



Global Energy Interconnection
Development and Cooperation Organization
全球能源互联网发展合作组织

危机宣言

DECLARATION
AGAINST
CRISIS

2020 年，新冠疫情肆虐全球，夺走数十万人生命，全球经济社会遭受重创。疫情给全人类敲响了警钟，痛中思痛，下一场更大灾难——气候环境危机正快速袭来。全球温升日益逼近 2°C 临界值，即将引发多米诺骨牌效应，对世界造成毁灭性灾难，人类正面临史无前例的威胁。如何消除笼罩在人类社会进步前方的“幽灵”，拯救地球，改写历史？人类必须回答这个事关前途命运的世纪之问。

In 2020, the COVID-19 pandemic raged across the world, claiming hundreds of thousands of lives and dealing a serious blow to the global economy and human society. The pandemic is a sharp wake-up call for all humankind. As we reflect on its painfully learned lessons, a far worse disaster — the unfolding climate and environmental crisis — is charging right for us. The average global temperature rise is approaching the 2°C threshold, which will trigger a domino effect and wreak havoc on the world. Humankind is now facing an unprecedented threat. The looming climate and environmental crisis casts a ghostly shadow over human progress and survival. How to save our home planet from catastrophic ruin and get us back on the track of sustainability? This is a defining question of the century and of our future—one that we must answer.

危机来袭 Incoming Crisis

人类发展史是一部不断遭遇危机、战胜危机的斗争史。从 14 世纪欧洲黑死病到本次新冠疫情，从公元前 5 世纪斯巴达战役到近代两次世界大战，从上世纪 30 年代经济大萧条到 2008 年金融危机，人类经历了无数惨痛劫难。当前，气候环境加速恶化，能源资源日益紧缺，贫困健康问题突出，社会冲突不断加剧，穹顶之下“危机四伏”。

Human history is marked by continuous struggle and triumph over crisis. From the Black Death in Europe in the 14th century to global influenza in the early 20th century, from Spartan Battles in the 5th century BC to the two world wars in modern times, and from the Great Depression in the 1930s to the financial meltdown in 2008, humankind has experienced and overcome many tragic moments. Yet today



the reality is as daunting as ever: worsening climate and environmental disruption, growing constraints on energy resources, acute poverty and health issues, and escalating social conflicts and unrest. Under the dome, crises are spiraling up.

气候环境危机最为致命和紧迫。工业革命以来，全球地表平均温度上升了 1.1°C ，按此趋势，本世纪末全球温升将超过 3°C ，给人类带来前所未有的浩劫。地球系统面临失衡，全球大部分冰川融化，海平面大幅上升，陆地面积急剧缩减，飓风、海啸、地震等极端灾害频发，大气圈、水圈、冰冻圈和岩石圈发生系统性变化。地球生态严重破坏，珊瑚礁大量消失，森林大面积退化，大量鱼类、鸟类、两栖类、哺乳类动物濒危，生物多样性面临严峻挑战。地球文明遭受重创，许多沿海城市被海水淹没，数十亿人流离失所，粮食、淡水、土地资源紧缺，经济大幅衰退，战争和冲突风险急剧上升，社会动荡不安，数千年的人类文明将严重倒退。

The climate and environmental crisis, however, turns out to be the most deadly and urgent of them all. Since the Industrial Revolution, the average global surface temperature has risen by 1.1°C . If this trend continues, the temperature will have risen by more than 3°C by the end of this century, bringing with it unprecedented human catastrophes. The earth system is tipping out of balance. With large-scale glacial melting worldwide, a drastically rising sea level and shrinking land area, we will see extreme events—like hurricanes, tsunamis, and earthquakes—increase in frequency. The atmosphere, hydrosphere, cryosphere, and lithosphere will undergo systemic transformations. The Earth's ecosystems are in danger of severe degradation. Coral reefs may disappear in large swathes, vast forested areas die off. A large number of fish, birds, amphibians, and mammals will be pushed to the brink of extinction. Biodiversity is facing grave challenges. Global civilization may suffer serious setbacks. Many of the world's major coastal cities could be inundated, displacing billions of people. With a recessing economy and shortages of food, fresh water, and land resources, the risk of war and conflict will surge, and social unrest will run rampant. Thousands of years of human civilization could be undone in a few short years.



