



FULFILLING CORPORATE ENVIRONMENTAL RESPONSIBILITY

In the Year, China continued to focus on environmental protection. Based on the ecological environment protection planning of the “Thirteenth Five-Year Plan”, China has increased their efforts in environmental governance, actively and orderly promoted green and circular low-carbon development, accelerated the construction of ecological civilization, and built the new orientation of harmonious and modernized development between human and the nature. The Group has realized the resources and environmental problems brought by the acceleration of industrialization and urbanization process, so we have enforced and implemented the enterprise's environment approach of “Law Abiding, Integrity, Prevention and Control, Environmental Protection, Continuous Improvement, and Harmonious Development”, and gradually strengthened the Group's environmental protection performance.

In consideration of the severe situation of environmental protection in China such as heavy environmental pollution, poor environmental landscape and large-scale ecological damage, there is a large discrepancy between the public's expectation and the ecological environment reality. China has promoted the “Thirteenth Five-Year Plan”, and outlined the seven main tasks, including the three major battles of pollution prevention and control, namely air, water and soil. Among these tasks, many policies and measures are closely related to the operation, environmental protection and technological transformation of the industry where the Group belongs to, including:

- Implement the three main action plans for prevention and treatment of air, water and soil pollutions;
- Heighten the requirements on environment-protective energy consumption, encourage enterprises to accelerate their upgrading and transformation progress, fully promote energy conservation in key fields such as industry, construction and public institutions, etc.;
- Promote the development of energy conservation and environmental protection industries, promote the research and development and industrialization of core environmental protection technical processes and material medicament of low-carbon circulation, sewage treatment, emission reduction and monitoring;
- Establish the enterprise emission permit system that covers all the stationary pollution sources, and ecological environment damage evaluation and compensation system; and
- Implement key projects of environmental governance and protection, make efforts to realize up-to-standard discharge of industrial pollution sources.

In order to respond to national policies, the Group has been actively complying with the laws, regulations and emission standards on national and local levels regarding pollution control and environmental governance, and integrating the ideas such as green manufacturing, energy conservation, emission reduction, waste reutilization into our production, operation and management, as well as implementing strict control and management of air emission, water pollution and wastes, etc.



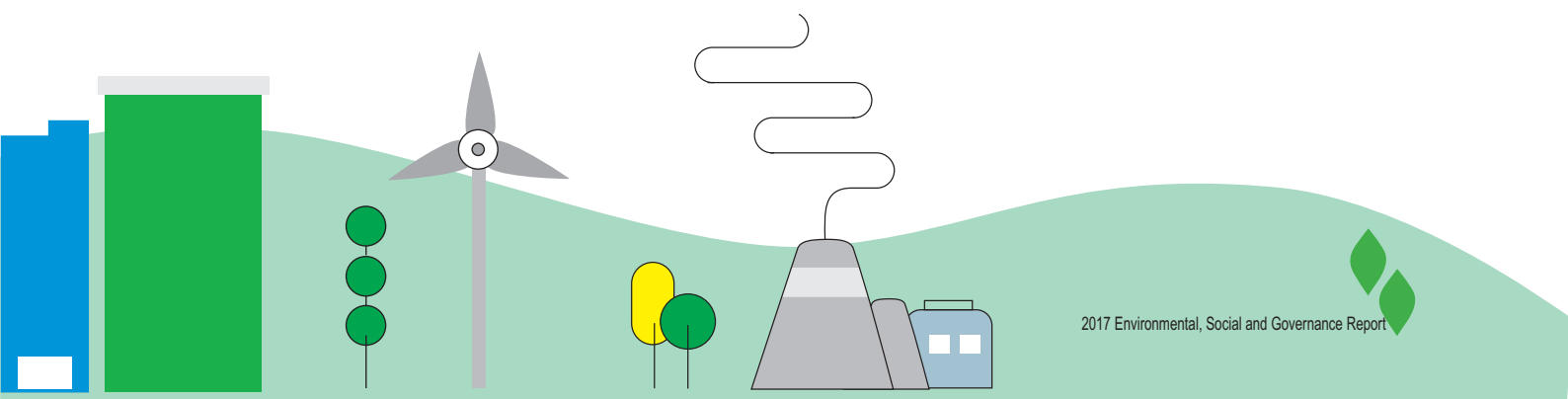
EMPHASIS ON ENVIRONMENTAL PROTECTION

The Inner Mongolia Company of the Group is our largest and mostly invested production base that mainly manufactures intermediate products and bulk medicine. The environmental protection system of the Inner Mongolia Company is also the most representative among all manufacturing bases of the Group. In order to implement environmental protection policies more effectively and realize higher environmental objectives, the Inner Mongolia Company has formulated, on the basis of the ISO14001:2015 Environment Management System, a series of environmental protection management and responsibility systems, so as to realize its environmental objectives.

