长远的政策和战略。通过跨学科合作联结科学界与地方政府非常必要。

19. 城市风险管理中的零星方法造成了相关知识和行动呈现出严重的差距或重叠的问题，阻碍了能够应对当前和未来风险的综合性城市风险管理系统的发展。我们需要转变，要更广泛地了解风险，并更多地依据环境背景来定义风险，这需要我们有一套系统化的风险处理方法。该方法要同时考虑城市风险、城市脆弱性、风险影响和应对能力各个方面，并更好地理解各级联动和复杂的相互作用。如此，方能实现有的放矢的城市治理。

20. 我们认识到全球伙伴关系运动的重要性——《创建弹性城市 2030》（MCR2030）是基于“创建弹性城市”活动过去十年的成功经验和失败教训而创立，将为城市提供弹性路线图、相关工具和知识指导、在线监测与评估工具，以及市场平台。

21. 我们重申，包容性多边主义在帮助全球城市和社区进行刻不容缓的能源转型上发挥着重要作用。我们必须确保迈向可再生能源的转型合理公正，在这个过程中，必须为高排放领域的工作者提供转型所需的培训，帮助他们掌握更清洁、绿色能源领域的新技术，以便过渡到新的工作岗位，。

solutions to contemporary challenges. As a diverse range of investments and revenues can protect businesses against external and uncertain shocks, the diversity of life on the planet is what determines our ability to choose alternatives in the face of an uncertain future.

12. We re-emphasize that the people who are worst hit by both public health crisis and climate change are the poor and the vulnerable. The heart of resilience building therefore is to prioritize policies to confront spatial, social, economic and cultural exclusion with the aim of leaving no one behind.

13. Immediate actions should be fostered to enable creating better social protection for the most vulnerable groups, and provision of affordable, sustainable housing, urban services and infrastructure. Strategic actions involve implementing integrated urban planning and design policies, strengthening the financial sustainability of cities, and increasing the governance capacity of various stakeholders.

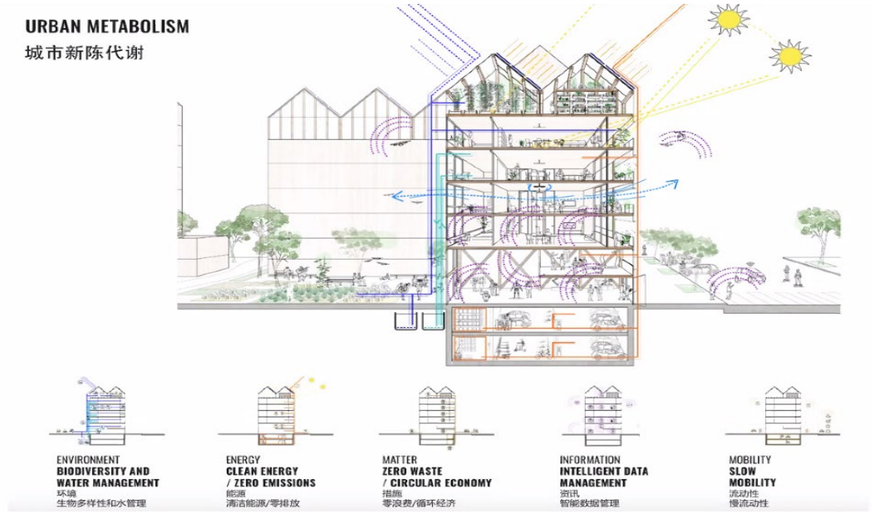
14. In the medium and long term, it is essential for government to implement measures aimed at diversifying the economy while ensuring a resilient, inclusive, gender-equal and green economic recovery.

15. Ecological sustainability leads to urban prosperity, and vice versa ecological disruption leads to urban decay. Building ecological cities is the way to create global cities of excellence.

16. Cities could be much better prepared for the rapid urbanization, as well as for climate change and other crises – if they were able to utilize the multiple benefits that can be provided by Integrated Urban Hydrometeorological, Climate and Environmental Services, including urban resilience through Multi-Hazard Early Warning Systems, sustainability through urban long-term planning, efficiency through infrastructure cross-cutting services, consistency through integration and development of effective services, and capacity enhancement through partnerships and risk communication.

