## BASIC INFORMATION

### A. Basic Project Data

<table>
<thead>
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<th>Country</th>
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<td>China</td>
<td>P158079</td>
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<td>China: Jiangxi Eco-industrial Parks Project (P158079)</td>
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<td>Urban, Resilience and Land</td>
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<td>Fuzhou New Industries Zone, Jiangxi Development and Reform Commission</td>
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### Proposed Development Objective(s)

To strengthen Jiangxi’s institutional and regulatory framework for eco-industrial parks in line with international good practice and demonstrate its implementation in an industrial park in Fuzhou.

## PROJECT FINANCING DATA (US$, Millions)

### SUMMARY

<table>
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### DETAILS

**World Bank Group Financing**

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**Non-World Bank Group Financing**

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B. Introduction and Context

Country Context

**China has entered a new stage of development, which focuses more on environmental sustainability.** Double-digit annual growth based on resource-intensive manufacturing, exports, and cheap labor has largely reached its limits and has led to economic, social, and environmental imbalances. Reducing these imbalances requires shifts in the structure of the economy from low-end to higher-end manufacturing and services, and from investment to consumption. China’s key medium-term challenge is to manage an orderly transition to a slower but more balanced, equitable and environmentally sustainable growth. This requires the development of institutions that support more environmentally conscious, market-driven, and productive growth, in line with the government’s strategy of building an “ecological civilization”.¹

**China’s stellar growth has led to unsustainable levels of resource use and pollution.** China faces a range of environmental and climate change challenges unique in scale and complexity. Between 1979 and 2017, energy consumption increased almost eightfold to fuel an economy that grew 32-fold in real terms, with coal still accounting for 60 percent of the energy mix today.² Based on 2008 data, *China 2030* report estimated the costs of environmental degradation and resource depletion at almost 10 percent of GDP, of which air pollution accounted for 6.5 percent, water pollution 2.1 percent, and soil degradation 1.1 percent. Since then, despite progress in strengthening environmental governance, reducing the energy intensity of GDP and improving urban air quality, environmental damage continues to harm China’s economy. It does so by undermining people’s health, degrading ecosystems and natural resources, and causing losses to agriculture and industry. Moreover, as argued in the 2017 *Systematic Country Diagnostic* (SCD) for China, while pollution and resource scarcity affect all citizens, the poor are usually most affected and least able to cope. China’s environmental performance is also of global importance. Due to its size and the high share of coal in its energy mix, China has become the world’s largest emitter of greenhouse gases (GHGs), accounting for over a quarter of annual global emissions (Figure 1). It is also now a higher GHG emitter per capita than, for instance, the average for the European Union (Figure 2).³ Achieving green growth therefore remains a highly relevant goal for China and for the world, which requires a broad mix of policy instruments. These include fiscal and tax incentives, pricing measures, green finance, information disclosure, promotion of green technology, environmental

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¹ “Ecological civilization” is a Chinese term which refers to material, spiritual and organizational achievements in following laws of harmonious human, social and natural development. It is a concept which realizes harmonious co-existence and sustainable development, both among people and between them and nature and society, reflecting the progress of civilization. Source: UNEP.


The province of Jiangxi in Southeastern China is an ideal location to implement the government’s strategy to build an ecological civilization. As one of two provinces identified by the central government to demonstrate implementation of the ecological civilization concept, the province has a special role in the piloting of reforms that will enable China to achieve green growth. Jiangxi, with a population of about 46 million, is also part of the Yangtze River Economic Belt (YREB) initiative launched by the Chinese government in 2016. This initiative, which runs along the Yangtze River through nine provinces and two specially administered municipalities, has been selected as one of the three key growth engines for China’s development. Development of YREB is a key element of the coordinated regional development promoted by China’s 13th Five-Year Plan (FYP) for 2016–2020 and will further promoted in the 14th Five-Year Plan (2021–2025). The 13FYP emphasizes mainstreaming the concept of ecological civilization, promoting industrial transformation and upgrading along the Yangtze River and increasing the overall competitiveness of the economic belt. The YREB Development Plan 2016–2030 highlights green development, environmental protection, rehabilitation, and management of water resources.

**Sectoral and Institutional Context**

China needs to green its industrial sector to shift to a more sustainable growth path. Energy/resource-intensive and polluting sectors, in both heavy and light manufacturing, have historically accounted for a large share of China’s industrial sector. Industrial production, combined with the industry and energy sectors’ continued reliance on coal, has accounted for a large and growing share of the resource use, pollution and waste challenges facing the country (Figure 3). China has made unprecedented progress over the past decades in reducing the amount of energy used per unit of industrial value added, but continues to lag behind the energy productivity of high-income countries. The

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4 Green growth can be defined as an economic growth model that fosters economy-wide efficiencies, new green markets, and green innovation, while decoupling growth from the resource use, carbon emissions, and environmental degradation.