红色警报已经拉响！应对危机的窗口期仅剩 10 年左右。再不行动，气候变化将不可逆转，没有一个国家、一个民族能够幸免。

The world is on “red alert”. We only have about a ten-year window left to tackle this crisis. Without prompt action, climate change will become irreversible. No country, no nationality will be spared.

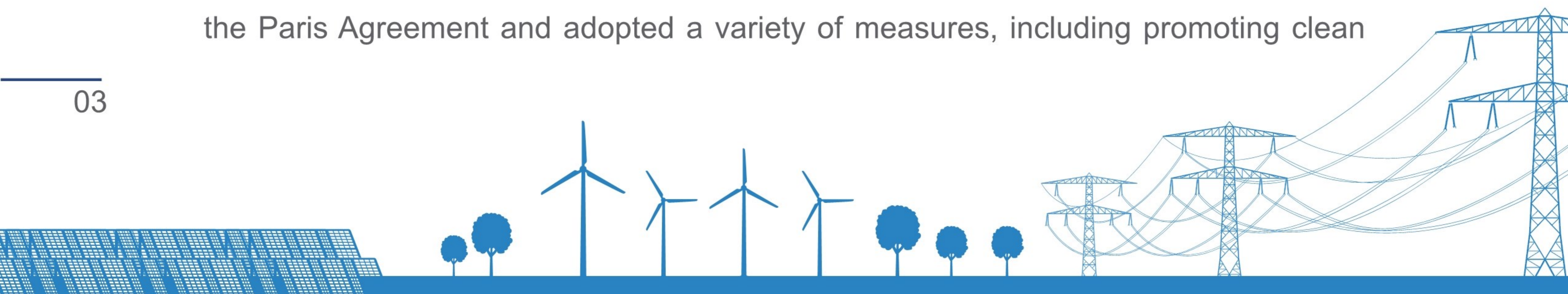
破解危机 Resolving the Crisis

气候环境危机的根源是化石能源大量开发和使用。化石能源在驱动人类经济社会进步的同时，也埋下了气候环境危机的祸根。化石能源使用产生的二氧化碳占温室气体总排放的 70% 以上，是造成温升的最主要原因。

The root cause of the climate and environmental crisis is the excessive exploration and use of fossil energy. While driving economic and social progress, fossil energy has simultaneously sown the seeds of climate and environmental disaster. The burning of fossil fuels has accounted for over 70% of total greenhouse gas emissions, which are the primary cause of global warming.

应对气候变化，世界一直在努力。1992 年，通过《联合国气候变化框架公约》（简称《公约》），目前 197 个《公约》缔约方中，189 个已批准《巴黎协定》，并采取发展清洁能源、低碳技术、碳市场等举措加快碳减排。但目前全球减排力度远远不够，实现《巴黎协定》目标仍面临巨大挑战。全球碳排放持续增长，气温加速上升，近 20 年温升幅度超过之前 200 年的总和。延续当前路径难以实现减排目标，只有加快转型、变革创新，才能渡过难关、赢得未来。

There have been active efforts to address climate change. In 1992, the United Nations Framework Convention on Climate Change (the Convention) was adopted. Of the 197 countries that have ratified the Convention, at present, 189 have signed the Paris Agreement and adopted a variety of measures, including promoting clean



energy, low-carbon technologies and the carbon market, to reduce carbon emissions. However, the current commitments are far from enough. There remains huge gap in meeting the targets of the Paris Agreement. As global carbon emissions continue to grow, warming continues to accelerate. The last 20 years have witnessed a greater rise in temperature than the previous 200. Our current path is badly off track to meet the emission reduction goals. Only by altering course and pushing for greater transformation and innovation can we turn the tide and hope to embrace a sustainable future.

破解危机的关键是走绿色低碳发展新道路，加速从化石能源为主向清洁能源主导的“直线式”变革转型，实现能源系统全面脱碳。全球清洁能源资源十分丰富，开发万分之五就能满足人类需求。但清洁能源分布不均衡，资源富集地区大多远离负荷中心，只有就地转化成电能，远距离传输、大范围配置，才能实现高效开发利用。

A green and low-carbon development path is key to taming the crisis. The necessary solution is an accelerated “linear” transition from an energy structure based on fossil fuels to one dominated by clean energy, a complete decarbonizing of the energy sector. The earth’s clean energy resources are vast. Harnessing a mere 0.05% would be enough to meet global energy demand and provide a sufficient supply of electricity. However, clean energies are unevenly distributed, and resource-rich areas are often far away from load centers. The most effective way to tap into and utilize these clean energy resources is to convert them directly into electricity in areas where the resources are abundant, then transmit electricity over long distances to demand centers for a much wider energy allocation and consumption.