17. To build a solid city resilience plan, high priority should be given to anticipation, future-oriented studies, and long-term thinking while early prevention is enforced. The earlier organisations invest in adaptation, the lower the costs will be in the future, in terms of hazards and crisis management.

18. Reliable and fact-based data and implementable tools should be in place to reinforce prediction and decision-making process so as to



22. 我们需要在人居环境领域建立创新的治理模式，尤其是在空间规划上。我们需要加快绿色循环经济的发展，通过恰到好处的生物气候设计、消费和采购标准，借助城市创新促进就业和商业发展，并为年轻人创造有助于促进可持续发展的创业机会。

23. 循环经济注重三项关键原则：从产品和城市系统出发减少废弃物和污染；尽可能延长材料的使用周期并保持其价值；围绕城市打造可再生自然系统。

24. 在后疫情时代，我们需要着眼于构建以人为本的未来城市，直接与城市居民建立联系，对沿海城市和大型城市尤其如此。构建适应性强、韧性良好的未来沿海城市这项工作掌握在所有利益相关方的手中，他们拥有共同的抱负，创造出取之于海洋且与海洋和谐共存的可持续生活方式。

25. 为了解决海平面上升等其他复杂的发展问题，需要采取周全的综合方式。遗憾的是，将不同问题分割开来并单独处理的趋势依旧持续。因此，我们需要使多边主义重回正轨，将其作为全球应对多边主义危机的措施之一。

26. 按照蓝色经济的理念，有朝一日，国际社会的积极性可能被调动起来，对源于自然的和可自由获取的公共物品给予真正的重视。我们应在海洋治理中秉持两个原则：使用者付费和受益者付费。

foster long-sighted policies and strategies. A cross-disciplinary collaboration bridging the scientific world and local government is highly needed.

19. The piecemeal approach in urban risk management has seen the emergence of significant gaps and overlaps in knowledge and action that has impeded the development of a comprehensive urban risk management system that can cope with current and future risks. The shift towards a broader view and a more context-dependent definition of hazards requires a systematic approach to risk that considers hazard, vulnerability, exposure and capacity together and better understands their cascading and complex interactions. By doing so, improvement can be achieved for the targeted governance in urban areas.

20. We recognize the importance of the global partnership campaign - The Making Cities Resilient 2030 (MCR2030) which builds on the success and lessons learned of the previous decade of work under the Campaign and will provide cities a resilience roadmap, a suite of tools and knowledge guidance, an online dashboard for monitoring and evaluation and a platform for marketplace.

21. We reaffirm the important role of inclusive multilateralism when it comes to helping cities and communities around the world make the energy transformation we so urgently need. We must ensure the transformation to a more renewable future is a just transition. It must be a process that helps those working in high-emissions sectors get the training they

27. 增强建筑物的适应性对抵御大流行病发挥着重要作用。政策干预措施应包括：充分利用因大流行病而闲置的城市区域和建筑物；启动重要的低收入保障性住房计划和商业零售重整计划，将其作为经历大流行病后恢复社会公平和经济复苏的措施；支持自然通风和混合通风相结合，提高机械通风能力，并提高通风系统中室外空气的比率。

28. 我们认识到国际标准（例如国际电联制定的标准）对于指导信息通信和数字技术的实施的重要性。尽管技术进步是加快城市可持续发展和保护生物多样性的关键，但是，可负担的互联网连接仍是重大难题。 国际标准能够向城市利益相关者提供具体的指导，譬如，如何优化城市基础设施，改善低成本信息通信技术的可及性，提高城市的能源效率和循环性，以及实现疫后绿色、包容性复苏。

29. 为了确保能提供具有弹性的基础设施，我们必须强化地方政府使用政策权利的能力，让重要的城市基础设施以安全、持久、包容、可持续的方式发展。与此同时，地方政府和基础设施系统运营者必须提高使用综合资产管理策略的能力，以确保获得充足的资本投资，做好基础设施的运营与维护。

30. 打造具有弹性的未来取决于四部分基础结构——即人类、自然、水和建成环境——的高效生物整合。所有人类活动和人类系统都必须以生态为中心，并以生态学为指导。建成环境必须和人工构建的生态系统一样，模仿并复制自然生态系统的特性。技术系统必须改革重塑，为所有人提供生态系统服务。

31. 我们呼吁在全球范围内开启绿色发展革命、城市革命和文化革命。国际社会必须共同努力，加速贯彻落实以《2030 年可持续发展议程》为代表的全球公约和议程，减缓和遏制生态灾难和气候灾难。展望未来，制定《2030 年后绿色革命、健康星球议程》和采取果断行动都事关重大，关系到实现全球绿色转型，为全人类赢得充满希望的未来。

need to make the transition to new jobs mastering new technologies in a cleaner, greener energy sector.