Environmental Objectives of the Inner Mongolia Company

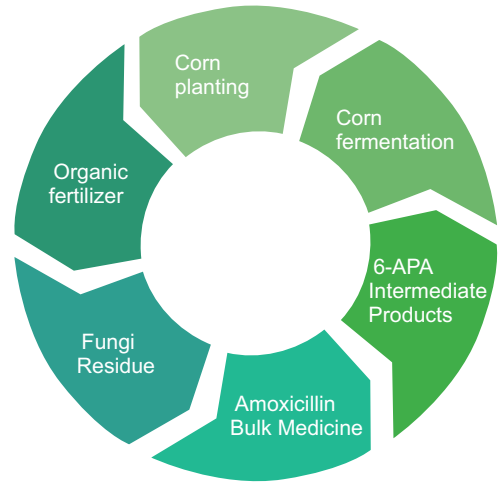
- Discharge of sewage and emission of exhaust gas and noise shall meet national standards
- The generated solid wastes shall be collected in categories, and collectively treated
- Energy consumption shall be decreased year by year

As a responsible enterprise, the Group always considers the possible impact of industrial operation on the environment, promotes environmental protection and avoids occurrence of environmental disasters by improving production processes, forming emergency handling plans for environmental emergencies and providing environmental protection trainings. The Group always firmly believes that environmental protection and economic development could complement each other and realize synergies. Therefore, while pursuing economic benefits, we spare no effort in promoting energy conservation, water saving, waste reduction, pollution reduction and other related works. We closely follow the steps of China, and hope to gradually march forward in the field of energy conservation and emission reduction. When constructing new facilities and implementing new engineering projects, the Inner Mongolia Company implemented environmental impact evaluation according to national regulations, and obtained approval of competent authorities before formal commencement and construction, which reduced the impact on the environment to the minimum.



Improvement of Manufacturing Technique

Through the improvement of manufacturing technique, the Inner Mongolia Company continues to promote the development of the industry chain of circular economy, and realizes the comprehensive utilization of resources. The “Corn Fermentation – 6-APA Intermediate Products – Amoxicillin Bulk Medicine” cyclic economic industry chain created by the Inner Mongolia Company turns the fungi residue generated from production into organic fertilizer, then introduces it into corn planting again, so as to realize resources recycling and reutilization, as well as reduce the resource consumption and impact of disposed wastes on the environment. Besides, the Inner Mongolia Company continues to adopt the “Green Enzymic Method” amoxicillin technique to produce bulk medicine, which not only enhances energy consumption efficiency, but also effectively reduces the use of organic solvent and generation of related wastes, so as to further strengthen environmental protection.



Energy Conservation

In the aspect of energy management, the Inner Mongolia Company has further improved the various related systems of energy according to the *Requirements on Energy Management System* issued by China, which is for the purpose of effectively coordinating the energy consumption and energy conservation measures of various factories and hierarchy levels through an excellent management system. Meanwhile, the Inner Mongolia Company has formed the control indicators of energy consumption, material consumption and pollutant production and discharge, implemented the goals and tasks of energy conservation and emission reduction in specific factories, teams and positions, so as to implement energy conservation and emission reduction work in a practical attitude.

Besides, the Inner Mongolia Company has established the Energy and Material Control Center. Through automation, computerization and other technical means, the Control Center can control and analyze the data of energy consumption, material consumption and pollutant production of the Inner Mongolia Company, implement collective monitoring management on the production, transportation and usage of the energy, raw materials and auxiliary materials of the Inner Mongolia Company, so as to effectively enhance energy efficiency and reduce waste. The Inner Mongolia Company also has reward and punishment systems for energy conservation, which includes the fulfillment of energy conservation and emission reduction goals in the scope of employee performance assessment, so as to raise the awareness of all employees for energy conservation and emission reduction.