5 The other two are the Beijing-Tianjin-Hebei Area and the Guangdong-Hong Kong Bay Area.

6 As argued in the SCD, industry is the largest end-user of energy in China and consumes as much coal as the energy sector. Industrial sources, from both coal and non-coal emissions, have been the largest sectoral contributor to fine particulate matter (PM2.5); in particular the iron, steel and cement industries. In addition, industries have been a leading source of water pollution, as well as of solid waste.

7 Source: “China’s progress towards green growth: an international perspective” (OECD, 2018).
challenge is that industries lack sufficient incentives and financing to invest in energy efficiency, while local governments lack the capacity to adequately implement energy efficiency regulations. Likewise, industry still accounts for over 80 percent of China’s solid waste, CO$_2$ and sulfur oxides emissions. Since 2013, the central and local governments have taken active measures to reduce pollution from the power and industrial sectors. However, these efforts have so far largely focused on ‘end-of-pipe’ regulatory approaches, including thousands of mandatory plant closures. On the other hand, other instruments to foster resource efficiency and pollution prevention have been underutilized, including market-based and information-based ones.

Figure 3. Industry’s Contribution to Selected Environmental Pressures in China

Industrial parks (IPs) are a central element of both China’s industrial sector and its environmental challenges. IPs have played a major role in China’s economic growth and its rise as a global manufacturing powerhouse. This role was made possible by a pragmatic approach to encourage policy and institutional experimentation and subsequent scaling up at the national level, strong commitment and support from the authorities, and continuous technology learning and upgrading. By the end of 2017, China had a total of 2,543 IPs, including 552 national IPs and 1,991 provincial ones. Regarding Jiangxi, the province currently hosts 107 IPs, out of which 19 are classified as national-level parks. Given that the industrial sector is responsible for around 70 percent of environmental pollution and 72 percent of GHG emissions, and that most industrial production takes place within IPs, IPs likely account for the majority of total resource use, pollution and waste in the country. Several factors have contributed to IPs’ negative environmental impacts, including the use of inefficient and polluting technologies by tenant companies, inadequate enforcement of environmental regulations and management of environmental aspects within IPs, and shortcomings in the availability and utilization of IP-level pollution management infrastructure, such as wastewater treatment plants.

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8 Source: Ibid. It should be noted that an increasing proportion of industrial solid waste is the object of material or energy recovery.
9 Note: “Industry” refers to the mining and quarrying, manufacturing and energy sectors.
10 IPs is used as a generic term to refer to different categories of industrial zones in China, including special economic zones (SEZs), economic and technological development zones (ETDZs), high-tech industrial development zones (HIDZs), free trade zones (FTZs), and export-processing zones (EPZs).
The environmental challenges of IPs result from their large production but also their massive physical footprint, construction activities and maintenance needs. GHG emissions from buildings and appliances, including production, office and residential buildings in IPs and their surrounding cities, continue to grow rapidly. According to a study by Tsinghua University, construction activities in 2014 accounted for about 16 percent of China’s energy consumption, while building operations made up another 20 percent, meaning 36 percent of China’s total energy consumption was attributed to the building sector.\(^\text{13}\) Another study estimates this share at 44 percent. Improved efficiency in the building and appliance sector could cut the power demand by one-third and the coal demand by half, reducing GHG emissions by half by 2030.\(^\text{14}\) Therefore, upgrading the physical environment to meet green building standards presents a major opportunity for resolving environmental issues in IPs.

China has made the promotion of green IPs a central aspect of its strategy to green industries. While the agglomeration of firms in IPs concentrates environmental challenges, it also offers opportunities to address these issues in a more coordinated manner and to develop efficiency gains and synergies. The last two decades have seen a growing interest in green IPs among academics and policy makers in high-, medium-, and low-income countries alike, as a way to improve industries’ environmental, economic, and social performances.\(^\text{15}\) The management of environmental issues in Chinese IPs was initially fostered through the promotion of environmental management systems (EMS) at the park- and firm-levels in the late 1990s. Building on this, a green park IP demonstration program was launched in the early 2000s to minimize pollution and waste generation in existing IPs. Three sets of standards were adopted by three separate ministries to define requirements for green IPs and monitor their performances on key dimensions (e.g., economic performances, material and energy efficiency, renewable energy, resource recovery, pollution, green infrastructure, information disclosure).\(^\text{16}\) In addition, fiscal and financial instruments have been established to support IPs and their tenants in the transition to the green IP model, especially for infrastructure development.