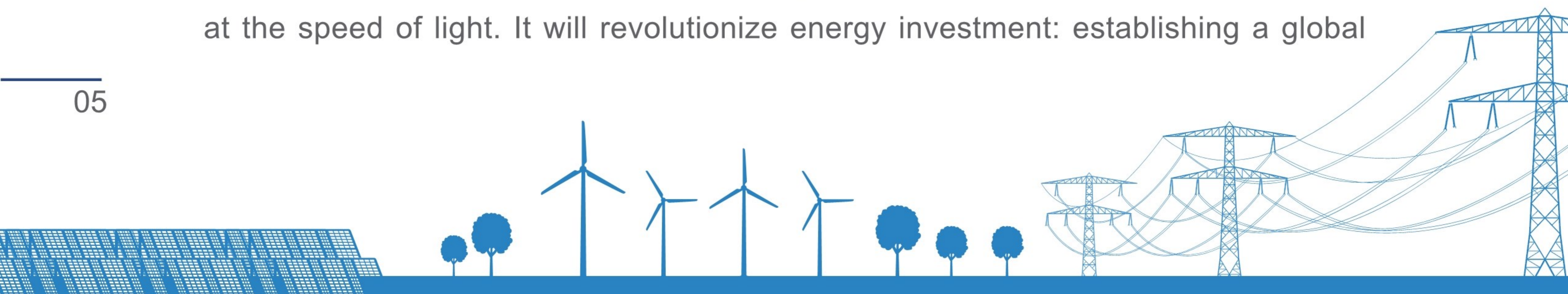
全球能源互联网是清洁能源大规模开发、配置、使用的基础平台，实质是“智能电网 + 特高压电网 + 清洁能源”，将打造覆盖全球、光速传输、广泛互联、高效互动的现代能源系统。生产环节实施清洁替代，大力开发全球丰富的太阳能、风能、水能等清洁能源，加快替代化石能源发电；消费环节实施电能替代，加速以电代煤、以电代油、以电代气、以电代柴，用的是清洁发电。建设全球能源互联网将推动战胜气候变化、环境污染、资源匮乏、贫困健康等全球性挑战。



Global Energy Interconnection (GEI) is an energy infrastructure platform for the large-scale development, delivery, and use of global clean energy resources. In essence, GEI is “Smart Grid + Ultra-high-voltage (UHV) Grid + Clean Energy.” It will bring forth a modern energy system covering the entire world, transmitting energy at the speed of light, proliferating interconnection, and effecting interaction efficiency. Its goal is to achieve clean replacement in energy production, actively tap into the abundant solar, wind, hydro and other clean energies around the world, and thereby accelerate the phasing out of fossil fuels for power generation. GEI likewise aims to advance electricity replacement in energy consumption by increasingly replacing coal, oil, natural gas, and firewood with electricity generated from clean energy resources. GEI thereby provides the means to beat global challenges, such as climate change, environmental pollution, resource constraint, poverty, and health issues.

全球能源互联网是划时代的能源革命。大规模高效开发全球丰富优质的清洁能源，转变化石能源为主的能源结构，实现能源供给变革；大幅提高全社会电气化水平，以绿色高效的电能满足人类用能需求，实现能源消费变革；发挥特高压电网远距离、大规模、低损耗输电优势，将清洁能源光速输送至世界每一个角落，实现能源配置变革；建立全球电 - 碳市场、绿色投融资等机制，发挥市场配置资源的决定性作用，让全球范围的资金、技术、人才高效向清洁能源领域流动，实现能源投资变革；带动新能源、新材料、5G、智能制造、电动汽车、储能等新兴产业快速发展，推动以化石能源为中心的产业链向以清洁能源为主导的产业链转型升级，实现能源产业变革。