Energy Conservation Work of The Year

The Inner Mongolia Company enhances the efficiency of energy consumption by regularly inspecting the machinery operation of various factories, studying the feasibility of various technology update and transformation, practically implementing power saving and energy conservation measures and other methods. Through the implementation of the following measures, the Inner Mongolia Company realized energy conservation volume of about 2,776 tons of standard coal in total in the Year, which not only reached the target of 2,700 tons of standard coal, but also broke the record of approximately 2,706 tons of standard coal in 2016.



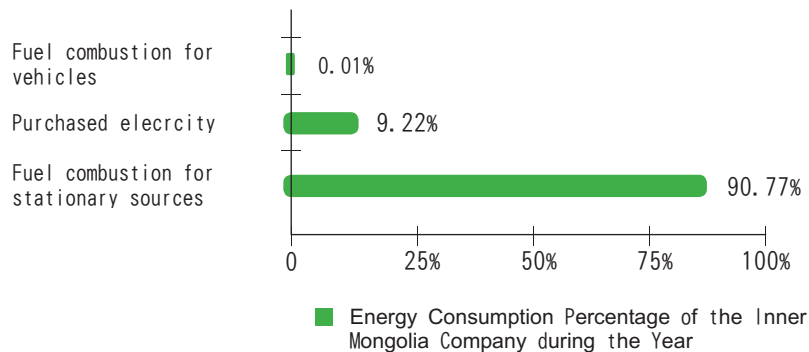
Factory Production:

- Implemented power-saving project transformation in the factories and transformed 8 fermentation tanks to realize power saving rate of 26.6% on average, each tank had power saving volume of approximately 18,709 kWh;
- Established the boiler coal standard usage assessment system;
- Maintained boiler furnace wall and fire separation wall intact, no air leakage and no composition of smoke shortcut;
- Noticed the changes of steam, air and electricity usage from time to time, actively coordinated with various factories to guarantee balanced supply of steam, air and electric power;
- Improved the operation technique of stokers, enhanced combustion efficiency to save fuels; and
- Primarily selected high-efficiency and low-consumption equipments when renewing and transforming boiler room equipments.

Daily Office Work:

- Primarily purchased the energy conservation equipments or products with national certifications and adopted environment-friendly and energy-saving electric appliances and equipments, gradually eliminated the equipments with high energy consumption and low efficiency;
- Reduced the electric consumption of lighting equipments, turned on necessary lamps only when in need, ;
- Set computers, printers, copy machines and other office equipment to low-consumption sleeping mode automatically while not in use, so as to reduce standby power consumption; and
- Advocated the use of air conditioning for 1 hour less every day, and not turning on air conditioning when only a few people working overtime or during holidays.

Under the joint efforts of various factories and departments, the total energy consumption of the Inner Mongolia Company in the Year was 3,694,101 MWh, and the average energy consumption per ton of product was 105.19 MWh.



Reduction of Water Consumption

In the process of pharmaceutical product production, water resource is essential. With the severe water pollution and shortage of water resources nowadays, the Inner Mongolia Company deeply understands the preciousness of water resources. Therefore, the Inner Mongolia Company has implemented the wastewater reuse scheme to recycle the wastewater from production factories to the largest extent, and try the best to enhance the reusing rate of wastewater. For example, the cooling water used in production process would be collected to the recycled water reusing system, and then reused in the cooling process, so as to form a set of recycled cooling system, and greatly reduce the consumption of water resources.

In the Year, the Inner Mongolia Company has not only reduced energy consumption through technological transformation, but also implemented multiple water saving projects;

- Replaced water with industrial drinking water as boiler make-up water to reduce boiler make-up water volume and reduce heat loss;
- Recycled cooling water in steam pipeline network of plant area as boiler make-up water;
- Adopted recycling water pump to recycle water draining from water tank to circulating pool for reuse; and
- Strengthened daily maintenance management of water-using equipments, strictly forbade leakage and prevented water from running all the time.