There is emerging evidence that green IPs certified under one or several of the existing green standards have improved their economic and environmental performance. A recent study estimated that a sample of green IPs in China managed to reduce their energy and water intensity by about a third and increased their cost competitiveness accordingly.\(^\text{17}\) This echoes the experience from other countries where well-designed and implemented programs following the EIP model have resulted in large economic, social and environmental benefits. For instance, in Kalundborg (Denmark), exchanges of water, energy/heat and materials generate annual savings of €24 million for all the industrial companies involved and reduce GHG emissions by 635 thousand tons of CO\(_2\) equivalent.\(^\text{18}\) In Korea,

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15 An EIP is “a dedicated area for industrial use at a suitable site that ensures sustainability through the integration of social, economic, and environmental quality aspects into its siting, planning, management and operations.” EIPs are often used to foster exchanges of waste material, waste energy, and wastewater between tenants (“industrial symbiosis”), as well as with surrounding urban areas. Other ways for EIPs to reduce their environmental impacts and improve operational efficiency include (a) investing in common pollution and waste management facilities and services; (b) promoting investments by each tenant company in resource efficiency and cleaner production; (c) promoting resource circularity (e.g., remanufacturing, reuse and recycling); (d) adopting green building and other environmental standards (e.g., ISO 14001 of the International Organization for Standardization [ISO]); (e) increasing access to renewable energy sources; (f) ensuring strategic recruitment of tenants; and (g) investing in environmental and social infrastructure and services (e.g., tree cover and public transportation). For more details, see for instance: “An International Framework for Eco-Industrial Parks” (World Bank, UNIDO, GIZ, 2017).

16 These include the Ministry of Ecology and Environment’s EIP demonstration program, the National Development and Reform Commission’s Circular Transformation Industrial Parks program, and the Ministry of Industry and Information Technology’s Green Industrial Parks program.


18 See: http://www.symbiosis.dk
similar symbiotic exchanges were developed under the national EIP program since 2005, enabled by about US$24.3 million in public funding for R&D and US$591.3 in private investments. As of end 2014, these projects have generated cumulative cost savings of US$554 million and new business revenue of US$779.4, while leading to substantial reductions in by-product disposal (3.6 million tons), energy consumption (0.9 million tons of oil equivalent), wastewater (37.3 million tons) and CO₂ (4.7 million tons).  

However, multiple shortcomings of the current green IP policies have limited the expansion of green IPs and undermined the quest to build an “ecological civilization”. Despite much reform efforts, by mid-2018, fewer than 10 percent of over 2,500 IPs in the country had been green certified under at least one standard. This may not change rapidly in the future, as for instance the Ministry of Industry and Information Technology (MIIT) plans that green certified IP would increase from 46 in 2018 to 100 by 2020. While welcome, this would nonetheless keep the green IP penetration rate in China below 10 percent. A recent World Bank report argued that such a low penetration of green IPs results from the fragmentation the existing IP standards, opaque certification process, underdeveloped monitoring systems and weak incentives and support for IPs to transition to a green IP model. While some leading IPs in China, such as the Tianjin Economic-Technological Development Area (TEDA), have been able to use efficient environmental management as a competitiveness factor, many other smaller or less advanced IPs in secondary cities have not had the incentives and capacity to do so. There is therefore scope to strengthen China’s policy and institutional framework for green IPs, as well as to pilot implementation mechanisms to foster the greening of all IPs in the country’s different provinces.

The adoption of the “International Eco-Industrial Park Framework” (EIP) jointly developed by the World Bank, UNIDO and GIZ can help align China’s IP framework with international best practice and accelerate the greening of Chinese IPs.  

The EIP framework, adopted in 2017, was developed to provide one global, universal and comprehensive definition of what it means to be a green IP and to encourage countries to adopt consistent regulations. Many countries have already taken steps to adopt the new EIP framework, including Turkey, Vietnam and others. China’s regulations have also been upgraded, but continue to fall short of the EIP framework, as documented in the World Bank 2018 report. The differences relate to all four pillars of the EIP framework, including park management, environmental, social and economic requirements. Closing of these gaps would help China accelerate the expansion of IPs and enhance the economic and environmental advantages of becoming a green IP, providing tangible benefits to China and the world.

An ambitious policy push is needed to green Jiangxi’s large industrial sector. In 2018, almost half of Jiangxi province’s gross regional product of about RMB 2.2 trillion came from the industrial sector. Mirroring a similar relative decoupling nation-wide, the growth of industrial value added (including manufacturing, mining, power and construction) over the last two decades far outpaced that of industrial energy consumption and solid waste generation, while discharges of industrial wastewater and emissions of certain pollutants, such as SO₂, declined in absolute terms during this period.