22. We need innovative governance form related to urban settlements, particularly for spatial planning. We need to accelerate a green circular economy, promoting jobs and business using innovation in cities with appropriate bioclimatic design, consumption and procurement standards, and in offering urban youth opportunities for start-ups that facilitate sustainability.

23. Circular economy focuses on three key principles; waste and pollution to be designed out of products and urban systems; materials to be kept in use and maintain their value for as long as possible; a natural system surrounding city that is regenerative.

24. In a post COVID-19 era, we need to address the future of cities that are human-centred, particularly coastal cities and megacities in direct relation to the people who inhabit them. Hence the character of future coastal cities that are adaptable and resilient is in the hands of all stakeholders who share mutual aspirations and create a process for living from the ocean and with the ocean sustainably.

25. Addressing something as complex as sea level rise in the development problems requires an all-inclusive integrated approach. Unfortunately, there remains a persistent trend to divide issues and cast them into standalone silos. That is why we need to put multilateralism back on track as part of the global response to addressing the crisis in multilateralism.

26. In a Blue Economy way of thinking, the international community may finally be motivated to place a true value on natural and freely accessible common goods and services. Two principles that we should apply in ocean governance are users pay and beneficiaries pay.

27. Enhancing the adaptability of buildings plays a significant role in combating pandemics. The policy interventions should include making use of urban areas and buildings made redundant by the pandemic; launching major low-income housing and commercial retail renovation programs as post-pandemic social equity and economic recovery measures; and encourage natural and hybrid ventilation, improving mechanical ventilation capacities, and increasing outdoor air ratios in ventilation systems.

28. We recognize the importance of international standards, such as those developed by ITU, in guiding the implementation of ICTs and digital technologies. While technological progress is key for accelerating

可持续发展范例推荐

上海崇明东滩生态修复项目是亚太地区候鸟迁徙路线上规模最大的以控制外来物种，修复、恢复迁徙水鸟栖息地功能为主要目标的生态修复工程。通过采取生态学与工程学相结合的途径，该项目经过长达五年的建设和持续修复取得了阶段性的成效。第一、成功控制了实施区域内的互花米草生长和扩张，土著植物恢复良好。第二、形成了近 4 万亩环境相对封闭，水位可调控管理的修复区。第三、项目实施区域内生态环境明显改善，鸟类种群数量显著增加。其中，2017 年修复区内的主要土著植物的生长面积达到 14000 亩，鱼类种类恢复至 21 种，大型底栖动物恢复至 25 种，鸟类数量达到 83149 只次，较 2016 年翻了两番。

DyeCoo® 是全球首家零水耗、零化学物染色技术供应商。革命性的二氧化碳染色工艺提高了纺织品染色的可持续性，并且不影响染色效果和效率。利用该染色技术，平均每公斤纺织品可节省 35-50 升水和 130 克化学物。如今，该技术已应用于大约 1 万吨纺织品，意味着每年可节省 4 亿升水和 1500 吨化学品。以零水耗、零化学物、零废弃物为特点，这项生态创新实践技术能够同时兼顾可持续性与盈利，并有望在全球范围内取代水基染色技术，在纺织业树立全新标准，促进循环经济。

sustainability efforts and preserving biodiversity in cities, the lack of affordable Internet is threatening to undermine this progress. International standard can provide concrete guidance to urban stakeholders on how to optimize urban infrastructure, improve accessibility to low-cost ICTs while boosting energy efficiency and circularity in cities, and achieving a green and inclusive recovery from COVID-19.