In the Year, the total water consumption of the Inner Mongolia Company was 2,033 m³, and the average water consumption per ton of products was 578.87 m³. The Inner Mongolia Company adopted multiple measures in the aspect of water saving, which have brought remarkable results. The Inner Mongolia Company will continue to implement the existing measures, actively make use of innovative technologies, and make contribution to the protection of water resources.

Reduction of Packaging Material Usage

On the production lines, besides the various measures of emission reduction, pollution removal and reduction of energy consumption, the Inner Mongolia Company has actively reduced the use of packaging materials under the precondition of meeting the related packaging requirements.

Types of packaging materials	Total quantity (Kg)	Intensity (Total Quantity/Ton of Products)
Paper products	2,228,880	63.47
Plastic products	337,740	9.62

Emergency Handling

In order to prevent the impact of the hazardous substances generated from production process and discharge treatment process on the surrounding environment, the Inner Mongolia Company has formed the emergency environmental accident response plan, and established the emergency rescuing system and procedures to handle potential accidents. The Inner Mongolia Company has established the emergency rescue command center. In case of emergency events, the Command Center is responsible for collectively coordinating the emergency rescue work. The establishment of the Command Center has greatly strengthened the capability of the Inner Mongolia Company in crisis solving and accident responding. For the hazardous chemicals that may cause high risk of accident, the Inner Mongolia Company has established specific hazardous chemical leakage treatment method for various types of products, so as to reduce the risks of environmental disasters to the minimum. In the Year, the Inner Mongolia Company has organized comprehensive environment emergency drill, which enabled employees at all positions to understand and be familiar with the procedures and responsibilities of emergency handling.



Environmental Protection Training

In order to strengthen the environmental protection awareness of employees and deepen their knowledge of the possible environmental impact of the businesses of the Inner Mongolia Company, the Inner Mongolia Company will form annual environmental protection training plan, undergo environmental protection promotion, education and training as planned, and implement assessment on training contents.

Every new employee of the Inner Mongolia Company will be arranged to receive new employee environmental protection knowledge training, so as to deliver the most basic knowledge of the environmental issues of the Inner Mongolia Company. For the employees of higher levels or with environmental protection related work duties, the Inner Mongolia Company will provide them, in the middle of year and in form of intensive teaching, with the training of environmental protection regulations, accident cases, related knowledge of hazardous wastes, and the management system regarding treatment of wastewater, waste gas and solid wastes, so as to strengthen their understanding of environmental management system and methods. The Environmental Protection Commissioner and Environmental Protection Internal Auditor of the Inner Mongolia Company will receive more professional trainings, including learning the contents such as environmental factor identification and evaluation procedure, environmental target indicator and management scheme, emergency environmental incident management method and effect evaluation, etc. Through written examination and oral examination, the Inner Mongolia Company will understand the learning outcome of employees more clearly, and ensure employees accurately master and apply the knowledge related to environmental protection.





EMISSION TREATMENT

Proper treatment of the emission generated from production and operation has always been one of the most important parts of enterprise management of the Group. For this reason, we have strictly complied with the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, Law of the People's Republic of China on the Prevention and Control of Water Pollution, Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste and other related laws and regulations. Although the Zhuhai Company of the Group was required to rectify due to emission problems, the rectification had been timely completed according to related requirements, and approved by the authority. The Group is committed to forming a clear and complete emission management system, systematically treating discharges with the help of advanced treatment equipments, and is dedicated to the control and reduction of impacts of pollutants on the surrounding environment.

Exhaust Treatment

The air pollutants generated by the Inner Mongolia Company are mainly the exhaust gas with peculiar smell generated from sewage treatment process, the exhaust gas generated from production process, the phenylacetic acid exhaust gas generated from fermentation process of phenylacetic acid recycling, smoke of coal-fired boiler and the exhaust gas emitted by the used motor vehicles. Targeting various types of exhaust gas, the Inner Mongolia Company has set corresponding treatment facilities and system to implement recycling or purification treatment, so as to ensure all the waste gas have reached the emission standard required by laws before emission.

Air Pollutants Generated by the Inner Mongolia Company

Types of Air Pollutants	Standard Parameter ¹	Emission	Unit
Nitric oxides (NOx)	820	677	Tons
Sulfur dioxides (SOx)	805	337	Tons
Particulate matter (PM)	246	80	Tons

1. Standard Parameter refers to the permitted amount of air emission stated on the pollutant discharge license

In order to ensure the emission volume not to exceed the legal standard, the Inner Mongolia Company has formed the related systems of pollutant monitoring and commissioned a third party to regularly monitor the gas from pollution sources in every quarter. In the Year, the gas emission of Inner Mongolia Company did not exceed the standard.