GEI is a landmark of radical energy revolution. It will revolutionize energy supply: efficiently utilizing rich, high-quality clean energy resources on a massive global scale to shift the energy structure away from fossil-based resources. It will revolutionize energy consumption: significantly improving electrification levels across society, meeting energy demands with efficient green electricity. It will revolutionize energy delivery: installing the advanced Ultra-high-voltage (UHV) power transmission system boasting long distance, large scale, and low energy loss. These advantages will enable clean energy delivery to every corner of the world at the speed of light. It will revolutionize energy investment: establishing a global



electricity-carbon market and green investment and financing platform, among other mechanisms. This market will play a decisive role in allocating resources to efficiently channel global capital, talents, and technologies to the clean energy sector. GEI will also provide a strong boost to emerging industries such as new energy, new materials, 5G, intelligent manufacturing, electric vehicles, and energy storage. Finally, it will revolutionize the industrial chain: upgrading the energy sector's conventional fossil energy chain to one defined by clean energy.

全球能源互联网是破解人类危机的重要途径。全球能源互联网将突破资源、环境和时空约束，重塑能源开发和利用方式，全球清洁能源开发速度将提高 3 倍，2050 年清洁能源占一次能源比重预计达到 75%，全面加速能源脱碳进程，推动全球碳排放早达峰，为解决气候环境问题提供可操作、可复制、可推广、可承受的治本良方。以“电-矿-冶-工-贸”、“电-水-土-林-汇”等发展模式，有力促进全产业低碳联动发展和生态环境修复，推动经济发展与碳排放脱钩，打破碳惯性、解除碳锁定，实现绿色可持续增长。

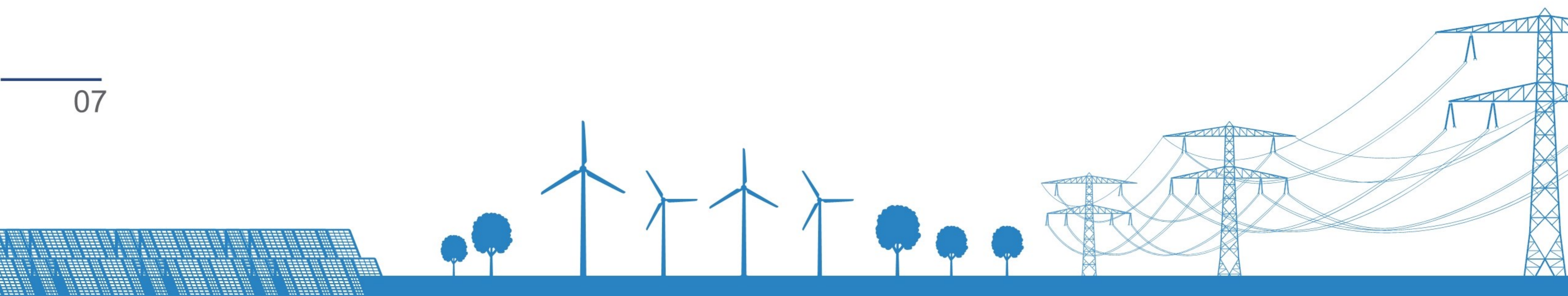
GEI offers a fundamental solution to the human crisis. It can break through the constraints of resources, environment, time and space, reshaping the patterns of energy development and use. Clean energy will see a threefold increase in its global growth rate. By 2050, clean energy's proportion of primary energy will reach 75%, expediting global decarbonization and driving carbon emissions to peak at an early stage. GEI provides a feasible, replicable, and scalable panacea for the climate and environmental crisis. By co-development models of “electricity, mining, metallurgy, manufacturing, and trade” and “electricity, water, land, forest, and carbon sink”, GEI will propel industry-wide low-carbon development and ecological restoration, decouple economic development from carbon emission, and remove the carbon inertia and lock-in effect, to foster green growth.