29. To ensure a provision of resilient infrastructure, we must strengthen local authority's ability to use its policy authority to shape development in ways that essential urban infrastructure is safe, durable, inclusive and sustainable. In the meantime, local governments and infrastructure system operators must improve its capability of using comprehensive asset management strategies for the purpose of securing adequate capital investment and sound operations and maintenance.

30. A resilient future is dependent on the effective bio-integration of four sets of infrastructures – humans, nature, water, and built environment. All human activities and systems must be ecocentric and be guided by the science of ecology. Our built environment must emulate and replicate the attributes of ecosystems as constructed ecosystems. Our technological systems must be reinvented to provide ecosystem services for all.

范达娜·席娃博士（Vandana Shiva）是一名杰出的科学家、学者和环境哲学家，孜孜不倦地向大众展示其个人实践和研究，即人类是大自然的一部分，人类的福祉取决于地球的福祉。每个人都是地球大家庭的一员，关爱他人是我们生命的重要意义，有助于凝聚团结和改善人居环境，促进环境可持续发展并降低温室气体排放。食物和水是国家和城市之间两个主要的生态流动产品。土地和水的可持续管理是农村地区人口获得可持续生计的保障，保障他们不至于成为生态难民和经济难民。食物将人类和其他物种以及城市住区和农村地区紧密联系起来。不可持续的农业模式对土壤健康置之不理，这侵害了生物多样性并造成物种灭绝。可再生系统能再现生物多样性，并扭转物种灭绝的威胁。2003年，《时代》杂志授予席娃博士“环境英雄”称号。2010年11月，《福布斯》杂志评选席娃博士为全球七大最具影响力女性之一。2020年，席娃博士荣获全球人居环境论坛授予的“全球人居环境杰出贡献奖”。

索尼娃芙西度假村（Soneva Fushi）坐落于马尔代夫芭环礁（Baa Atoll）（联合国教科文组织环礁保护区），占地50公顷，全岛森林覆盖率达67%，是马尔代夫绿化程度最高的岛屿之一。通过实施一系列的可持续发展举措，2012年索尼娃芙西已实现度假村直接和间接运营（包括宾客航班）的碳中和。在可再生能源方面，混合太阳能柴油发电系统能满足度假村白天的大部分用电需求。度假村在白天利用太阳能进行海水淡化处理，晚上停止运作，由此减少了15%的柴油消耗量，节省资金的同时降低了碳足迹。度假村还开发了酒店服务业首个环境损益报告表，纳入酒店总体影响评估。度假村配备了设施先进的“变废为宝生态中心”，能回收90%的固体废弃物，食品垃圾经堆肥处理后摇身变为菜园中肥沃的土壤。此外，度假村可实现100%的电力自给自足，岛上用水可完全由淡化海水供应。2008年，度假村对房费收取环境税，索尼娃芙西基金会将资金用于减碳项目。为实现可再生能源比例不低于70%的目标，度假村已经着手扩大太阳能系统容量。

▲ 马尔代夫索尼娃芙西度假村 *Soneva Fushi,Maldives*

加利福尼亚州圣塔莫尼卡市（Santa Monica）的阿罗约（Arroyo）是一个100%的经济适用房项目，包含64套住房、两个社区中心、一个公共洗衣房、一个户外工作露台，以及一个配备半场篮球区的加长开放式中央庭院。阿罗约公寓楼地处市中心，步行五分钟可到达火车站和公交站，步行10分钟可到海滩。2019年5月，阿罗约项目荣获LEED绿色建筑铂金级认证。该项目特色鲜明，譬如：毗邻热闹的市中心、火车站、公交站和海滩；得益于开放式庭院，建筑内海风徐徐，日照充足；露天连廊、廊桥和楼梯以动态循环系统方式呈现，为居民创造出趣味十足的步行体验，从而降低了使用电梯的吸引力，鼓励居民活动起来；利用庭院下方的泥土种植遮阴大树，营造加州本土自然景观；底面颜色鲜艳的遮阳板阻隔了太阳热量的吸收，并减少了室内照明的需求；四通八达的廊桥方便了居民生活，邻里相遇温情满满。