Exhaust Gas Treatment Facility and System



For the exhaust gas with peculiar smell generated in sewage treatment process, the factories adopt sealed collection measure on the odor source. The collected exhaust gas is deodorized through the process of “multi-level alkali spraying + ozonation” to reduce the impact on the surrounding environment.

Targeting the technical processes of different workshops and the waste gas released, the Inner Mongolia Company treats them by adopting carbon fiber absorbing, low-temperature plasma, alkali spraying, catalytic oxidation and other waste gas treatment measures to greatly reduce the emission of pollutants.



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In order to control the phenylacetic acid generated from fermentation factories and the peculiar odor released from phenylacetic acid recycling process, the Inner Mongolia Company adopts the “cooling + alkali spraying + carbon fiber absorbing” and other treatment processes to effectively prevent peculiar odor from dissipation.



Waste Water Treatment

The Group specially lays emphasis on the treatment and discharge of waste water, continuously improves the waste water treatment process and spares no effort in constructing waste water treatment facility. In the production process of intermediate products and bulk medicine, waste water such as waste acid water, cloth washing water, phenylacetic acid waste water, crystallization mother liquor, circulating cooling water, and equipment cleaning water are the main waste water sources of the Inner Mongolia Company. The Inner Mongolia Company has specially established the sewage treatment system that integrates biochemical, physicochemical, aerobic, and anaerobic features, and allocated professional technicians to treat various types of production waste water through the treatment process of "preprocessing + hydrolytic acidification + Upflow Anaerobic Sludge Blanket (UASB) + Cyclic Activated Sludge System (CASS) + catalytic oxidation + secondary sedimentation tank", the daily treatment volume of waste water could reach 48,800 m³. Targeting the high-concentration waste water such as waste acid water, the Inner Mongolia Company has also used advanced technologies and equipments to reduce the chemical oxygen demand (COD) of waste water and also reduce the generation of gas with peculiar odor. According to the relevant national regulations, the Inner Mongolia Company has signed agreement with a legally-established sewage treatment company so that further treatment can be performed by discharging the treated waste water that meets contractual requirements to the sewage treatment company.



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As pharmaceutical wastewater contains a large amount of different types of pollutants, in order to prevent environmental disaster caused by excessive discharge or improper treatment of pollutants, the Inner Mongolia Company has established a comprehensive monitoring system. Through the online monitoring system of COD and ammonia nitrogen (NH₃-N) set at the general outlet of wastewater, the related water quality data at the general outlet of wastewater could be uploaded to the Urban Environment Information Monitoring Center in real time, and the related data would be released on designated information platform at fixed time, which could greatly enhance the transparency of the wastewater discharge management of the Inner Mongolia Company. Meanwhile, the Inner Mongolia Company also commissioned a third-party institution to implement regular monitoring of wastewater on a quarterly basis. In the Year, the Inner Mongolia Company did not have any excessive wastewater discharge. In order to prevent the underground water pollution caused from the "running, emitting, dropping, leakage" of wastewater in production process, the Inner Mongolia Company reduced the possibility of pollution through strict monitoring.

Water Quality Parameters of Wastewater (Processed by Sewage Treatment Facility of the Inner Mongolia Company)

Parameter/pollutant	Parameter standard ²	Average value	Unit
pH	6-9	8.3	/
Chemical oxygen demand (COD)	<300	158.15	mg/L
Ammonia nitrogen (NH ₃ -N)	<20	2.58	mg/L