21 This framework, adopted in 2017, aims at encouraging IPs to exceed compliance with domestic environmental and social regulations. It considers IP performances on four key dimensions, namely park management, environmental, social and economic. The requirements within each category are divided into “prerequisites” and “performance indicators,” that can be verified and measured in qualitative and/or quantitative terms. In addition to complying with all applicable local and national legislation, a park is expected to meet all relevant prerequisites and performance expectations to be deemed an EIP. In recent years, the EIP Framework has been the guiding document for EIP-related projects supported by the World Bank Group and partner institutions in a growing number of countries. See “An International Framework for Eco-Industrial Parks.” (World Bank, UNIDO, and GIZ, 2017) and Annex 2 for a brief introduction to the EIP framework.
relative decoupling will not be sufficient to prevent resource use and waste/pollution from growing. Jiangxi’s total energy consumption has nonetheless increased more than four times. Industry currently accounts for two thirds of the province’s energy consumption, mostly from energy-intensive heavy industries, such as non-metallic minerals, ferrous and non-ferrous metals, and chemicals.

**Figure 4. Economic and Environmental Trends in Jiangxi’s Industrial Sector (2000 = 100)**

![Graph showing economic and environmental trends](source: Jiangxi statistical yearbook 2018)

Jiangxi province is an ideal candidate to pilot an improved institutional and regulatory framework for green IPs based on the global EIP framework. Over the last few years, Jiangxi’s provincial authorities have adopted various green IP-related policies and guidelines. An implementation plan to make Jiangxi a national ecological civilization pilot zone was published in October 2017, which reaffirmed the objective to green the industrial sector and foster the circular economy, including by improving environmental management at the IP-level. However, while Jiangxi’s IP system constitute a good basis to build on, a recent World Bank assessment concluded that there was significant potential to improve it to enhance its contribution to the decoupling of industrial growth from resource use and pollution. In particular, the existence of several partially overlapping national and provincial IP standards can generate confusion for IPs and investors. Moreover, Jiangxi’s latest IP performance index, adopted in 2018, does not cover all dimensions included in the EIP Framework. The institutional, policy and regulatory framework can also be developed to encourage more IPs to transition to an EIP model and to support the greening of industrial sectors. Finally, synergies with other policies can be sought to align sustainability and competitiveness objectives (e.g. industry 4.0, green finance, climate change).

The Fuzhou New Industries Zone (FNIZ) is a representative case of IP that has been striving to transition to an EIP model but would require a more conducive roadmap and supporting mechanisms. FNIZ, established in 1992 in the prefecture-level city of Fuzhou, is one of the national-level IPs in Jiangxi. Covering 39 sq. km. (of which about 20 sq. km. is currently developed), it is integrated with the city center. FNIZ hosts about 120,000 residents and 260 firms.

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23 Fuzhou is located in the southeastern part of Jiangxi, about 100 km from the provincial capital city of Nanchang. It has a permanent population of about 4 million, of which more than 1 million in the central urban area. It comprises two districts and nine counties, with an urbanization rate close to 50 percent.
mainly in the bio-pharmaceuticals, automobile and auto parts, food processing, and IT equipment sectors. In 2016, firms in the zone generated a total value-added of RMB 39.4 billion (US$5.6 billion) and employed more than 30,000 workers. FNIZ has strived to meet the national green IP standards, with efforts to date including: (i) the preparation of firm-level cleaner production audits and closure of heavily-polluting firms, (ii) the implementation of resource efficiency/pollution-related projects (e.g. common effluent treatment plant, boiler gas conversion), and (iii) the development of a centralized online platform for park performance monitoring. Nevertheless, there is scope to deepen FNIZ’s EIP transition. A recent self-assessment by FNIZ suggests it still falls short of several requirements of the MIIT standard and the international EIP Framework, notably related to energy efficiency and renewables, water efficiency and recycling, air pollution and GHGs emissions. Obstacles faced include a lack of data and monitoring capacity on park-level environmental, social and economic performances; shortcomings in systems to promote resource efficiency and environmental management (e.g. use of environmental management systems, GHG monitoring, electricity metering); missing infrastructure (e.g. waste heat recovery, water and waste recycling and reuse); and lack of incentives and technical support for tenant companies.