中华电力有限公司（中电）开发的“电表在线”服务（Meter Online Service）是将天气服务整合至能源管理的范例。最新的电表在线服务3.0版本能帮助客户以简单方便的方法获取最新的负荷数据资料。透过掌握更多信息，客户可以更有把握地管理用电量及最高需求量，从而提高能源效益。电表在线主要功能包括：（a）预测高峰需求量的时段：专为需要大量制冷的客户而设，因为环境温度和湿度对他们的用电表现有极大的影响。客户可根据系统每天对高用电时段的预测，有更多时间计划如何节能或控制电力需求量。（b）九日区域制用电预测：根据香港天文台最新的区域天气资讯作出未来九日的用电预测，可以令数据分析更为精准。（c）负荷数据下载：能够下载多达十个账户或电表全年的电力负荷数据资料。（d）强化版主动能源管理：在用电量超出预设水平时，系统将向指定收件人发出提示邮件。

31. We call for a green development revolution, green city revolution and green culture revolution on a global scale. International community must make concerted efforts in accelerating the implementation of the global conventions and agendas, notably "2030 Agenda for Sustainable Development", thus reducing and containing ecological and climate disasters. Looking forward, it is necessary to formulate "Post-2030 Agenda for Green Revolution and A Healthy Planet" and to take decisive actions in order to achieve global green transformation and secure a promising future for all.

Recommended Sustainability Cases

1. The Shanghai Chongming Dongtan Ecological Restoration Project is the largest ecological rehabilitation on the migratory bird flyways in the Asia-Pacific region with the main objective of controlling alien species and restoring the functions of migratory waterbird habitats. By adopting a combination of ecological and engineering approaches, the project has achieved phased results after five years of construction and continuous restoration. First, the growth and expansion of Spartina alterniflora was controlled in the implementation area and the indigenous plants are being restored. Second, the program resulted in a nearly 6,600-acre restoration area with a relatively closed environment and adjustable water level management. Third, there was a dramatic improvement of the ecological environment in the project implementation area, and the number of bird populations has increased significantly. For example, in 2017, the growth area of the main indigenous plants in the restoration area reached 2300acres, and the number of fish species went up to 21, macrobenthos, 25, and the bird population reached 83,149, quadrupled that of 2016.

2. DyeCoo® is the world's first supplier of a water- & process chemical-free dyeing technology. Its revolutionary CO_2-based dyeing process makes textile dyeing more sustainable, without compromising on performance or efficiency. On average they save 35-50 liter water, and 130grams of chemicals per kilo dyed. Today roughly 10,000 tons are being produced, indicating an annual saving of 400,000,000 liters of water, and 1.500 tons of chemicals. As an eco-innovation practice characterized by zero water, zero chemical, and zero waste, this technology helps achieve both sustainability and profitability, and is expected to replace water-based dyeing technology around the world, setting the new standard in the textile industry and contributing to the circular economy.

3. As an eminent scientist, scholar, and environmental philosopher, Dr. Vandana Shiva has been constantly showing her practice and research that mankind is part of nature, and the well being of people is dependent on the well being of the Earth. As members of an earth family, care for others becomes the purpose of life, contributing to improving human common unity and human settlements, promoting environmental sustainability and lowering Green House Gas Emissions. The two primary ecological flows between the country and the city are food and water. Sustainable management of land and water ensures that people in rural areas have sustainable livelihoods, and are not turned into ecological and economic refugees. Food is the connector which links humans to other species, urban settlements to the countryside. Biodiversity erosion and species extinction are a result of ignoring the health of the soil in a non sustainable agriculture model. Regenerative systems regenerate biodiversity and reverse the threats to extinction. Time Magazine identified Dr. Shiva as an environmental “hero” in 2003. Forbes magazine in November 2010 has identified Dr. Vandana Shiva as one of the top seven most Powerful Women on the Globe. In 2020, she was honored with the Global Human Settlements