基于全球能源互联网，将建成清洁低碳、经济高效、永续供应的能源体系，打造互联互通、共建共享、合作共赢的全球能源共同体，开启世界可持续发展新时代。将大幅减少空气、水资源和土壤污染，彻底消除“心肺之患”，保护“生命之源”和“万



物之本”，让沙漠变绿洲、荒原变林海，人类永享自然之美；将带动清洁能源和电力投资累计超过 30 万亿美元，推动能源、信息、交通“三网”融合发展，促进全球技术创新和产业升级，培育绿色低碳产业链、价值链，打造更具活力的循环经济体系，实现世界经济高质量增长；以可持续和智慧化方式改变人类生活，带来丰富的食物、优质的教育、现代化医疗，智能家居、机器人、自动驾驶走进千家万户，人们幸福感和满足感大幅提升；以充足能源供应，促进物质极大丰富，消除饥饿贫困，加强南南合作、南北对话，减少对立冲突，让世界成为和平和谐、亮堂堂的“地球村”。

GEI lays the cornerstone for a sustainable energy system that is clean, low-carbon, and highly cost-effective. It will create a global energy community that is deeply interconnected, jointly constructed and shared by all, with extensive cooperation and win-win results, thereby ushering in a new era of sustainability. GEI will substantially reduce air, water, and soil pollution, safeguarding the very sources that sustain and enrich life. It can help turn deserts into oases, and turn wastelands into forests, preserving the natural beauty of the Earth for us and future generations. With a total investment of over USD 30 trillion expected in clean energy and electricity sector, GEI will fuel energy, information, and transportation network integration (EITI) for great leaps in global technological innovation and industrial upgrading, foster a green, low-carbon industrial chain and value chain, and establish a more dynamic circular economic system for a prosperous world. GEI will enhance and transform human life with sustainability and intelligence. Ample green energy will ensure an abundance of food, quality education, and modern medical care. Smart homes, robots, and autopilot vehicles will be within reach, giving people greater quality of life. GEI will harness an adequate energy supply to promote society-wide prosperity and material abundance and to alleviate hunger and poverty. GEI's energy community will moreover strengthen south-south cooperation and south-north dialogue, reducing conflicts and confrontations. We can therefore share a healthy planet and a harmonious “global village”, beautiful and peaceful, open to all.



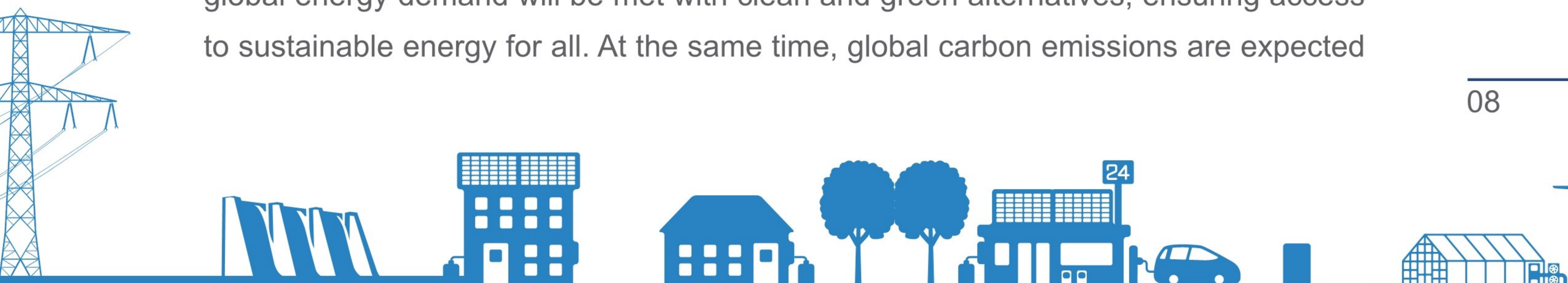
全球行动 Global Actions

人类只有一个地球。面对气候环境危机这柄高悬在头顶的“达摩克利斯之剑”，生存还是灭亡，人类处在历史的重要关口。忽视危机、懈怠迟缓，将丧失最后时间窗口。直面危机、立即行动，才是唯一出路。人类必须共同奋斗，加快构建全球能源互联网，赢得与危机的赛跑。

Humans only have one earth. The climate and environmental crisis is a Sword of Damocles hanging in perilous balance over our heads. Human beings are at a crucial juncture of history, a moment that will decide if we survive or perish. Ignoring the crisis or dragging our feet now will cost us this last window of opportunity. Confronting the crisis head-on through prompt action is the only way out. Mankind must work together to accelerate GEI development and turn the tide from devastation to triumph.