Relationship to CPF

The proposed project is fully aligned with the WBG’s strategic objective to support China’s efforts to foster green growth. As the SCD argues, China’s rapid growth exceeded the pace of institutional development, and the Government now recognizes that putting the country on a high-quality and sustainable growth path will require governance and institutional reforms. The Country Partnership Framework (CPF Report No. 117875-CN) for FYs 2020-2025 thus reorients the WBG’s engagement to be increasingly selective, with a focus on China’s remaining institutional gaps and the country’s contribution to global public goods.24 The project, which is explicitly mentioned in the CPF,25 directly meets three of its four selectivity criteria, namely “addressing regional or global public goods”, “fostering the private sector”, and “strategic piloting of approaches to address key development priorities, especially in areas relevant to other developing countries”.26 It will primarily contribute to the second of the CPF’s three engagement areas (“promoting greener growth”), which intends to support China’s transition to a lower-carbon energy path, to reduce air, soil and water pollution, and to promote low-carbon cities. This project will contribute to “fostering the private sector” by incentivizing private investment in green development and clean production. The project will also contribute to the CPF’s first engagement area “advancing market and fiscal reforms”, as it aims to strengthen public sector governance and directly support “achieving more efficient and sustainable subnational fiscal management and infrastructure financing”. The CPF stresses that upgrading China’s institutional and policy framework for environmental management remains key to meet the country’s development objectives, including by strengthening local governments’ technical capacity, developing regional coordination mechanisms, and improving the availability of critical environmental information for planning, decision making, and public disclosure, all of which will be supported by the project.

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25 “IBRD will support the creation of a demonstration green industrial zone in Jiangxi province using guidelines jointly developed with GIZ and UNIDO, aiming to set a standard for other zones to emulate and attract green financing.” (p. 28).
26 As argued in the CPF for FY20-25, Bank lending is leveraged when it helps introduce and test new approaches for replication using the government’s own resources. Since the 1980s, China has deployed a pragmatic, learning-by-doing approach to development, testing reforms at the sub-national level before rolling them out. Provincial authorities are encouraged to experiment. China has intentionally used Bank-financed projects to pilot new approaches and has requested to continue using lending and technical assistance during the new CPF period as platforms for reform, institution building, and knowledge transfer. Indeed, respondents to the China Country Survey in FY19 identified the WBG’s greatest value as piloting innovations that can be scaled up.
C. Proposed Development Objective(s)

To strengthen Jiangxi’s institutional and regulatory framework for eco-industrial parks in line with international good practice and demonstrate its implementation in an industrial park in Fuzhou.

Key Results (From PCN)

a) Help Jiangxi Province become a demonstration province in China on how to upgrade the regulatory framework to meet international eco-industrial park standard;
b) Provide evidence that greening of industrial parks can increase competitiveness and enhance investment attractiveness while controlling/reducing the environmental impact;
c) Contribute to reduction in GHG emissions from the industrial sector in Jiangxi province;
d) Help Fuzhou New Industries Zone improve its ecological and environmental quality and management capacity, to attract green industries and obtain access to green finance.

Progress towards the achievement of the PDO and implementation results would be monitored by five indicators. At the provincial level: (a) Provincial level EIP policy and regulatory framework, with proper monitoring tools, issued. At the FNIZ Project Area level: (b) Direct reduction in Greenhouse Gas Emissions from project-funded activities (Tons); (c) Beneficiaries’ satisfaction rate of overall ecological and environmental quality in Fuzhou NIZ (%); (d) New investment meeting the green industry screening criteria developed under the project; and (e) Eligibility for green financing.

D. Concept Description

The proposed project will support Jiangxi province’s efforts to upgrade its IPs to strengthen its competitiveness and achieve ecological civilization. Specifically, it will: (a) provide technical assistance (TA) at the provincial level; and (b) support a particular IP in Fuzhou. In both cases, activities will have a demonstration effect with high potential to scale up in both Jiangxi province and in China, as well as benefit other middle and low-income countries. Figure 2 below illustrates the overall project design and components.

Component 1 aims at establishing a pioneering Jiangxi province-wide EIP performance management system and reforming Jiangxi Province’s institutional and policy framework for EIPs to promote green development. Component 2 will support Zero-waste pilots and the construction of a smart EIP management center and mixed-use green incubators and neighborhoods. Component 3 will support upgrading of public space and landscapes surrounding two existing lakes, pollution reduction and water quality improvement and connecting the lakes to Fu River to increase water volume in dry seasons. Component 4 will comprise TAs covering zero-waste high-tech zone study and action plan, screening criteria for green industries, green buildings survey and ranking, energy consumption and GHG emission accounting as well as capacity building.

Figure 5: Project Design and Components
Project Scope and Boundary. As illustrated in Figure 3, the proposed project area is the “Eco-Industrial Park Demonstration New District” covering an area of about 4 km² in FNIZ’s northeastern corner. All civil works would take place within this New District.