▲ 新加坡盛港综合医院 *Sengkang General Hospital Campus, Singapore*

盛港综合医院是新加坡最大的医院，该综合性医疗机构配备了先进的医疗设施，提供社区医疗服务。院区以节能环保为特点，楼顶建有健康花园和绿化带，为患者在城市中打造有益康复的环境。院区范围内，至少有 25% 的建筑建有绿色屋顶和屋顶花园。花园设施采用亲近自然的设计，建筑材料外观自然。医院配有雨水收集系统，将过滤收集到的雨水用于灌溉，并采用节水型滴灌系统。此外，灌溉系统自备降雨传感器，只有在干旱或无降雨的时候，灌溉系统才会启动，使用新生水（NEWater）而非饮用水进行灌溉。盛港医院的许多建筑材料为异地建造的预制构件，高炉渣、再生混凝土集料和水洗铜渣广泛应用于医院建设，减少了对原生材料的消耗。具有变速驱动器的高效水制冷设备能满足院内建筑的空调需求。空气处理装置增加了二氧化碳传感器（以控制室外进气）和可变风量系统，以进一步提高能源效率。盛港综合医院位于以公共住房为主的社区范围内，选址有助于提高社区参与，与社区建立更紧密的联系。

鹿特丹水敏感计划（Water Sensitive Rotterdam）旨在提升城市宜居程度，提升社会凝聚力和气候适应力。本特姆普林水广场是一个很好的案例。水广场可以储存人行道上的污水以及周围建筑物屋顶流下的雨水。这些建筑物的废水管道已不再接入鹿特丹污水处理系统。可以说，水广场缓解了城市排水系统的压力，能够防止城市洪水蔓延。此外，水广场还帮城市免除了将来用于升级下水管道的庞大财务成本。水广场结合了蓄水和提升城市公共空间质量的双重功能。水广场内有三个水池，平时用作篮球场、滑板场或演出舞台，降雨时则化身蓄水池，可容纳多达 170 万升雨水。三个水池分别收集雨水：两个稍浅的水池一降雨便开始蓄水，另一个较深的水池只有在暴雨不断的时候才开始蓄水。雨过天晴，浅水池收集的雨水通过地下渗透装置，逐步渗入地下水中，使地下水水位能够保持平衡，所收集的雨水也可应付干旱期的用水。深水池中的水最多在 36 个小时内就会流入城市的开放水域，以确保公众的饮水健康。

常山县地处浙江省西南部，建县已有 1800 余年历史，是浙江省西大门和钱塘江上游的一颗璀璨明珠。全县总面积 1099 平方公里，人口 34.2 万。近来年，常山秉持“绿水青山就是金山银山”的理念，持续打好治气、治水、治土“三大攻坚战”，积极推动经济绿色转型和高质量发展，建设绿色城市。常山县域生态环境优良，境内森林覆盖率 73.2%，常年空气质量保持在国家标准二级以上，饮用水源地水质 100% 符合要求，出境水质达到国家 II 类水标准，建成区绿化覆盖率达 41.31%。常山山水田园优美，物产丰富，美食飘香，特产胡柚被证明具有明显的防治新冠肺炎作用。境内古迹遗产众多，传统风俗文化传承久远，常山江“宋诗之河”景观带建设与“常山喝彩”等国家级非物质文化遗产保护成效显著。依托这些优势，常山大力发展休闲旅游和康养产业，绿色经济充满活力，宜居宜业的“国际慢城”建设也取得了长足的进步。常山在“城市治理”、“包容和公平的社会”、“城乡融合”方面均有良好表现，人民生活幸福感较强。

▲ 中国常山市 *Changshan, China*

Outstanding Contribution Award during GFHS 2020.

4. Located in the Baa Atoll UNESCO Biosphere Reserve in the Maldives, Soneva Fushi occupies the whole of the 50-hectare island. It is one of the greenest islands in the Maldives with a 67% forest cover. Through implementing a range of sustainability initiatives, the resort has become carbon neutral in 2012 for both direct and indirect resort operations including guest flights. In terms of renewable energy, their hybrid solar-diesel system covers most of the demand during the day. By running the water desalination production during the day rather than at night to allow it to run of solar energy, as a result, they achieved 15% reduction in diesel consumption, leading to a significant financial saving as well as reduced carbon footprint. They also developed the hospitality industry's first Environmental Profit & Loss that is incorporated into the Total Impact Assessment. The state-of-the-art Eco Centro Waste-to-Wealth facility recycled 90% of their solid waste. Food waste is composted to create fertile soil for the vegetable gardens. Furthermore, the resort is 100% self-sufficient with electricity generation as well as water production from desalination. They also introduced an environmental levy on the room rate in 2008. Funds raised have been invested in carbon mitigating projects, through the Soneva Foundation. Further actions have been taken to expand their solar capacity with an aim to achieve at least 70% renewable energy.