全球能源互联网按国内互联、洲内互联、全球互联三个阶段建设，力争2050年建成，将根本改变世界能源格局，打造无化石能源的“绿色地球”。预计2025年，全球化石能源消费增长势头和碳排放增加趋势得到扭转，实现化石能源达峰和碳排放达峰；2035年，清洁能源占一次能源消费比重超过化石能源，电能占终端能源消费比重超过煤、油、气，实现清洁主导和电能主导；2050年，以清洁和绿色方式满足全球能源需求，让人人享有可持续能源，实现《巴黎协定》和《公约》目标。

Interconnection will proceed in three stages: domestic, intra-continental, and global. GEI is expected to be essentially complete by 2050, transforming the world energy paradigm and rendering us a “green earth without fossil energy”. By 2025, global fossil energy consumption and carbon emission will see both a peak and a downturn. By 2035, the proportion of clean energy in primary energy will surpass fossil energy, and in end-use consumption, electricity will surpass coal, oil, and gas, giving rise to clean energy and electricity dominance in the energy mix. By 2050, global energy demand will be met with clean and green alternatives, ensuring access to sustainable energy for all. At the same time, global carbon emissions are expected



to reach net zero, thereby meeting the targets of the Paris Agreement and the Convention.

构建全球能源互联网是一项巨大的系统工程，需要各方携手努力、共同推进。为此，我们倡议：

GEI is a massive, systematic project that requires concerted efforts from all sides. To this end, we propose to:

增进全球共识。发挥联合国和各国政府重要作用，将应对气候变化作为共同任务，搁置争议、消除分歧，以更高效的方案和更务实的举措，加大全球减排力度，严控温室气体排放，实现绿色低碳发展。

Enhance global consensus. The United Nations and all governments have important roles to play. Tackling climate change should be set as a common task. To achieve it we must shelve our disputes and resolve our differences. We need to seek more effective solutions and more pragmatic measures to advance the reduction of global emissions, the strict control of greenhouse gases, and to facilitate green and low-carbon development.

汇聚全球合力。发挥国际组织联络沟通作用，以清洁发展为根本方向，促进各国政策协同、规划衔接、标准对接，完善多边合作机制，凝聚共建全球能源互联网强大合力。

Foster global synergy. International organizations need to play their role as hubs for dialogue and coordination. With clean development as our fundamental guide, we need to solidify international consensus and promote the coordination of policies, planning, and standards among different countries. We need to strengthen mechanisms for multilateral cooperation and pool our great collective strengths into the common undertaking of GEI.

推动全球实践。发挥能源企业、金融机构、研究智库等主体作用，秉持绿色低碳



发展理念，加强技术创新和装备研发，加快清洁能源开发和电力互联互通，推动全球能源互联网早日建成。

Facilitate global practice. Energy companies, financial institutions, think tanks, and other relevant sectors will play a principal role. Taking the green, low-carbon pathway means enhancing technological innovation and equipment R&D and accelerating clean energy development and power grid interconnection to achieve global energy interconnection at an early date.

实现全球共赢。以能源互联互通为纽带，搭建开放包容、互利共赢的国际合作平台，发挥发达国家与发展中国家的技术、资金、市场、清洁能源资源互补优势，推动全球能源命运共同体和人类命运共同体建设，实现世界包容性增长和共同繁荣。

Achieve global win-win results. We need to establish open, inclusive, and mutually beneficial platforms for international cooperation with energy interconnection as the key link, allowing for optimal complementarity and coordination among both developed and developing countries, leveraging their respective strengths in technology, markets, finances, and clean energy resources. This will further efforts to build not only a global energy community but a shared future community for all humankind, promoting inclusive growth and common prosperity around the world.

全球能源互联网是造福全人类的伟大事业，人人都是开拓者、建设者和受益者。让我们共同努力，加快建设全球能源互联网，让这一承载人类希望的“诺亚方舟”拯救世界、扬帆远航，开启人类文明新篇章，迈向永续发展新纪元。

A journey of a thousand miles begins with a single step. And once it begins, the future of humankind grows bright. GEI is a great cause benefiting all humankind, a cause for which everyone can be trailblazer, contributor, and beneficiary. Let us work together to expedite GEI development, so that this “Noah’s Ark” can set sail, bearing the hope of mankind on a long voyage, in quest of a new chapter of human civilization and a new era of sustainable development.





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