Figure 6 Location of the EIP Demonstration New District within FNIZ (Left) and project sites (right)
SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The proposed project is located in Jiangxi Province in the middle stream of Yangzi River. The World Bank loan will be used to support policy reform at the provincial level as well as demonstrative investment to promote green development in the New Industries Zone of Fuzhou city, which is managed by a district-level administration committee. According to the City Master Plan of Fuzhou Municipality, the approved jurisdiction of FNIZ is around 39 square km, of which 20 square km has already been developed/occupied. The proposed project area is the “Eco-Industrial Park Demonstration New District” covering an area of about 4 km² in FNIZ’s northeastern corner. All civil works would take place within this New District (4 km²). TA activities will cover the whole FNIZ (around 39 square km) to help FNIZ narrow the gaps against international eco-industrial park standards and to mainstream eco-industrial parks across Jiangxi Province. Though the physical investment of WB only focused on about 4 km², the project boundary covers the whole 39 km² FNIZ including existing 20 km². The surface water quality, air quality and acoustic environment quality within the FNIZ all meet relevant environmental standards. The FNIZ is well planned and managed during its development process, there are no known environmental pollution legacy issues.

The prioritized industry for FNIZ is the new generation information technology (i.e., big data and cloud computing) and the three pillar industries are a) bio-pharmaceutical, b) automotive assembly and parts, and c) clean energy and new materials. The size of employment in the industrial sector is around 33,000. As indicated by the name of this park, none of the industries / firms in the FNIZ is a heavily pollutant. The zone applied and applies high environmental standards to all firms that would like to start business there. In FNIZ, there is an existing industrial wastewater treatment plant which has a treatment capacity of 20,000 cubic meters per day. According to the local environmental authority, around 10,000 cubic meters per day discharged from totally around 103 existing enterprises in the FNIZ. The industrial wastewater in FNIZ is pretreated by enterprises, then treated to meet discharge standards by the industrial wastewater treatment plant, and discharged into downstream, Fenggang River, finally.

B. Borrower’s Institutional Capacity for Safeguard Policies

There are two Project Management Offices (PMOs) under this project regarding implementation arrangement, including Jiangxi Provincial PMO and FNIZ PMO. Jiangxi Provincial PMO will be established and housed under the provincial DRC and the FNIZ has already been set up under the Management Committee of the FNIZ. There has been an experienced existing PMO at the provincial level to implement WB financed project, which is a good candidate for implementing the provincial-level subcomponent of this Project. Details of implementation arrangements will be confirmed during the appraisal stage. FNIZ PMO have not been involved in any projects financed by World Bank, with no experience on the World Bank safeguards policies. The FNIZ PMO will be expanded to meet the Bank’s requirement for project safeguards management. FNIZ PMO will be provided with safeguards technical assistance support including training to ensure sound implementation compliance. Experienced 3rd party consultants will be engaged during project - implementation to help FNIZ PMO.

C. Environmental and Social Safeguards Specialists on the Team

Chaogang Wang, Social Specialist
Yiren Feng, Environmental Specialist
Shuang Zhou, Social Specialist
### D. Policies that might apply

<table>
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<th>Safeguard Policies</th>
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<th>Explanation (Optional)</th>
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<td>Environmental Assessment OP/BP 4.01</td>
<td>Yes</td>
<td>This project is environmentally positive as it is aims to design a set of green standards for industrial parks at the provincial level and upgrade FNIZ to achieve the green development following the low-carbon cycle development principle and to serve as a demonstration for the green development of parks in Jiangxi Province. The main activities under this project comprise of: 1) Provincial-level EIP standard, framework and monitoring platform (TAs); 2) EIP Demonstration and Zero-waste pilot: construction of multi-functional rental buildings (4 to 15 floors building) with a total construction area of about 530,000 square meters (for digital economy including cloud computing, IoT and block chain, science and technology, research and development, incubator, financial service, exhibition, office, living and services, etc.), outdoor green area (about 127,000 square meters), park roads (about 5.67 km in length totally) and related utility pipelines and facilities, and adoption of new solid waste management regulations; 3) NBS and Eco-system Service Restoration (Qingfeng Park, Dingjialong Park): construction of one integrated fabricated pump station at the left bank of Fuhe River and diverting water through pipes from Fuhe River to Qingfeng Reservoir and connecting Qingfeng Reservoir with Dingjialong Reservoir through new underground culvert and related green development of Qingfeng Park and Dingjialong Park; 4) technical assistance and capacity building that includes further improving the environment and social management of the FNIZ. The construction of buildings will be taken place in the New District (about 4 square km) of FNIZ and the sites are undeveloped green land that has not been used for any industry purpose in history. The greening improvement activities will not only increase the green coverage of the FNIZ but also will maintain or improve the water quality of two small Qingfeng and Dingjialong reservoirs, in both catchment areas of which there is no industry. The industrial wastewater in FNIZ is collected and treated centralized, and finally discharged into the downstream river without passing</td>
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the reservoirs. As the two small reservoirs havenot been affected by or used for industrial activities, there is no need to undertake the sediment characterization of the reservoirs in the EIA. The TA activities will cover the whole FNIZ (around 39 square km) to improve the environmental and social management of the FNIZ and to narrow the gaps against international eco-industrial park standards. The principal negative environmental impacts are construction-related, such as dust, mechanical equipment and transportation vehicles noise and flushing water, and construction wastes, which are limited, short term and site-specific impacts that can be effectively addressed with appropriate mitigation measures. The negative environmental impacts during operation phase are mainly associated with office and living such as impacts from office garbage, canteen wastewater and exhaust, underground garage ventilation, etc., that are considered minor, site-specific and easy to be mitigated. The project is designed to help FNIZ narrow the gaps against international eco-industrial park standards (the TA activities cover the whole FNIZ), the footprint of the Bank’s physical investments is limited, site specific and readily addressed by well-known safeguards management measures. The initial due diligence review on the existing industries within the FNIZ concluded that FNIZ has established strict environmental criteria (thresholds) to exclude heavy polluting industries entering the park, and the environmental management system of FNIZ functioned well. The TA activities covers the whole FNIZ and is designed to help improve the environmental and social management of the FNIZ.