5. The Arroyo in Santa Monica, California is a 100% affordable housing project for families which has 64 dwelling units, 2 community rooms, on-site laundry, an outdoor homework patio, and an elongated central open courtyard with a half-court basketball area. The building is located within a 5 minute walk to a train station and bus lines, 10 minutes to the beach, and is within an active urban center. It achieved LEED certification at platinum level in May, 2019. The key features include good accessibility to active urban center, train station, bus lines, beach; open-ended courtyard for prevailing ocean breezes, providing daylight; the open air corridors, bridges, and stairs create a visually dynamic circulation system to create a fun and walkable experience for residents to make the elevator a less attractive option and encourage an active lifestyle; leveraging real earth below the courtyard to plant large shade trees and bringing a moment of native California landscape to the street; brightly colored undersides sunshades reduce solar gain and reduce interior lighting demands; the bridges serve to make the life of the building visually accessible to the neighborhood and create moments of encounter between residents.

6. The Meter Online Service developed by CLP Power Hong Kong Limited is a good example of integrating weather services into energy management. The latest version, Meter Online Service 3.0 gives customers a simple and convenient means to access the latest load profile data. With more information on hand, customers will be in a better position to manage

为抑制新冠疫情传播，格拉斯哥正在全市范围内采取多项临时措施，提供更广阔的空间让民众在步行、驾驶和骑行时保持距离。随着“市民空间”项目的实施，格拉斯哥在市中心、社区和主动出行路线上建造了适宜短途出行的基础设施，这是城市经济复苏战略的重要组成部分。该计划将原来狭窄街巷上的人行道进行拓宽，方便了行人的安全行走，也更容易到达商场、公司、社区设施和公交枢纽。格拉斯哥还考虑选址设定临时的战略性骑行路线，旨在吸引和方便市民在日常出行时选择骑行。该计划（a）防止因人行道过分拥挤而增加新冠病毒的传播；（b）允许人们在保持距离的情况下排队和用餐，从而实现了安全的零售业务运营，并能提高酒店业的业绩；（c）在公交运力大幅下降的时候提供公交出行的替代方式；（d）提供主动式锻炼出行路线，减少精神和身体健康问题；（e）为市民安全使用社区设施和交通枢纽提供便利；（f）推出临时的战略性骑行路线，鼓励人们骑行；以及（g）鼓励市民坚持选择主动式出行。随着项目的不断推进，市内已经新建了 42 公里的自行车道。与 2019 年同期相比，今年 8 月在布鲁米洛大道沿克莱德河骑行的人数增加了近 200%。

their energy consumption and demand so that they achieve better energy efficiency. The key features include (a) Forecasting the Occurring Time of Peak Demand: designed for customers with significant chiller consumption, which is heavily affected by ambient temperature and humidity. In anticipation of high consumption days with occurring time, customers can have more time to better plan for energy savings or demand reduction initiatives. (b) 9-Day Regional Consumption Forecast: provide 9-day consumption forecast according to Hong Kong Observatory's latest regional weather information, this can enhance the analysis to be more specific. (c)Load Profile Download: enables customers to download load profiles for up to 10 accounts/meters. (d)Enhanced Proactive Energy Management: alert emails to designated recipients from systems when pre-set limits of energy consumption are exceeded.

7. As Singapore's largest hospital, Sengkang General Hospital is an integrated development, offering cutting-edge facilities with community-based care. The project was characterized by energy-efficient and environmental-friendly features. There is a podium rooftop wellness garden and pockets of greenery to provide a conducive environment for healing in an urban setting. Green roof and rooftop garden are provided for at least 25% of the roof areas. Facilities and amenities at the gardens employ biophilic design and use natural looking materials. The hospital is designed with a rainwater harvesting system, which filters harvested rainwater for irrigation. A water efficient drip system is also adopted for irrigation. Additionally, the system is automatically using rain sensor. Thus, irrigation is only performed during drought or when there is no rain, and is done using NEWater instead of potable water. Many parts of Sengkang Hospital used precast elements constructed offsite. Ground Granulated Blastfurnace Slag, Recycled Concrete Aggregates and Washed Copper Slag were also used extensively to reduce the usage of virgin materials. Highly efficient chilled water plant with variable speed drives was designed to meet the building air-conditioning needs. The air handling units were supplemented with carbon dioxide sensors (to control outdoor air intake) and variable air volume system for further energy savings. Nestled in a predominantly public housing residential neighbourhood, the project offered opportunities for community engagement and building of social ties within the neighbourhood.