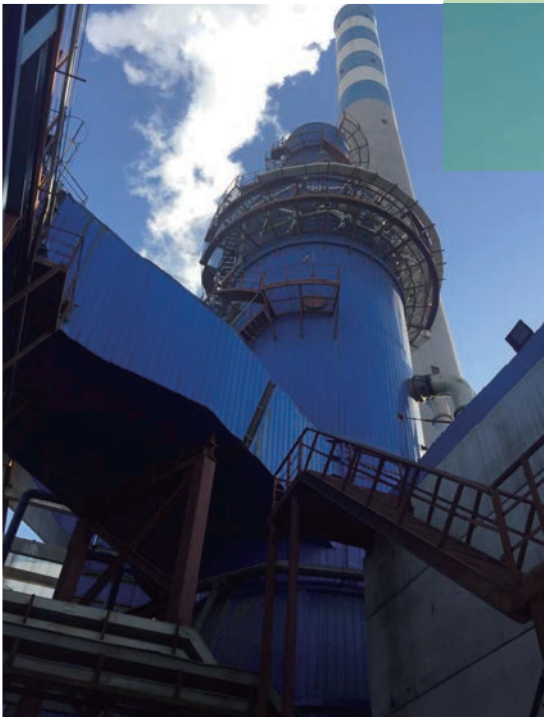
2. The parameter standards were from the "Wastewater Treatment and Acceptance Agreement" signed with the Linhe Dongcheng District Sewage Treatment Co., Ltd. of Bayan Nur City



Waste Treatment

The wastes generated by the Inner Mongolia Company could be classified into two types, non-hazardous wastes and hazardous wastes. The non-hazardous wastes include waste diatomite, sludge and glass generated by the Inner Mongolia Company in production process, as well as the daily living garbage generated in daily work. The Inner Mongolia Company considers recyclable wastes as resources, and would collect them and deliver them to the qualified units for reuse, so as to reduce the disposing volume of wastes to the largest extent. For example, waste diatomite and sludge could be used for manufacturing organic fertilizer and waste glass is used for recycling. In the Year, the Inner Mongolia Company has generated 67,042 tons of non-hazardous wastes in total, while every ton of product has generated 1.91 tons of non-hazardous wastes on average.

The Inner Mongolia Company has formed strict treatment procedures to treat hazardous wastes, including hyphae slag, waste activated carbon, waste enzyme, concentrated solution of phenylacetic acid and used mineral oil. In the Year, the Inner Mongolia Company has generated 250,023 tons of hazardous wastes in total, on average 7.12 tons of wastes for every ton of product. In order to reduce the disposing volume, the Inner Mongolia Company reused the recyclable hazardous wastes, such as concentrated phenylacetic acid, in the production process. For the hazardous wastes that could not be recycled, such as waste activated carbon, waste enzyme, and liquid waste generated from concentration of phenylacetic acid, treatment for turning them into harmless was made through the boiler comprehensive treatment system of the Inner Mongolia Company. The used mineral oil was sealed in form of barrel and transferred to the unit with the qualification for treating hazardous wastes for subsequent treatment under the circumstance of no leakage. The fermented fungi residue was delivered to the qualified unit to produce organic fertilizers.



The Group implements strict regulation and control on the wastes generated in production process, besides complying with the regulations of related national laws, the Inner Mongolia Company has formed corresponding emergency plans and management measures on different types of wastes.

Reduction of Greenhouse Gas Emission

Greenhouse gas emission is the environmental issue that China and the international community paid most attention to. In the production and daily operation of the Group, the main sources of greenhouse gas include fixed sources such as the combustion of fuel from the boiler for production and heating, mobile sources such as the combustion of vehicle fuels, use of refrigerant, electric power purchased, methane generated from disposal of waste paper, indirect emission from treatment of water and sewage as well as the carbon emission by the airplanes for business trips. The Group has adopted many means and tried its best to reduce greenhouse gas emission of the Group. The Inner Mongolia Company has implemented multiple measures from various aspects such as production and daily office work to reduce greenhouse gas emission. Besides adopting the foresaid energy conservation measures, the Inner Mongolia Company has planted 1,766 poplars within the plant area, beautifying the environment of plant area and at the same time reducing the greenhouse gas emission equivalent to approximately 41 tons of carbon dioxide.

Emission of Greenhouse Gas

	Ton CO ₂ e
Total Emission of Greenhouse Gas	1, 390, 823
Intensity of Greenhouse Gas Emission (Total Emission of Greenhouse Gas/Total Product Weight)	39. 61
Scope 1 – Direct Greenhouse Gas Emission and Reduction	1, 080, 052
Scope 2 – Indirect Greenhouse Gas Emission of Energy	301, 167
Scope 3 – Other Indirect Greenhouse Gas Emission	9, 604