Therefore, the project is classified as Category B project according to OP 4.01 Environmental Assessment. An EIA report, including a separated chapter of ESMP, will assess the positive and adverse impacts of the project during the construction and operation phase. The EIA will answer the questions about the need or not for cleanup activities, or the opportunities for cleaning production for some industries. Environmental due diligence covering the existing industries within the existing 20 km2 will be conducted as part of the EIA to evaluate the environmental management of the FNIZ. The
environmental due diligence result will provide basis for environmental treatment or improvement or cleaning production opportunities to further improve the environmental performance of some industries in terms of wastegas, wastewater, solid waste management if any, and be included in the action plan of the ESMP and monitored during the implementation phase.

In addition, safeguards policies also apply to the TA component which may have potential downstream Env & Social impacts. A TOR of the Strategic Environmental and Social Assessment and Management Plan covering the whole FNIZ (39km2) will be prepared as part of the EIA to include the environmental and social requirements and mainstreamed into the TA activity.

| Performance Standards for Private Sector Activities OP/BP 4.03 | No |
| Natural Habitats OP/BP 4.04 | Yes |
| Forests OP/BP 4.36 | No |
| Pest Management OP 4.09 | No |
| Physical Cultural Resources OP/BP 4.11 | TBD |

The project will be in existing FNIZ. The project activities will not affect or involve any critical natural habitats. But the project will support construction of small scale pump station at the bank of Fuhe River and divert water through pipes from Fuhe River to Qingfeng Reservoir and connecting Qingfeng Reservoir with Dingjialong Reservoir through new underground culvert. The two small reservoirs will be greened and developed into Qingfeng Park and Dingjialong Park. These construction activities will potentially have impacts on the water ecosystem if not well-managed. Ecological survey and an assessment of impacts will be conducted in the EIA. Mitigation measures will be included in the ESMP. The project will not result in significant conversion or degradation of natural habitats.

OP/BP4.36 is not applicable. The project will not impact any forest ecosystems. Project-supported landscaping activities will take place on existing FNIZ and there is no expansion into forest areas.

The proposed project will neither procure pesticides nor result in the increased use of pesticides. This policy is not triggered.

The project will take place in the undeveloped green land within existing FNIZ with no physical cultural resource as defined by this OP. Preliminary screening during identification shows this policy is not triggered. However, as a precautionary measure, the EA team
will conduct further screening and survey to determine the applicability of OP 4.11 during the EA process. Chance finding requirements will be included in the EIA and ESMP.