8. The Water Sensitive Rotterdam programme is to make the city a better place to live and to promote social cohesion in addition to climate adaptation. One case in point is the Benthemplein water square which retains water from the square's pavement as well as rainwater from rooftops of surrounding buildings. As a result, these buildings' wastewater pipes have been disconnected from the Rotterdam sewage system. The water square therefore eases the stress on the city's sewage system, which in turn prevents urban floods. It also helps the city avoid the significant financial cost associated with upgrading sewers in the future. The water square combines water storage with the improvement of the quality of urban public space. It offers room for basketball, skateboarding and performance arts within pits that can also hold up to 1.7 million litres of water during rainfall. Three basins collect rain water: two un-deep basins for the immediate surroundings will receive water whenever it rains; one deeper basin receives water only when it consistently keeps raining. After the rain, the water of the two un-deep basins flows into an underground infiltration device and gradually seeps back into ground water. Thereby the ground water balance is kept at level and can also cope with dry periods. The water of the deep basin flows back into the open water system of the city after a maximum of 36 hours to ensure public health.

9. Located in the southwest of Zhejiang Province, China, Changshan County has a history of more than 1,800 years, and is hailed as a shining pearl in the west gate of Zhejiang and the upper reaches of the Qiantang River. With a total area of 1,099 square kilometers and a population of 342,000, Changshan has been guided by the conviction that lucid waters and lush mountains are invaluable assets, and continues to fight against the challenges to air, water and soil. The County actively promotes economic green transformation and high-quality development for the purpose of making the city greener and more sustainable. Changshan County is endowed with an excellent ecological environment, with a forest coverage rate of 73.2% in the territory. The air quality is annually maintained above the second level of the national standard. The water quality of the drinking water source is 100% compliant to the standards and the green coverage rate in the built-up area is up to 41.31%. The County is possessed with beautiful landscapes, abundant natural resources, and delicious food. The special local product grapefruit has been proved to have positive effects in preventing coronary virus. There are many historical sites, with long-lasting traditional customs and culture. The County has made remarkable achievements in building the landscape belt along the “River of Song Poetry" as well as in protecting the national intangible cultural heritage “Changshan Cheers Folk Music”. Relying on these advantages, Changshan has been vigorously developing leisure tourism and health care industries, which contributes to a dynamic green economy. Also, the County saw great progress in the development of the "international slow city", and has been doing quite well with regard to "urban governance", "inclusive and equitable society", and "urban-rural integration". Its people enjoy a happier life.

10. To help suppress the spread of COVID-19, Glasgow is introducing temporary measures across the city to provide additional space for physical distancing whilst out walking, wheeling and cycling. Spaces for People programme is seeing short-term travel infrastructure implemented in the city centre, city neighbourhoods and active travel routes, forming a key part of the city's strategy for economic recovery. Spaces for People is widening footways at pinch points to facilitate safer pedestrian movement and easier access to shops, businesses, community facilities and public transport hubs. Consideration is also being given to the positioning of temporary strategic cycling routes to highlight active travel as an attractive, viable choice for everyday journeys. This project (a)inhibited a resurgence of Covid 19 due to overcrowding on footways; (b)enabled safe retail business operation, and facilitated trading capacity of hospitality sector by allowing space for managed queuing and catering; (c)offered an alternative to public transport while capacity was significantly reduced;(d)reduced mental and physical health issues by provision of active travel routes for exercise;(e)facilitated safe access to community facilities and transport hubs;(f)implemented temporary strategic cycling routes to promote cycling as a travel option; and (g)encouraged long term behavior change towards active travel. As a result, 42km of new cycle lane was installed. In August 2020 there was an almost 200% increase in the number of people cycling along the River Clyde on the Broomielaw compared to the same period in 2019.