<table>
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<tr>
<th>Indigenous Peoples OP/BP 4.10</th>
<th>No</th>
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<td>According to initial desktop review, there are 35 ethnic minorities scattered in the Fuzhou city, which only contribute to 0.02% of the total population. Given that the project activities will be in existing FNIZ, in which no concentrated ethnic minority people or communities located. The initial screening concluded that there is no ethnic minority group in the project area. Therefore, the Bank’s Indigenous People Policy OP 4.10 is not trigged. This will be further confirmed by SIA report during the appraisal stage.</td>
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<th>Involuntary Resettlement OP/BP 4.12</th>
<th>Yes</th>
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<td>Per site visit of project screening stage in May 2018, it was reported that all project activities will be undertaken in “green fields” within the FNIZ which means all land acquisition and compensation has been completed within approximately two years. Thus the land acquisition and resettlement in FNIZ was typically completed upfront prior to determination of project activities. By the time of early identification stage in May 2018 the proposed project activities were not fully determined and the detailed land use area and number of Project Affected People (PAP) was not known. Considering the project activities were not confirmed at this stage and will involve construction of physical assets land acquisition and physical resettlement cannot be fully avoided. Therefore, the Bank’s safeguard policy OP 4.12 on Involuntary resettlement is triggered. Based on the draft FSR submitted in November 2019, proposed project activities were confirmed, and specific land use area were defined. As a result, a Resettlement Action Plan will be prepared during project preparation to identify the Project Affected Persons by project land acquisition and physical displacement to establish socio-economic baseline, define the resettlement policy, entitlement of affected households, compensation package, transition and replacement measures and organizational arrangements etc. Draft RAP is required to be submitted to the Bank for review before appraisal and</td>
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resettlement process cannot be commenced until RAP and project is approved by the Bank. In addition, land acquisition and resettlement commenced after the identification mission or done in anticipation of the project in the 4 square kilometer zone of digital town area will be covered by OP 4.12 as part of the RAP report. Therefore, a Resettlement Due Diligent Report will be prepared to ensure the land acquisition process and resettlement measures compliance with Chinese legal requirements and consistent with Bank Policy for the land acquisition completed after the identification mission in a 4 square kilometer zone area. The due diligence of the larger area 39 square kilometer of FNIZ, choice of time frame will be justified given the circumstances of the area upon more information available during the preparation.

A Social Impact Assessment (SIA) will be undertaken to better contribute the project social development on sharing prosperity, sustainable development, ensuring social inclusion, as well as improving the living conditions and livelihoods of the poor and the vulnerable groups within the project area and broadly surrounding area. The Social Impact Assessment (SIA) will be conducted together with project design to explore and refine project alternatives/activities, establish socio-economic baselines, conduct information disclosure and public consultation, identify differentiated needs and demands of various stakeholders, particularly pay attention to the poor, women, vulnerable groups, and tailor appropriate mitigation hierarchy for specific social risks and impacts. Design of project activities/alternatives shall be refined based on the effective feedbacks from stakeholders and the outcomes of SIA.

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<tr>
<th>Safety of Dams OP/BP 4.37</th>
<th>Yes</th>
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Two small existing water reservoirs (each total storage capacity is in the range of 345,000 cubic meters to 728,000 cubic meters and each maximum dam height is in the range of 7.9 meters to 8.4 meters) in the FNIZ will be modified and transformed into parks and connected with existing water network system. The failure of the dams will pose negative impacts on the downstream communities and Bank investments Therefore OP 4.37 is triggered. The Borrower will hire independent dam specialist to conduct dam safety
The project will not involve trans-boundary rivers. The policy is not triggered.

Projects in Disputed Areas  OP/BP 7.60  No  The project is not located in any disputed areas. The policy is not triggered.

**E. Safeguard Preparation Plan**

Tentative target date for preparing the Appraisal Stage PID/ISDS

Mar 20, 2020

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

Preparation mission is scheduled in December 2019, and appraisal mission is planned in March 2020. The safeguard-related studies such as EIA report, including a separated chapter of ESMP, a separated chapter of Environmental Due Diligence and a TOR for the Strategic Environmental and Social Assessment and Management Plan, are planned to be submitted in February 2020. The SIA and the RAP including a chapter of Resettlement Due Diligence are also planned to be submitted in February 2020.

**CONTACT POINT**

*World Bank*

Wanli Fang, Marcin Miroslaw Piatkowski
Urban Economist

*Borrower/Client/Recipient*

People's Republic of China
Jing Fu
Director, IFI Div. I, International Economic and Financial
zjc@mof.gov.cn

*Implementing Agencies*

Fuzhou New Industries Zone
Xia Wang
Director
13879499940@163.com

Jiangxi Development and Reform Commission
Tang Tang
Deputy Director of Foreign Capital Utilization Division
412584114@qq.com

FOR MORE INFORMATION CONTACT
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects

APPROVAL

Task Team Leader(s): Wanli Fang, Marcin Miroslaw Piatkowski

Approved By

<table>
<thead>
<tr>
<th>Safeguards Advisor:</th>
<th>Ekaterina Romanova</th>
<th>10-Feb-2020</th>
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</thead>
<tbody>
<tr>
<td>Practice Manager/Manager:</td>
<td>Francis Ghesquiere</td>
<td>10-Feb-2020</td>
</tr>
<tr>
<td>Country Director:</td>
<td>Harold L. Bedoya</td>
<td>18-Feb-2020</td>
</tr>
</tbody>
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